

ACCESS AND EQUITY - FIP & IPSF STUDENTS' DAY

G06-001

ACCESS TO ESSENTIAL MEDICINES -- WHAT IS IT AND HOW CAN IT BE MADE TO HAPPEN?

K.W. Johnson
Management Sciences for Health,
United States of America

Access to pharmaceuticals is a multi-dimensional concept, which applies to both developed and developing countries. Dimensions include a medicines availability, affordability, geographic accessibility, and acceptability, with an overarching requirement for quality of both pharmaceutical products and service delivery. Identifying and understanding the determinants of the relationships that define these dimensions should guide the design of specific strategies to improve access to medicines.

Contributing factors that impact access include: (1) lack of availability of new medicines and appropriate formulations, (2) high prices of medicines, and (3) lack of functional and reliable health care systems that are needed to make medicines available when and where they are needed and to help ensure that they are properly used. Concerns about pharmaceutical product quality (including both substandard and counterfeit products) and the quality of service delivery are issues around the world, as are concerns about access to and use of appropriate information that allows for informed decision making.

This presentation will focus on understanding the nature of access to and use of pharmaceuticals, discussing the current situation in both developed and developing countries, and putting forth suggestions on how the situation might be improved, including examples of recent initiatives that have had an effect.

G06-003

PHARMACY PRACTICE AND THE ROLE OF THE PHARMACIST IN RESOURCE-LIMITED ENVIRONMENTS

N. Viberg¹, W. Kalala², S. Khoza³, G. Tomson¹, C. Stålsby Lundborg¹,
¹Karolinska Institutet (KI), ²MUCHS, ³School of Medicine,
Sweden Tanzania Zimbabwe

With health system reforms, drug distribution has extensively been privatized. In many low-income countries 80% of drugs are purchased in private drug outlets and used for self-medication. People cannot afford to first visit the doctor to get a prescription and then purchase the drug. In these settings a pharmacist/population ratio of less than 1/100 000 is not uncommon. This leads to situations where the pharmacist is 'officially employed but physically absent'. Furthermore, licensed pharmacies with trained personnel are often only present in cities. Thus, a majority of the population has no access to these for drug procurement and are obliged to resort to public health facilities that are often distant and in lack of drugs. In these settings, private drugstores, licensed to sell only over the counter (OTC) drugs, play a significant role in access to drugs. These private drug stores are of great importance for basic drug access of the rural population however, major shortcomings have been frequently reported, such as; prescription only drugs and expired drugs being sold; profit craving leading to bad practice like selling more expensive products or a couple of tablets, and sellers lacking the requisite knowledge of handling drugs. Pharmacists often have a supervising role in relation to drug shops, however regulation is often not properly enforced due to lack of manpower and financial resources. A discussion will be held around access to medicines as well as access to pharmaceutical information and advice in resource-limited environments and the role of the pharmacist in relation to this.

G06-002

E-PHARMACY: HOW THE INTERNET IS IMPROVING ACCESS TO HEALTHCARE INFORMATION AND SERVICES

L. McClure
PSNC,
United Kingdom

The internet and innovative IT solutions are being used around the world to improve access to information and services for both pharmacists and patients.

In England, the Government's Healthcare IT strategy includes the electronic transmission of prescriptions, a national electronic health records service, an electronic appointment booking (referral) service and a national broadband network to connect all parts of the health service. These developments are directly linked to changes in the services that pharmacies in England will be providing in the future. Access to better information about patients via the national electronic health records service will enable pharmacists to undertake new roles such as independent and supplementary prescribing in the community pharmacy setting, access to the internet and email will allow pharmacists to communicate more effectively with other members of the health care team and the use of new technology such as the electronic transmission of prescriptions has the potential to free up pharmacists time from dispensing and allow them to spend more time delivering care to patients.

In the developing world, the internet has huge potential to support the profession and improve patient care. Many pharmacists are already reaping the benefits of online education programmes and information resources and new disciplines such as tele-medicine and tele-pharmacy are emerging as solutions to the lack of access to specialist care in some areas. A major stumbling block that could limit progress is the so called digital divide.

BIOGRAPHIES CHAIRS AND SPEAKERS G7

B G07-001

BIOGRAPHY G.I.L. SMITH

G.H. Smith
University of Maryland,
United States of America

Dr. Gary Smith is currently a Professor of Pharmacy Practice and Science at University of Maryland School of Pharmacy, Baltimore, Maryland. From 1997-2003 Dr. Smith was the Chairman of the Department of Pharmacy Practice and Science. Prior to assuming this position in July 1997, Dr. Smith was a Professor of Pharmacy Practice and Science at the University of Arizona College of Pharmacy where he also served as, Director of the Drug Information Center for 12 years, and manager of clinical pharmacy services and clinical pharmacist for infectious disease at the University Medical Center for 15 years. Prior to Arizona, Dr. Smith served on the faculty of the University of Washington for 12 years. Dr. Smith's career in drug information and clinical pharmacy services spans a period of over 30 years. He has a special interest in infectious disease and is involved with teaching various infectious disease topics to Pharm.D. Students at Maryland. He currently is a pharmacotherapy consultant to the University of Maryland HIV/AIDS clinic. Dr. Smith has over 100 publications in the professional literature and has made numerous presentations at local, state, national and international professional meetings. He has been a presenter at many JIP congresses over the past 15 years. Dr. Smith has had extensive experience with academic pharmacy over a 34-year period. He has also had a vast experience as a practitioner educator. He has also been involved with organized pharmacy in many capacities throughout his career. He is currently the President-elect of the Academy of Pharmaceutical Research and Science of the American Pharmacists Association.

B G07-003

BIOGRAPHY J. SERUTOKE, JR.

J.P.R. Serutoke
The Pharmaceutical Society of Uganda,
Uganda

From 2000 to-date: Vice-President - The Pharmaceutical Society of Uganda and Vice-Chairman - The Pharmacy Council of Uganda.

Registered Pharmacist, qualified from Makerere University, Uganda and with postgraduate training in Health Systems Management and Health Systems Development from Galilee College, Israel and Karolinska Institute, Sweden respectively.

Since being enrolled as a member of The Pharmaceutical Society of Uganda, I have served as a Member of The Editorial Board of The Society publication, The Pharmaceutical Bulletin, Member of The Law and Ethics Committee and as Secretary of The Society/Pharmacy Council (1997-2000).

Recipient of The Pharmaceutical Society of Uganda Certificate of Merit Awards 2000 and 2002 for service to the Pharmacy Profession in Uganda.

I have more than a decade of work experience in Public Health Services, the Academia, the Private Sector, Pharmaceutical Procurement, Supply & Distribution Systems, Regulation of the Pharmacy Profession, and Health Sector Reforms.

From 2002, I work as the Essential Medicines Advisor in the World Health Organization Country Office, Uganda with a brief to help develop, implement and monitor the country pharmaceutical sector, assist in identifying priorities, and coordinate WHO pharmaceutical assistance.

I have specific interest and have been involved with the development and implementation of strategies to improve access to essential medicines especially for HIV/AIDS, TB and Malaria.

B G07-002

BIOGRAPHY R. DOWSE

R. Dowse
Rhodes University,
South Africa

Rus Dowse obtained her BPharm and a PhD in pharmacokinetics from Rhodes University in South Africa. Her major research interest is in the area of written medicines information and health literacy testing, with a particular focus on communicating written information to the lower-literate patient. Her research has included the investigation of pharmaceutical pictograms as a communication aid, the design and testing of such pictograms, their practical application in label design and patient information leaflets, and their influence on understanding and adherence. Two of her recent graduate students worked on developing and testing patient information leaflets for HIV/AIDS patients on chronic therapy for opportunistic infections, and those on antiretroviral therapy. In 2004 Dr Dowse was appointed to the Patient Information Leaflet Task Team of the South African Medicines Control Council, and she is a member of the Consumer Medicines Information Working Group of PIP. Dr Dowse is an associate professor at Rhodes University and lectures in Pharmaceutics and Pharmacy Practice.

B G07-004

BIOGRAPHY K.G. MOODY

K.G. Moody
World Health Organization

Biography Kevin Moody

Dr Kevin Moody received his pharmacy degree in 1986 in Toronto where he practised for 2 years in hospital pharmacy before moving to Vancouver, where he did a Master of Business Administration. In 1991, he began working at the Faculty of Pharmaceutical Sciences at the University of British Columbia, teaching pharmacy administration and eventually becoming Director of Continuing Pharmacy Education. During this time, he also acted as Executive Director of the Association of Faculties of Pharmacy of Canada and performed several roles with the Canadian Council for Continuing Education in Pharmacy. Kevin began a doctoral degree in distance education and instructional technology, which he finished in 2000, after moving to The Netherlands to work for JIP as Information Manager. His interest in work in developing countries and, especially HIV/AIDS, was further developed during his two-year tenure with Mdecina Sans Frontiers - Holland - as their Coordinator for the Campaign for Access to Essential Medicines. Kevin now commutes weekly to his post as Technical Officer - Treatment and Advocacy at the World Health Organization in Geneva where he manages a programme to facilitate capacity building and treatment literacy in groups of people living with HIV/AIDS (PLWHA), with the aim to improve treatment adherence and involve PLWHA in policy and decision making.

B G07-005

BIOGRAPHY MARJA AIRAKSINEN

M.S.A. Airaksinen
University of Helsinki,
Finland

Professor Airaksinen started her academic career in the University of Kuopio, Finland during 1985-1999, earning there doctorate (Ph.D.) and masters degree in social pharmacy. Before starting her current job as the first professor in social pharmacy in the University of Helsinki, Faculty of Pharmacy in 2004, she worked as Project Manager in a 4-year national joint programme TIPPA to promote concordance-based communication practices in community pharmacies. The programme was operated by authorities, professional organisations, universities and continuing education centres. She has been active in the WHO/EuroPharm Forum's 'Questions About Medicines' project. In 1996-1997, she served as Scholar-in-Residence at the United States Pharmacopeia (USP), Rockville, MD, USA, being involved in patient information development programmes. Since 2000, she has been serving the IIP Pharmacy Information Section as a member of the Executive Committee. Since 2005, she has been chairing the Council of Europe Expert Group on Safe Medication Practices under the Committee of Experts on Pharmaceutical Questions.

HIV/AIDS: WITH IMPROVED ACCESS TO MEDICATIONS, NOW WHAT? MODELS TO ASSURE ADHERENCE AND POSITIVE OUTCOMES AND ASSOCIATED INFORMATION NEEDS

G07-001

INFORMATION NEEDS FOR PHARMACISTS, PATIENT ADVOCATES AND PATIENTS TO SUPPORT ADHERENCE

G.H. Smith
University of Maryland,
United States of America

Adherence in the context of patients with HIV/AIDS means the ability of patients to adhere to a regimen of highly active antiretroviral therapy (HAART) in order to achieve and maintain a non-detectable viral load and a CD4+ cell count above 200. Adherence is the most important factor in assuring successful outcomes with HAART. Studies have shown that patients have the best outcomes when they adhere to their HAART regimen over 95% of the time. This is not easy to obtain and requires multiple interventions. Information needs are various depending on role. Pharmacists need to have the technical information about the medications in order to counsel patients appropriately as well as to educate other health care professionals. They also need to have written aids to assist them with counselling. Patient advocates need to have educational materials that provides them with enough information to be able to teach patients about HIV, its treatment, and the importance of adherence. Patients need to have information written in their native language in understandable terms about HIV/AIDS and the medications they will be taking to manage the disease including expected side effects, storage requirements, how and when to take the medication and enough information to know what happens when they do not take it. The barriers to adherence are many and will be discussed during the presentation. Predictors of adherence, methods used to assure and/or improve adherence, and an approach to counseling a patient who is just beginning medications to manage HIV/AIDS will be discussed. Various web sites from which information on adherence can be obtained will be provided.

G07-003

HOME-BASED CARE AND DIRECTLY OBSERVED THERAPY.

J.P.R. Serutoka
The Pharmaceutical Society of Uganda,
Uganda

Although developing countries bear more than 90% of the global burden of HIV/AIDS, only 12% of those in need of treatment accessed antiretroviral drugs (ARVs) by December 2004. The two most cited reasons for this failure are the high cost of ARVs and the poor infrastructure for delivering them. However, international partnerships, negotiations, competition (generics) and activism have led to drastic reductions in the prices of ARVs and there is increased funding for HIV treatment programmes in resource-limited countries (RLCs).

Based on lessons learnt in the control and treatment of TB, innovative delivery mechanisms for antiretroviral therapy (ART) are being implemented in several RLCs with few trained healthcare workers to increase coverage of those accessing ARVs.

Home-Based Care (HBC) is an accessible and affordable option for HIV/AIDS care. It promotes a holistic approach to care and ensures that health needs are met while reducing and sharing the cost of care within the system. HBC ensures that caregivers or treatment-supporters (usually family-members or community-based volunteers) are fully involved and informed about the patients care plan. One method, which enhances adherence to ART, known as Directly Observed Therapy (DOT) involves the caregiver or treatment-supporter watching the patient take each dose of their medication. Experiences from HBC and DOT-ART programmes have shown high adherence rates and successful treatment outcomes.

With careful planning and commitment of resources (including a continuous supply of ARVs), it is feasible to provide HBC and DOT-ART services in resource-poor settings with high quality of care and positive outcomes.

G07-002

PATIENT INFORMATION TO SUPPORT ADHERENCE TO HIV/AIDS THERAPY: THE EXPERIENCE IN SOUTH AFRICA

R. Dowse
Rhodes University,
South Africa

In South Africa it is estimated that about 5 million people (11% of the total population) are infected with HIV with, conservatively, about half a million of these currently in need of antiretroviral therapy. High adherence to antiretroviral therapy exceeding 95% is an essential component for treatment success. Achieving and then sustaining such high adherence rates over prolonged periods of time is an enormous challenge which requires a comprehensive plan that utilizes multiple strategies and all members of the health care team, as well as family and community.

The South African Government approved the 'Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment' in November 2003. This plan, which provides for ARV treatment in the public health sector, highlights the importance of adherence and presents a number of adherence support strategies. The plan and its reported impact on adherence will be discussed in this presentation. However, many patients from the South African private health sector receiving ARVs do not have the benefit of this intensive support programme and adherence in these patients is reportedly variable.

Although patient information on ARVs is apparently readily available from various sources, it appears that minimal written information is actually reaching patients. Little attention has been paid to the design and language use, and none of this information has been subjected to consumer testing. This is essential in a population in which many patients have difficulty reading and understanding written information. Research addressing these problems will be discussed in this presentation.

G07-004

THE ROLE OF INCENTIVES AND OTHER APPROACHES TO ENHANCING ADHERENCE

K.G. Moody
World Health Organization

There are four main factors that affect adherence: treatment knowledge, adequate social support, minimized psychological stress and a supportive health care team. Treatment knowledge is important to empower people on treatment so that they can manage their chronic HIV disease in a sustainable way. Decisions on how to prevent and manage side effects, along with knowing when to seek medical care, are important problem-solving skills that will help improve adherence. Social support is crucial to ensure that the person on treatment can take advantage of a supportive environment. Employment, family, friends, etc., provide for stability, food and daily support for people on treatment. Related to this is the need to reduce psychological stress, which is a component of all chronic illnesses. The need to remember to take treatment; the knowledge that you have a 'fatal' disease; stigma and discrimination; and the desire not to transmit the virus to loved ones create sometimes overwhelming stress that can, in turn, lead to depression and other major illnesses. It is important that psychological stress be managed in a healthy manner and not through the use of alcohol or drugs. Finally, it is important that the person on treatment has a supportive healthcare team to provide good care, advice and treatment knowledge. Nurses, doctors, pharmacists, counsellors and peer workers are all important in providing appropriate care and support. Disclosure of HIV status is another important factor that can lead to either better or worse adherence outcomes depending on the individual's specific situation. Incentives to encourage adherence must address all of these factors.

HIV/AIDS: WITH IMPROVED ACCESS TO MEDICATIONS, NOW WHAT? MODELS TO ASSURE ADHERENCE AND POSITIVE OUTCOMES AND ASSOCIATED INFORMATION NEEDS

G07-005

THE ROLE OF COUNSELLING TO ENHANCE ADHERENCE

M.S.A. Airaksinen¹, P. Reddy²,

¹University of Helsinki, ²SearPharm Forum,
Finland India

In a life-threatening, long-term disease, such as HIV/AIDS, well-planned communication that is customized to the patients conditions is crucial for adherence. Pharmacists, as any other members of the health care team, should work to establish a collaborative treatment relationship with patients suffering HIV/AIDS. This can be fostered by involving the patients in selecting regimens with dosing schedules, pill burdens and side-effects that they believe will fit into their daily lives. As patients knowledge and beliefs about disease and medicines can influence adherence, it is important to make sure that the patient understands the relationship between adherence and viral load and viral load and disease progression. The patient needs to understand why the treatment involves a large number of medications with complicated dosing requirements and suboptimal tolerability. Therefore, the treatment plan should be negotiated with the patient to make sure he knows the goals of therapy. In addition, concrete instructions on how to take medicines, treat side-effects; simplify food requirements; avoid adverse drug interactions; and reduce dose frequency and number of pills need to be discussed. A written schedule with pictures of medications, daily or weekly pill boxes, alarm clocks or other aids to adherence might be useful, as well as provision access between visits for questions and problems e.g., via telephone.

References

Guidelines for the use of antiretroviral agents in HIV-infected adults and adolescents (NIH 2002).

WHO: Adherence to Long-term Therapies Evidence for Action. WHO 2003. Internet: <http://whqlibdoc.who.int/publications/2003/9241543992.pdf>

BIOGRAPHIES CHAIRS AND SPEAKERS G8

B G08-001

BIOGRAPHY Y.F. ZOELLNER

Y.F. Zoellner
Solvay Pharmaceuticals
Germany

Born in Germany in 1971, Zoellner trained as pharmacist at the Universities of Valencia (Spain) and Muenster (Germany), followed by postgraduate education (Master) in health economics at the University of York (UK). From 1998 to 2002, he worked as research fellow at Humboldt University Berlin, leading to the conferment of a PhD (hon) in pharmacy. In 2002, Zoellner took up a position as health economist at Solvay Pharmaceuticals in Hannover (Germany), where he is now heading the global H.E. dept. Research interests and publications include trials and modelling the fields of women's health, influenza, schizophrenia, pancreas enzyme substitution and Meniere's Disease.

B G08-002

BIOGRAPHY R. VAILLANCOURT

R. Vaillancourt
Canadian Armed Forces,
Canada

LCol Vaillancourt obtained his Bachelor of Pharmacy from Université Laval in 1983, his hospital pharmacy residency certificate from the National Defence Medical Center (in affiliation with University of Toronto) in 1987, and his Doctor of Pharmacy from the University of Toronto in 1995. Since joining the military in 1980, he has served as a staff pharmacist, clinical co-ordinator, and as a residency co-ordinator in various military hospitals. He has also been employed as a pharmacist in a Field Ambulance, and as Commanding Officer of a medical equipment depot. Since completing his Doctor of Pharmacy degree, he has worked as the Canadian Forces Clinical Pharmacy Advisor, and is now the Pharmacy Branch Advisor, responsible for directing all aspects of military pharmacy practice within the Canadian forces. To enhance the performance of his duties, he has worked extensively with both the Ontario College of Pharmacists and Ordre des pharmaciens du Québec. He also serves as a board member of NAPRA, and sits as the president of both the Military and Emergency Pharmacy section of the PIP and as the president of the Canadian Society of Hospital Pharmacists. To maintain his clinical skills as a pharmacist, he provides patient care on a part-time basis at both the Meaford Hospital as the director of pharmacy and Roger Larocque Pharmacy in Hall. LCol Vaillancourt has been active as lecturer at many CME forums, and has authored articles on the practical provision of pharmaceutical care. He has authored CME modules on the management of diabetes and CHF. LCol Vaillancourt is an avid gardener and dedicates his spare time to his friends and family.

B G08-003

BIOGRAPHY A. SIAU

A. Siau
Ministry of Defence,
Singapore

Ms Annie Siau heads the Medical Inspection Section of HQ SAF Medical Corps, Singapore Armed Forces.

She leads a team in the inspection of SAF medical and dental facilities to enforce compliance to SAF Medical Directives and ISO 9001:2000 procedures. The SAF Medical and Dental Centres obtained ISO 9000 certification since 1998, thus it is imperative that the centres comply to the standard procedures documented and continually improve in their standard and delivery of care to the SAF servicemen.

She also directs the inspection of operational medical stores to ensure their operational readiness.

In addition, she oversees the implementation of organisational excellence activities in SAF Medical Corps. This includes ISO 9000, Singapore Quality Class and Balanced Scorecard. These are useful standards and tools to assist the management in improving the quality of service rendered.

G08-001

PANDEMIC INFLUENZA: THE PHARMACIST AS A KEY PLAYER IN THE PREPAREDNESS FOR, AND RESPONSE TO, A GLOBAL THREAT

Y.F. Zoellner¹, J.K. Medema¹, J. Ryan²,
¹Solvay Pharmaceuticals, ²Mapi Values,
Germany United Kingdom

An influenza pandemic (IP) is expected in the near future, characterized by a sudden and widespread outbreak of a new strain of the influenza virus, easily transferred between humans, and causing significant morbidity, mortality and societal chaos. There are 2 options in the control of an IP: vaccination and antivirals, with vaccination being widely recognized as the dominant alternative, both on clinical and cost-effectiveness grounds. Hence, the timely production and distribution of pandemic vaccine plays a key role. However, as current supply systems already reach their limits in non-pandemic years, they are geared for failure in the case of an IP. Both currently and in the near future, demand will largely outstrip supply. The fast adoption, and steady upscale, of the new cell culture-based manufacturing technologies will help to decrease the supply-demand gap. Enhanced production capacities, if paired with appropriate pandemic preparedness and response guidelines (PPRGs), will significantly reduce societal havoc during the next IP. PPRGs constitute the backbone for the successful procurement and distribution of pandemic vaccine, and the military/emergency pharmacist plays a key role in their development and implementation. In particular, (s)he is indispensable in policy coordination at local, regional and national levels; supply chain management; patient care, and response integration. Governments who have made appropriate provisions in the inter-pandemic period for the procurement and distribution of pandemic vaccine are geared best for the upcoming IP. As catering to the general population is a public health issue, public-private partnerships are the key to success.

G08-002

PICTOGRAM USE IN DEVELOPING COUNTRIES

R. Vaillancourt¹, S.V. Groves¹, J. Dawson², C.R. Sorfleet³,
¹Canadian Armed Forces, ²New Zealand Defence Force, ³Montfort Hospital,
Canada New Zealand Canada

Objective(s):

To identify appropriate modifications to medication pictographic instructions to reduce interpretation errors.

Impact:

Both qualitative and quantitative analysis of the evaluation were used to determine the efficacy of the modifications to the pictograms.

Outcomes:

To increase the universal comprehension of pictographic instructions, and decrease the risk of medication errors.

BIOGRAPHIES CHAIRS AND SPEAKERS G9

B G09-001

BIOGRAPHY A.N.O. DODOO
A.N.O. Dodoo
Univ of Ghana Medical School,
Ghana

Pharm. Dr Alexander Nii Otu Dodoo is the Acting Director of the Centre for Tropical Clinical Pharmacology & Therapeutics at the University of Ghana Medical School. He obtained his B.Pharm (Hons) degree from the University of Science and Technology, Kumasi, Ghana, an MSc and Ph.D. from Kings College London.

Dr Dodoo is the Coordinator of the National Centre for Pharmacovigilance in Ghana and a member of the WHO Global Advisory Committee on Vaccine Safety which provides independent, scientific advice to the Director on all issues related to vaccine safety. He is a member of the (CIOMS)/WHO Core Group on Pharmacovigilance and Drug Development in Resource-Poor Countries and also serves on the Consortium Safety Panel for Intermittent Preventive Treatment of Malaria in Infants. He is a member of the NIH/NAIAD Data and Safety Monitoring Board for HIV/AIDS trials in Africa.

Dr Dodoo is a member of the Pharmaceutical Society of Ghana, the Royal Pharmaceutical Society of Great Britain, the International Pharmaceutical Federation, the Society of Pharmacovigilance in India and the International Society of Pharmacovigilance. He is a prolific writer on health issues and a founding member of the Health Communications Institute of Ghana. He is married to Jennifer and they have three children and he includes writing, travelling, trying exotic cuisine and wines and listening to good music among his hobbies.

B G09-002

BIOGRAPHY L. MCCLURE
L. McClure
PSNC,
United Kingdom

Lindsay studied pharmacy at the Robert Gordon University in Aberdeen, Scotland. Throughout her student days, she was involved in pharmacy student organisations at a local, national and international level including serving as IPSE (International Pharmaceutical Students' Federation) President in 2000/2001.

After qualifying as a pharmacist in 1999, Lindsay spent 2 years working as a community pharmacist before joining the Pharmaceutical Services Negotiating Committee (PSNC) as an administrative pharmacist. Lindsay is currently PSNC's Head of Information Services with her responsibilities including working with the Department of Health in England on the implementation of various national IT projects.

Lindsay is currently Chair of the FIP Young Pharmacists Group.

B G09-003

BIOGRAPHY J. NICHOLSON
M.J. Nicholson
Industrial Pharmacy Section,
United Kingdom

Biography

JANE NICHOLSON, B.Pharm, F.R.PharmS, F.T.O.P.R.A., M.C.P.P.
(as TURPIN)

Jane is a pharmacist and an Expert Member of the International Pharmaceutical Federation (FIP) Board of Pharmacy Practice, involved with Strategic Planning. She is Co-convener of their Working Group on Complementary Medicines.

Author of a number of articles on product registration and regulatory requirements for pharmaceuticals, patient access, labelling and the reclassification of medicinal products. Speaker on regulatory affairs, pharmaceutical education and the practice of pharmacy. Jane currently holds the presidency of the European Industrial Pharmacists Group.

In the recent past she has been the proprietor of an independent community pharmacy, served as a Member of Council of the Royal Pharmaceutical Society of Great Britain and for 10 years was appointed as a non-executive member of the Medicines Control Agency's (MCA now MHRA) Supervisory Board.

B G09-004

BIOGRAPHY N.A. FREMPONG
N.A. Frempong
Ministry of Health, Ghana,
Ghana

Nana Frempong is a young pharmacist from Ghana having qualified in 2003. She is currently working as a Programme Officer at Ghana National Drugs Programme (GNDP)-the Drug Policy Development Unit of the Ministry of Health.

Nana has strong interests in pharmacy administration and policy and is desirous of undertaking a PhD. in this area.

Having completed the PRDU course in Namibia in 2005, Nana is convinced that pharmacists have a lot to offer in the area of public health. She is an active member of the Young Pharmacist Group of the FIP and the Pharmaceutical Society of Ghana.

Her hobbies are reading, listening to music and writing.

INFORMATION SHARING TO ADDRESS COUNTERFEIT AND SUBSTANDARD MEDICINES

G09-001

ANALYSING THE REPORTS ON COUNTERFEIT AND SUBSTANDARD MEDICINES

M.J. Nicholson
Industrial Pharmacy Section,
United Kingdom

When companies acquire a sample of a product that could potentially be counterfeit from either pharmacists, consumers or other party, analysts at the manufacturer laboratories should run tests to examine the components of the medicine and determine whether it is a fake.

If it is, this should be reported to the National Government Authorities and the WHO within an agreed time period.

Manufacturers should seek to work with wholesalers, distributors and repackagers to identify the source and scope of the reported problem and to quarantine any substandard or counterfeit product. In addition, regulatory authorities should investigate the reports and assess the public health risks and, where appropriate, issue public health alerts and/or pursue a criminal investigation against the responsible parties.

This presentation will compare the efforts made by various countries to analyse reports on counterfeit and substandard medicines.

G09-002

DISSEMINATING THE RESULTS OF DETECTED USE OF COUNTERFEIT AND SUBSTANDARD MEDICINES TO THE PROFESSION

N.A. Frempong¹, M. Gyansa-Latterodt², A.N.O. Dodoo³, S. Boateng¹,
¹Ministry of Health, Ghana, ²Ghana National Drugs Programme, ³CTCPT, UGMS, Ghana Ghana Ghana

Counterfeit medicines make up more than 10% of global medicines and up to 25% of the medicines consumed in poor countries are counterfeit or substandard. The effect of these on the health of consumers is enormous. There are numerous reports of counterfeit medicines in developing countries but the dissemination of such reports to health professionals including pharmacists is sometimes patchy. What systems exist for disseminating information on these medicines and how can they be improved?

Usually, information on substandard and counterfeit medicines is made to regulatory authorities and the pharmaceutical industry who issue letters and occasionally newspaper reports to alert the general public. There are often few dedicated programmes aimed at informing pharmacists despite the fact that pharmacists can play a huge role to curb this menace. Whether they are in procurement, drug regulation, policy or practice (hospital, industry, community), pharmacists are in a position to stop the proliferation of substandard medicines and developing countries must design programmes to inform pharmacists of the presence of such medicines in a timely manner. Examples of such systems include utilisation of the close network of professional Pharmacy Associations in developing countries as well as utilising newer technologies like email and text to inform colleagues. The low numbers of pharmacists in developing countries make these suggestions feasible with a high potential for success.

G09-003

DISSEMINATING THE RESULTS OF DETECTED USE OF COUNTERFEIT AND SUBSTANDARD MEDICINES TO THE PUBLIC AND THE PATIENT - THE IVORIAN SCENARIO

O.M. Bonny
Pharmacie MEGANE,
Ivory Coast

The National Pharmacist Organization of Cote d'Ivoire (CNOP-CI) along with the pharmaceutical organizations of West and Central Africa, yearly holds in May an awareness campaign for the French Sub-Saharan countries populations on the dangers of drugs sold on the black market.

OBJECTIVES

- Inform and alert the populations on the dangers of drugs availability on the black market
 - Inform population on the risks associated with auto-medication
 - Improve the formal supply image
 - Promote the access to generic medications in all pharmaceutical sectors
 - For the 2004 season, the Ivorian pharmacists hold their campaign based on the following:
 - Theme: dangers of street drugs selling
 - Targets: kids & Mobile sellers and their customers
 - Communication means: Audio (Radio) & Visual (Posters, Television, Mobile phones, internet)
 - Campaign dates: October 2004 - May 2005
 - October 25, 2004 - October 31st 2004: launching week.
 - October 31st 2004 - December 31, 2004: Information, awareness and assessment campaign
 - January 1st 2005 - April 30th 2005: awareness and diverse events
 - Assessment means: Survey filled in both at the beginning and end of the campaign period
 - Results :Positives but non measurable
 - Conclusion: The following measures should be taken:
 - Pressure from the WHO and worldwide pharmaceuticals organizations on all countries in order to comply with and maintain pharmaceutical monopoly.
 - Sustained awareness of the public
- Strongly dissuade and express those which activities involves around illicit drugs

G09-004

DEVELOPMENT OF EDUCATIONAL PROGRAMMES TO ADDRESS THE PROBLEMS OF COUNTERFEIT AND SUBSTANDARD MEDICINES IN CURRICULA AT PHARMACY SCHOOLS

A.N.O. Dodoo
Univ of Ghana Medical School,
Ghana

The core subjects in the curricular of most pharmacy schools contain essential elements necessary for addressing counterfeit and substandard medicines. However, these subjects are sometimes taught in a compartmentalized manner preventing holistic approach to addressing this issue. In Ghana for instance, an active and detailed theoretical and practical programme in pharmacognosy and pharmaceutical chemistry equips graduates with the knowledge necessary to establish the identity of medicines both herbal and allopathic. The training in pharmacology, microbiology, pharmacy law and ethics, and drug regulation provides the necessary information required for appreciation of the negative health and economic consequences associated with the availability and proliferation of substandard and counterfeit medicines.

There are several initiatives designed to increase access to medicines worldwide. These may be accompanied by an increase in substandard and/or counterfeit versions of some of these medicines. It is therefore important to design programmes to equip pharmacists to deal with this menace. One way of doing this may be to organize formal courses on 'counterfeit and substandard medicines' in the undergraduate programme. Drawing on fundamental principles already taught in other subjects, this course may be delivered in the final year pharmacy course and take the form of tutorials and discussions permitting students a wide appreciation of the numerous consequences and effects of substandard and counterfeit medicines. Faculty for such a course could include academic staff from within the university, practitioners from drug regulation, pharmacovigilance and law enforcement.

BIOGRAPHIES CHAIRS AND SPEAKERS G10

B G10-001

BIOGRAPHY A. FORSSTROM

A.F. Forsstrom
Apoteket AB,
Sweden

Anneli Forsstrom born 1953, graduated from University in 1979

since 2001
Hospital Pharmacy Manager
at The Hospital Pharmacy
at The University Hospital in Uppsala
Sweden.

President in The Swedish
Association for Hospital Pharmacists
(1996-2006)

Member of The Board of
Swedish Pharmaceutical Society
(2000-2006)

Member of The Board for
The FIP Hospital Pharmacy Section
since 1993, (Secretary and now
Vice-President)

She has also several times represented Sweden
at The EAPH General Assembly

She is also a founder of the education for
specialisation in hospital pharmacy.

She is married to Anders and they have two
children.

B G10-002

BIOGRAPHY S. KLEPPIN

S.M. Kleppin
UW Hospital and Clinics,
United States of America

Susan Kleppin is a 1985 graduate of the University of Wisconsin School of Pharmacy. Since graduation, she has worked in a variety of pharmacy practices including retail pharmacy, long-term care pharmacy, and in association management for the Pharmacy Society of Wisconsin. The majority of her career, though, has been spent in hospital pharmacy practice. Currently, she serves as Deputy Director for the Center for Drug Policy at the University of Wisconsin Hospital and Clinics in Madison, WI. Susan manages the development and implementation of drug policies for the institution in collaboration with other health care professionals. She coordinates the clinical of new drug entities, the development of drug formulary addition or denial recommendations and the analysis of clinical programs that alter the use patterns of various medications. Other responsibilities include assisting with drug budget development, participation in the education and training of pharmacy residents and pharmacy students and assisting in the management of drug shortages at the University of Wisconsin Hospital and Clinics. She is a member of several pharmacy organizations including FIP, ASHP, ACCP and is a member of the Board of Directors of the Pharmacy Society of Wisconsin.

B G10-003

BIOGRAPHY E.A. PLANT

E.A. Plant
Taranaki District Health Board,
New Zealand

Elizabeth Plant is the Chief Pharmacist for the Taranaki District Health Board in New Zealand, responsible for the hospital pharmacy and also in a strategic advisory role for the Taranaki District Health Board overseeing the provision of all pharmaceutical services to the region. She undertook 'The Analysis of Workforce and Service Delivery Models across New Zealand Hospital Pharmacies in 2001 and 2003' as a Masters thesis in Health Sciences via the University of Otago, achieving Distinction. She also has a Post Grad Diploma in Clinical Pharmacy with Distinction. She was the recipient of the National Supreme Award and the winner of the Innovation in Hospital Pharmacy Awards of the Zoetis/Pharmacy Today Awards in 2000. She is a member of the New Zealand Safe Quality Use of Medicines Committee, and the New Zealand DHBNZ National Community Pharmacy Advisory Group, and was a founding member of the Hospital Pharmacy Advisory Committee (HPAC) for PHARMAC, the purchasing agent for pharmaceuticals in New Zealand. During her nine years at Taranaki she has been responsible for the first installation of the Ascribe Pharmacy Computer System into the Southern Hemisphere, the first Pyxis Automated Drug Distribution installation into a New Zealand Hospital, and recently the first installation of Pyxis cabinets into the Asia Pacific region. She has previous experience working as a Pharmacist Facilitator for the National Preferred Medicines Centre, working alongside General Practitioners assessing prescribing practices, and also has wide experience working in both retail and hospital pharmacy in New Zealand and the UK.

B G10-004

BIOGRAPHY M.M. EVERHARD

M.M. Everard
World Health Organization

Biography - Marthe M. Everard

Marthe Everard is a Technical Officer in the department of Medicines Policy and Standards (PSM) of the World Health Organization (WHO) in Geneva. She works in the area of 'Access to Essential Medicines' focussed on the priority diseases HIV/AIDS, tuberculosis, and malaria. Currently, she is involved in multi-country studies on public and faith-based medicines supply systems on the African continent.

Marthe is a Dutch and British qualified pharmacist with an additional Master degree in Health Policy, Planning and Financing from the London School of Hygiene and Tropical Medicine. She has worked for the government of the Netherlands in a health project in Yemen. She has worked in WHO essential drugs programmes in Guinea and Sudan from 1987 to 1992 and as a Technical Officer in the Pharmaceuticals Unit of WHO Regional Office for the Eastern Mediterranean from 1992 to 1996.

Before returning to WHO in September 1999, Marthe was lecturer and manager of WHO Collaborating Centre for Training in Drug Management and Pharmacy Practice, School of Pharmacy, at the Robert Gordon University in Aberdeen/Scotland.

BIOGRAPHIES CHAIRS AND SPEAKERS G10

B G10-005

BIOGRAPHY K. SABRA

K. Sabra
St. James,
Ireland

DIRECTOR , PHARMACEUTICAL SERVICES , ST.JAMES'S UNIVERSITY
HOSPITAL , DUBLIN
, IRELAND.
DEP.OF CLINICAL PHARMACOLOGY & THERAPEUTICS , FACULTY OF
HEALTH SCIENCE,
TRINITY COLLEGE DUBLIN & PROF.OF CLINICAL PHARMACY ,
UNIVERSITY OF CORK

SUPPLY CHAIN MANAGEMENT - CONTRACTING AND SHORTAGES

G10-001

INNOVATIVE SUPPLY CHAIN MANAGEMENT AND CONTRACTING IN THE U.S.

S.M. Kleppin
UW Hospital and Clinics,
United States of America

Concerns about the frequency and duration of drug shortages in the United States have increased in recent years. Currently, over thirty-five drug products are in short supply in the United States. Despite efforts by pharmaceutical manufacturers and the U.S. Food and Drug Administration to prevent drug shortages from having an impact on patient care, health-care organizations have had to devise methods of dealing with drug shortages that may exist at either a regional or national level. This presentation will describe the strategies used at a large university teaching hospital to deal with drug shortages. Strategies include: use of alternate vendors; use of dedicated pharmacy personnel to deal with drug shortage situations; proactive evaluation of impending drug shortages; implementation of therapeutic interchanges; use of the Pharmacy & Therapeutics Committee membership to approve alternative products and assist with prioritizing and rationing of drug supplies; and development and implementation of a communication plan to inform health-care practitioners of shortages.

G10-002

DRUG SUPPLY CHALLENGES FOR A SMALL COUNTRY

E.A. Pfanz
Taranaki District Health Board,
New Zealand

New Zealand (population 4 million people) has been very active in containing annual increases in drug expenditure, achieving in 1998-2002 a negative 1% growth, using the two main approaches of demand and supply side management to manage primary care pharmaceuticals. This is carried out by the government agency PHARMAC (The Pharmaceutical Management Agency). Approaches have been generally very successful however some of the more aggressive measures, such as sole supply arrangements have occasionally led to drug shortages. Demand side initiatives aim to improve prescribing and reduce the costs associated with poor or over prescribing. In 2001 PHARMAC's remit was extended to allow involvement in purchasing for the hospital sector, and a National Hospital Pharmaceutical Strategy was developed. An advisory group was set up and tendering for the majority of hospital medication was undertaken. The most important aspect of the group was to be able to work with the government body to help set the strategy and agenda for change and to limit the restrictions placed on the sector. As well as tendering for drugs, a process for assessing new technology was developed which is now entering a new phase with proposed national screening of new medication prior to introduction to the hospital as well as the community sector. Trans-Tasman arrangements with Australia for medicines licensing and legislation are currently being developed, which, coupled with New Zealand currently developing its primary health strategy aiming to introduce focused disease management initiatives at local level, are all contributing to a dynamic but tightly controlled pharmaceutical supply scenario for the country.

G10-003

MULTI-COUNTRY STUDY OF MEDICINE SUPPLY AND DISTRIBUTION ACTIVITIES OF FAITH BASED ORGANIZATIONS IN SUB-SAHARAN AFRICAN COUNTRIES

M.M. Everard
World Health Organization

The Ecumenical Pharmaceutical Network, in collaboration with the World Health Organization, agreed to carry out a multi-country study to document the contribution of faith-based drug supply organizations (DSOs) in sub-Saharan Africa.

A descriptive multi-country study was conducted involving 16 faith-based DSOs in 11 countries in sub-Saharan Africa between February and December 2003. In June 2004, results of the study were shared and discussed during a feedback meeting with all the participants who had been involved in the study. Standardized questionnaires were developed to collect descriptive information about the DSOs. The information covered governance and administration, infrastructure, planning, services offered, customers served, relationships with government and other bodies, drug selection and procurement, quality assurance and drug supply distribution. Paired country assessments facilitated an exchange of experiences.

The multi-country study demonstrated diversity between DSOs. All DSOs have to work towards reliable quality assurance systems in their drug management, supply and distribution systems. DSOs play a crucial role in terms of access to medicines, especially in rural and remote areas, and where governments supply systems fail to serve their health facilities. The study (1) generated data on how the selected DSOs were operating, (2) identified strengths and weaknesses of the various DSOs, (3) identified areas of work where collaboration among DSOs could be strengthened and where other partners could offer support. Finally, this study was perceived by all participants as a first step of a process for further collaboration.

G10-004

A MULTI-COUNTRY STUDY OF HOSPITAL DRUG SUPPLY SYSTEMS

K. Sabra
St. James,
Ireland

Hospital pharmacists main duty is to supply the right drug at the right time to the right patient and ensure availability of information for patients or health care providers. In some countries financial restrictions mean native residents have access to all available drugs while non-natives are only permitted restricted drugs for the same disease. Similar restrictions may be linked to patient age or disease type. In countries with both private and public health care systems, private patients usually get any drug required while public patients have access to a limited list of drugs, leading to a two tier health care system depending on individual wealth. In most European countries committees similar to NICE in the UK and New Drugs Committees in our own institutions were formed to monitor new (particularly expensive) drugs. These committees review introductions of such drugs even though they are already licensed for use. Sometimes approval from a CEO or financial controller may be required prior to supplying expensive items. In recent years amalgamation of pharmaceutical companies, rationalisations and in some cases drug licence costs has led to shortages of some essential drugs. In some cases drugs can only be obtained under a named patient scheme, cost 200-300% of the original price, and take much longer time to obtain. Noticeably hospitals with strong clinical pharmacy services tend to have effective in-house protocols for supply of expensive items based on patient requirement. All issues concerning drug supplies must be sorted out and hospital pharmacists have an important role as front line professionals dealing with health care suppliers, patients and families.

BIOGRAPHIES CHAIRS AND SPEAKERS G11

B G11-001

BIOGRAPHY A.L. GRAY
A.L. Gray
University of KwaZulu-Natal,
South Africa

Andy Gray B Pharm, MSc (Pharm), FPhS is a pharmacist whose research interests include the development of quality management tools for pharmaceutical services at district level, the implementation of District Health Systems, policy analysis (particularly the processes of development and implementation of Drug Policies), rational medicines use (particularly in the elderly and in relation to antimicrobial use) and the application of Highly Active Antiretroviral Therapy (HAART) in resource-constrained settings. He is a Senior Lecturer in the Department of Therapeutics and Medicines Management, Nelson R. Mandela School of Medicine, University of KwaZulu-Natal, Durban, South Africa. He is also the study pharmacist for the Centre for the AIDS Programme of Research in South Africa (CAPRISA). Mr Gray is a Fellow of the Pharmaceutical Society of South Africa, a past president of the South African Association of Hospital and Institutional Pharmacists and is currently Vice-President (Africa) of the Hospital Pharmacy Section of the International Pharmacy Federation (IPF).

B G11-002

BIOGRAPHY C. M. WYNNE-HOWELLS
C.M. Wynne Howells
Welsh Assembly Government,
United Kingdom

Graduate of the Welsh School of Pharmacy. Qualified at King's College Hospital, London, held various appointments within the NHS (England and Wales) before taking up current post.

B G11-003

BIOGRAPHY M. FAHEY
M. Fahey
GAHS,
United Arab Emirates

Dr. Fahey has 10 years experience in the Middle East. He recently joined the General Authority for Health Services in the Emirate of Abu Dhabi where he works on a wide range of Pharmacy development projects including Professional Competence frameworks. Dr. Fahey previously worked as the Pharmacy Advisor at the UAE Ministry of Health (MOH). At the MOH, he was involved in the development of the MOH formulary, Antibiotic guidelines, Pharmacist Continuing Education, Regulatory Affairs (Drug Registration and Pricing), Good Practice frameworks including GMP regulations and inspection for the UAE. Prior to the UAE, he was a UK Chief Pharmacist for a London hospital group. His research interests include Medication Adherence.

B G11-004

BIOGRAPHY G. GALLEGO
G. Gallego
The University of Sydney,
Australia

Giusele Gallego holds a Bachelor of Pharmacy from the Universidad Nacional de Colombia. She worked as a Hospital Pharmacist and later became a Clinical Research Associate at Merck Sharp & Dohme in Colombia. She is currently enrolled in a PhD investigating access to High Cost Drugs in Public Hospitals at the University of Sydney in Australia and is based at the Therapeutics Centre, St. Vincents Hospital. She has worked in clinical research at AstraZeneca in Sydney and is currently working part time in a Community Pharmacy.

PAYING FOR MEDICINES USED IN HOSPITALS

G11-001

EFFECTIVE MEDICINES MANAGEMENT

C.M. Wynne Howells
Welsh Assembly Government,
United Kingdom

Expenditure on medicines in hospitals is set to increase in the next 5 years. Several factors will influence this: patients with multiple pathologies, technological advances, new high cost drugs. The NHS is under financial pressure and effective medicines management is essential. The introduction of disease specific national service frameworks coupled with the establishment of bodies, such as NICE, to provide treatment guidelines are ways in which practice is influenced. Drugs and Therapeutic Committees determine the use of resources locally through formulary systems. Improved purchasing methods (e.g. auctions) with service redesign (automation) have increased efficiency. Engagement of patients/public in decision making processes is essential to manage demands placed on services.

G11-002

ISSUES RELATING TO THE PAYMENT FOR HOSPITAL MEDICINES IN THE UNITED ARAB EMIRATES

M. Fahey
GAHS,
United Arab Emirates

The UAE is an oil rich federation in the Arabian Gulf. It is admired throughout the region as a haven of stability, tolerance and an economic phenomenon. It has a rapidly growing population of over 4 million of which more than 80% are expatriate workers and their families. The GDP per capita is over US\$16,000 but the distribution of this wealth is very asymmetrical.

Less than 6% of the total population is aged over 50 years and the most common cause of death is Cardiovascular disease followed by Road Traffic Accidents and Cancer. The burden of chronic disease is yet to fully impact but obesity is a problem and among UAE nationals, the incidence of type-2 diabetes is 27%.

There are 30 government hospitals providing 4,473 beds. These are managed by 4 main organisations: the Federal Ministry of Health, Abu Dhabi state health service (GAHS), Dubai state health service (DOHMS) and the Defence Medical Services (Military).

A wide range of socio-political factors are impacting on the payment of hospital medicines:

- Introduction of point of care fees for non-nationals
- Development of Health insurance
- Role of GCC tenders
- Single Distributor / agency agreements
- Long term planning for the UAE economy
- Fragmentation of the national health system
- Public - Private Infrastructure investment and development

The presentation will raise many points for discussion including the need to re-visit the definition of equity of access and take a wider view of the subject in an environment where ability to pay among expatriates must be balanced with the long-term stability of a rapidly developing nation.

G11-003

PAYING FOR MEDICINES USED IN HOSPITALS IN AUSTRALIA

G. Gallego, S. Taylor, J.E. Brien,
The University of Sydney,
Australia

The Australian health care system is based on the premise that permanent residents should have access to health care, regardless of their ability to pay. Introduced in 1984, Medicare is the basis of the national health care system and is funded and administered by the Commonwealth government. Medicare is financed largely through taxation. This universal system includes access to public hospitals at no charge for all citizens and permanent residents. Access to subsidised medicines is assured through the Pharmaceutical Benefits Scheme-PBS (note PBS is not part of Medicare). One of the main characteristics of this system is the division of responsibilities between the Commonwealth and State governments as well as the mix of private and public services. Private hospitals are largely funded by non-government sources such as benefits paid by private health insurance and out-of-pocket expenditure by individuals. Public hospitals are funded through grants from the Commonwealth government to the States and Territories. They provide the major proportion of inpatient and emergency care for the Australian population and carry out almost all of the training of health care workers. Access to pharmaceuticals is different in private and public hospitals. Most pharmaceuticals in private hospitals are dispensed by community pharmacies and are directly subsidised by the Commonwealth government through the Pharmaceutical Benefits Scheme (PBS). Pharmaceuticals supplied through public hospitals are funded through separate schemes, primarily involving state-based hospital funding. These systems influence the governance of medications used in Australian hospitals.

BIOGRAPHIES CHAIRS AND SPEAKERS G12

B G12-001

BIOGRAPHY A. AL SAYED HUSSAIN
A. Al Sayed Hussain
Department of Health and Medical Service,
United Arab Emirates

Ali Al Sayed Hussain is the Asst. Hospital Director, Clinical Support Services of Al Wadi Hospital belonging to the Department of Health & Medical Services (DOHMS), Dubai, U.A.E. He is also the Chairman, Central Pharmacy Technical Committee & Secretary, Central Pharmacy & Therapeutics Committee.

He did his B.Sc. in Pharmaceutical Sciences from Univ. of Alexandria in Egypt & his Masters in Pharmacy Admin. from the Univ. of New Mexico in USA.

He is involved with many committees and projects for the Department of Health & Medical Services. Most importantly he is the Project Manager for Pharmacy Computer System, Secretary - Antibiotic & Biotechnology Committee and Chairman of DUPHAT (Dubai International Pharmaceuticals & Technologies Exhibition & Conference), Leader of Care of Patient Team for JCAHO, Chairman, Destruction Committee for Expired Items & Wastage & Vice Chairman of Purchasing Committee.

He is also a member of the Advisory Committee for Higher Colleges of Technology & Dubai Pharmacy College and the Clinical Coordinator for Students Training Programs.

Dr Ali took the initiative to implement Inpatient & Unit dose services, IV Administration, Patient Care Services, Fire Safety Cabinets, Medication Errors Reporting System & ADR Reporting system. He was responsible for implementing new policies to control the inventory of medicines in the Dept. of Health.

Other achievements include: rationalization of Medicine Use & Antibiotic use, Formulating Policies & Programs, Publication of Booklets for DOHMS including Formulary Booklet, computerization of the exam for private pharmacists licensing & Website (dohmsptc.com).

B G12-002

BIOGRAPHY G. BOURDEAU
G.B. Bourdeau
ReMeD,
France

Biography :

Guy Bourdeau, engineer from Ecole Polytechnique Fédérale - Zurich - and Institut d'Administration des Entreprises - Paris - worked by Rhone-Poulenc Rover as Director of industrial operations in Latin America, Africa and Asia the last ten years before he retired.

Now, he dedicates himself to voluntary work for the Developing Countries in the fields, among others, of Quality Assurance, Manufacturing Management and Engineering. For that, he joined ReMeD (Réseau Médicament et Développement) and OTECL, a non profit-making organization of volunteers seniors.

B G12-003

BIOGRAPHY E.M. ELAZAZY
E.M. Elazazy
Professionals,
Egypt

Dr. Emad Elazazy is a health professional certified in public health and information technology as well as in pharmacy and pharmaceutical sciences. He has robust experience in health care services and therapeutics, besides broad successful practices in strategic health planning and health insurance in addition to institutional capacity building, consultancies, continuing education, management and electronic data interchange schemes. Dr. Emad is the Chief Executive Officer of Professionals co. for management information systems and pharmaceutical consultancies in Egypt and Middle East. He has received master degrees in Business administration, E-business and software management systems in addition to, public health, medical informatics, management and pharmaceutical logistics diplomas. Dr. Emad has implemented diverse public and private health sector information systems, built, invented and developed several training manuals for professional continuing education, health data mining, health indicators and managed-care fieldworkers. Dr. Emad is expert in calling at the highest levels tasks and missions delivered several lectures at national and international levels with excellent strategic managerial capabilities having worked as a member of senior management team of several world health and pharmaceutical organizations.

PUBLIC HEALTH - WHAT DOES IT MEAN TO THE HEALTHCARE PROFESSIONALS?

G12-001

QUALITY ASSURANCE AND MANUFACTURING MANAGEMENT, USELESS ONE WITHOUT THE OTHER.

G.B. Bourdeau
ReMeD,
France

Abstract :

In the pharmaceutical industry, the Good Manufacturing Practices are useless if they are not closely connected with a Good Manufacturing Management.

For the customer : what is the interest of a good quality if :

- the drug price is too high ?

- the delivery time is not reliable ?

For the manufacturer : what is the contribution of Quality Control and Quality Assurance ?

The author will present some short and easy tricks for these problems.

Bio graphy :

G.B. Bourdeau, engineer from Ecole Polytechnique Fédérale - Zurich - and Institut d'Administration des Entreprises - Paris - worked by Rhone-Poulenc Rorer as Director of industrial operations in Latin America, Africa and Asia the last ten years before he retired.

Now, he dedicates himself to voluntary work for the Developing Countries in the fields, among others, of Quality Assurance, Manufacturing Management and Engineering. For

that he joined ReMeD (Réseau Médicament et Développement) and OTECI, a non profit-making organization of voluntaries seniors.

G12-002

AN OVERVIEW ON PHARMACOEPIDEMOLOGY

E.M. Elazazy
Professionals,
Egypt

Pharmacoepidemiology can be defined as the study of the utilization and effects of drugs in large numbers of people. To accomplish this study, pharmacoepidemiology counts on from both pharmacology and epidemiology. Thus, pharmacoepidemiology can be called a bridge science spanning both pharmacology and epidemiology. Pharmacology is the study of the effect of drugs and clinical pharmacology is the study of effect of drugs in humans. Part of the task of clinical pharmacology is to provide a risk benefit assessment for the effect of drugs in patients. Doing the studies needed to provide an estimate of the probability of beneficial effects in populations, or the probability of adverse effects in populations and other parameters relating to drug use may benefit from using epidemiological methodology. Pharmacoepidemiology then can also be defined as the application of epidemiological methods to pharmacological issues.

BIOGRAPHIES CHAIRS AND SPEAKERS G13

B G13-001

BIOGRAPHY M.A. SCHAEFER

M.A. Schaefer
Charit Berlin,
Germany

Marina Schaefer, PhD, is an expert in pharmacoepidemiology and social pharmacy in Germany. Since 1998 she has held the position of Professor of Pharmacoepidemiology and Social Pharmacy at Humboldt University in Berlin. In 2001 she has initiated a postgraduate study of Consumer Health Care and is now working with the Medical Faculty/Charit of Humboldt University. Since 1998 she has served as the secretary of the Administrative Pharmacists Section of F.I.P. Other memberships include the Pharmaceutical Care Network Europe (PCNE).

B G13-002

BIOGRAPHY C. ANDERSON

C.W. Anderson
School of Pharmacy,
United Kingdom

Clare Anderson is Professor of Social Pharmacy and Director of the Centre for Pharmacy Health and Society at the School of Pharmacy, University of Nottingham, UK. She is President of the Academic Section of FIP and on the board of the UK College of Pharmacy Practice. Her major research interest is about the role of community pharmacists in improving the health of the public. Clare Anderson has published over 60 refereed papers and numerous conference abstracts. Perhaps the most important piece of research she has produced is the strategic research for Pharmacy HealthLink and the Royal Pharmaceutical Society of Great Britain, investigating the broader public health role of pharmacy. She has also been Nottingham's principal investigator in the Community Pharmacy Medicines Management Project, a Department of Health funded multi-centre, randomised controlled trial, which has evaluated the role of pharmacists in advising patients and prescribers concerning appropriate treatment for coronary heart disease.

B G13-003

BIOGRAPHY S. COSTA

S. Costa
National Association of Pharmacies (ANF),
Portugal

Pharmacist, Master in Public Health

Suzete Costa received a degree in Pharmacy from the Faculty of Pharmacy, University of Lisbon in 1993 and a Masters degree in Public Health (MPhH) at the Faculty of Medical Sciences, New University of Lisbon in 2001 (Thesis: 'The impact of a pharmacy-based disease management programme in a group of hypertensive patients').

At national level:

1993-1999: Suzete Costa started at the Portuguese Pharmaceutical Society, first as Professional Secretary for pharmacy-based intervention programmes and after as Secretary General Assistant, working in political and professional pharmacy issues.

Since September 1999: Department Manager of Pharmacy-based Disease Management Programs Department at the Portuguese National Association of Pharmacies. Recently, new service areas were added aiming at broadening the scope of offer of pharmacy services.

At international level:

Since 1996: Task Force Manager of the joint project between WHO and EuroPharm Forum on 'Pharmacy-based Hypertension Management'.

1998-2004: member of the Executive Committee of EuroPharm Forum.

OTHER ACTIVITIES

1989-1991: Vice-president of the European Pharmaceutical Students Association (EPSA)

1990-1992: Board Member of the Students Association of the Faculty of Pharmacy of Lisbon

1992: President of the Reception Committee of the 38th EPSF Congress held in Lisbon

B G13-004

BIOGRAPHY A.G. WINTERSTEIN

A.G. Winterstein
University of Florida,
United States of America

Alma Winterstein is presently an assistant professor at the College of Pharmacy, and graduate faculty for the Master of Public Health Program at the University of Florida. She received her pharmacy degree from the Friedrich Wilhelm University in Bonn and a Ph.D in Pharmacoepidemiology from the Humboldt University in Berlin in 1999.

Alma has conducted various health outcomes research studies focusing on the clinical and economic evaluation of drugs and health services in Europe and the US. She is member of the medication safety and quality improvement committees of Shands at the University of Florida teaching hospital and directs several medication safety projects in this capacity. Her major research interest addresses the epidemiologic assessment of drug safety and effectiveness as well as the application of epidemiologic methods in economic analysis.

B G13-005

BIOGRAPHY A.G. HARTZEMA

A.G. Hartzema
University of Florida,
United States of America

Bram Hartzema is Professor and Eminent Scholar in the Department of Pharmacy Healthcare Administration, College of Pharmacy, University of Florida. He is the Perry A. Foote Chair in Health Outcomes Research and Pharmacoeconomics. Professor Hartzema has published several books in multiple languages. His text 'Pharmacoepidemiology: An Introduction' has defined early on the field of pharmacoepidemiology and provided the impetus for its growth. He is past member of FIP's Scientific Board and founder of the FIP Section on Pharmacoepidemiology and Economics.

EVALUATION STUDIES AS BASIS FOR DECISION MAKING

G13-001

EVALUATING COMPLEX INTERVENTIONS IN PHARMACY

C.W. Anderson
School of Pharmacy,
United Kingdom

Complex interventions in health care consist of a number of separate elements which are all essential to the proper functioning of the intervention although the effective 'active ingredient' of the intervention is often difficult to specify. If we take a randomised controlled trial of a drug as being at the simplest end of a spectrum, then a study comparing a pharmacy providing full pharmaceutical care and public health services to one providing traditional pharmacy care would be at the most complex end of the spectrum. Complex interventions are built up from a number of components, which may act both independently and inter-dependently. These components might include behaviours, parameters of behaviours (e.g. frequency, timing), and methods of organising and delivering those behaviours (e.g. type(s) of practitioner, setting and location). It is not easy precisely to define and thus measure the 'active ingredients' of a complex intervention. For example, although research suggests that pharmaceutical care might work, what, exactly, is a pharmaceutical care pharmacy? What are the 'active ingredients' that make it work? We often develop research in a pragmatic way and do not think about the theoretical basis for the research. We often take a 'top down' approach rather than first evaluating small pilot studies using qualitative research methods alongside quantitative methods to clarify the process and test theory before going on to do larger studies. We often finish the research at the end of a trial and do not examine the implementation of the intervention into practice.

G13-002

REMUNERATION OF PHARMACY SERVICES IN PORTUGAL

S. Costa
National Association of Pharmacies (ANF),
Portugal

An agreement was signed between ANF, the Portuguese Pharmaceutical Society and the Ministry of Health, in which the latter remunerates the care provided to diabetic patients who are followed by community pharmacists, according to the methodology and tools of the Diabetes Management Program.

This presentation will look at the following issues:

- a brief historic background of pharmacy-based disease management programs using methods and tools:

- the exploratory pilot intervention trial that took place between 2001 and 2002;
- the expansion process for long term implementation initiated in 2003;
- the agreement signed later that year;
- a description of the service provided by accredited pharmacists;
- the definitive research trial commissioned by the Government.

A comparison between the MRC framework used for drug evaluation process and the intervention research and implementation process used for the pharmacy-based diabetes management program in Portugal will be made, exploring the challenges in research and implementing complex interventions in everyday practice in uncontrolled setting over the long term.

Finally, this presentation will close with a glimpse into the future of pharmacy practice in Portugal - broadening the scope of services in a changing environment.

G13-003

ECONOMIC EVALUATION OF SECONDARY STROKE PREVENTION WITH ACE-INHIBITORS

A.G. Winterstein
University of Florida,
United States of America

This presentation aims to enable the attendee to (1) describe decision tree models used to project cost-benefit and cost-effectiveness of alternative treatment strategies, (2) discuss features important to decision-makers when developing such models, and (3) to describe features that determine the validity of economic models.

Several methodological considerations important in the interpretation of economic findings will be illustrated using a recently completed study on the cost-effectiveness and cost-benefit of ACE-inhibitors in the prevention of secondary stroke. The study was based on clinical trial data that demonstrated a reduced incidence of recurrent stroke associated with the prophylactic use of ACE-inhibitors. While the clinical trial terminated data collection at the point of secondary stroke occurrence, the economic study simulated associated healthcare utilization and cost over a 2-year follow-up period. Patient progression was simulated using a decision tree model based on published epidemiologic data on healthcare utilization and claims database extracts.

The original study data will be used to (1) discuss common sources for cost and healthcare utilization data, (2) illustrate the effect of differential mortality and open versus closed study cohorts on cost-benefit results, (3) show how technical procedures such as mid-cycle corrections and discounting affect findings, and (4) how parameter uncertainty is incorporated in sensitivity analyses.

G13-004

THE ECONOMIC EVALUATION OF DIABETES II DISEASE MANAGEMENT PROGRAMMES

A.G. Hartzema, A.G. Winterstein, R. Segal, S. Snedecor, M.D. Taylor,
University of Florida,
United States of America

The purpose of this study is to develop a general cost model of Diabetes II related complications. Florida Medicaid data including 123,000 Diabetes II patients with an average follow up of 2.7 years provide the complication incidence rates and treatment cost data.

Markov models using Monte Carlo simulations are developed for each complication. Reductions in complication rates as associated with one 1% drop in HbA1c levels are modeled. The DiabeticSMART diabetes management program reduced the HbA1c level in the population with .7%. Such a reduction translated in a \$5103 in yearly cost savings to the Medicaid program. The aggregate Markov models prove to be a useful tool in the evaluation of the economic impact of disease management programs and other Diabetes II treatments.

B G14-001

BIOGRAPHY E.K. TERASALMI

E.K. Terasalmi
Apple pharmacy,
Finland

- Graduated from Helsinki University -82 MSc in Pharm.
- Further education in social pharmacy and pharmacology
- Working history:
 - Pharmaceutical Learning Center 82-83, pharmacist
 - The Association of Finnish Pharmacies 83-96, pharmacist, director for pharmaceutical affairs
 - Esko centrum apoteek, pharmacist 96 - 98
 - Apple pharmacy, Viikkala, Siastin, Rautio, pharmacy owner 99 →
- Other activities:
 - The Association of Finnish Pharmacists, board member 79-81. Member of working groups in quality issues, pharmacy education and health promotion, nordic co-operation etc.
 - The Association of Finnish Pharmacies, vice president 00-01, board member 02 → . Member of working groups in pharmacy education, quality work, health promotion and education, development of pharmacy practice, nordic and international co-operation
 - WHO EuroForum Forum, task force manager (smoking cessation) 96 → vice president 01-02
President 02-04
board member 05->
 - Member of FIP Community Pharmacy section since 1984, member of Executive Committee 03->
 - Publications: articles in national pharmaceutical journals and other publications, WHO research report on Pharmacists against smoking 2001.
 - Presentations: Presentations in international and national congresses about strategies, practices, quality issues, health promotion etc concerning community pharmacy and pharmacists.
- Marital status:
Married, 2 daughters 11 and 17 years old.
- Personal interests:
My personal aim is to further develop evidence based pharmacy practice and to promote professionalism in pharmacy. My hobbies are gardening in the warmer cottage and reading both professional and nonprofessional literature.

BIOGRAPHIES CHAIRS AND SPEAKERS G15

B G15-001

BIOGRAPHY S. SHARPE

S. Sharpe
PSNC,
United Kingdom

Qualified as a barrister and lectured in law at Leeds and Durham Universities before becoming a Government lawyer in 1977. In 1991 joined the RPSGB responsible for professional regulation and legal matters, including the Society's Statutory Registers, Inspectorate and the Code of Ethics. Joined PSNC as Chief Executive in July 2001. Responsible for negotiating a new service framework for pharmacies in England under which they will provide medicines reviews and other clinical interventions as a core part of the pharmacy service. Pharmacies will also play an important role in delivering the government's public health programme.

B G15-002

BIOGRAPHY A. WERTHEIMER

A.I. Wertheimer
Temple University,
United States of America

Bio-Sketch

Albert I. Wertheimer, Ph.D., M.B.A.

Positions

Professor, Temple University School of Pharmacy	2000-
Director, Center for Pharmaceutical Health Services Research	2000-
Vice President, First Health Services (PBM), Richmond	1994-1997
Dean, Philadelphia College of Pharmacy & Science	
1990-1994	
Professor, Graduate Studies Director, University of Minnesota	1973-1990

Education

Postdoctoral Research Fellow, St. Thomas Medical School, London
Ph.D., Pharmacy Administration, Purdue University
M.B.A., State University of New York at Buffalo
B.S., Pharmacy, University of Buffalo

Activities

Author or co-author of more than 300 journal articles
Author or editor over 21 books, and 23 chapters
Awarded over \$3 million in research grants
Supervised 63 Ph.D. students
Consulted or lectured in 55 countries
Editor of one journal, associate or contributing editor of 2 and reviewer for 14 journals

Area of Specialization

Outcomes research, pharmaco-economic, quality of life evaluation inquiries, intentional drug use and managed care pharmacy.

B G15-003

BIOGRAPHY Y. GARIÉPY

Y.G. Gariépy
Université Laval,
Canada

Yves Gariépy teaches Pharmacy Law at Université Laval and at Université de Montréal. As a pharmacist, his clinical and practical experience began as a manager of a hospital pharmacy department in 1966. From 1971 to 1984 he was a community pharmacy owner and board member of Quebec's licensing body. From 1984 to 1997, Mr. Gariépy served as an advisor to Quebec's Ministry of Health and Social Services in policy development and regularly accompanied the Minister and the Deputy Minister in parliamentary commissions on various health care issues. Mr. Gariépy's work in this field contributed to the development of Quebec's universal drug plan and ethics in research action plan. He has also initiated several social and community pharmacy programs. In 1969, he developed a prescription distribution network for disenfranchised patients in Québec City. In 1971, he enlisted pharmacists to provide pharmaceutical services to areas of the province of Quebec that had not previously been serviced. Mr. Gariépy is a member of the Ordre des Pharmaciens du Québec, the Canadian Pharmacists Association, the American Society of Health Systems Pharmacists and the European Society of Clinical Pharmacy. After his retirement, he served on the family practice panel at the U.S. Pharmacopeial Convention, on the board of The Frost Health Care Foundation, on Université Laval's Conseil Universitaire, and on the Canadian Society of Hospital Pharmacists' Board of Fellows. In addition to his teaching, he is now an independent policy advisor, a member of the executive committee of the administrative section of the International Pharmaceutical Federation and a board member of Université Laval.

B G15-004

BIOGRAPHY S. BELL

S. Bell
The University of Sydney,
Australia

Simon is a pharmacist and PhD Candidate at The University of Sydney, Australia. His research focuses on the development and evaluation of new models of collaboration between community pharmacists and medical practitioners.

Simon is a councillor of the Pharmaceutical Society of Australia (NSW Branch), member of the Pharmaceutical Society of Australia (NSW Branch) Futures Taskforce and a past chairperson of the NSW Young Pharmacists. Simon has conducted consultations on pharmacy practice for the World Health Organization (WHO), Australian Consumers Association (ACA), The Schizophrenia Fellowship, and several pharmaceutical companies.

In 2005 Simon was elected President of the International Pharmaceutical Students Federation (IPSPF). During his term as President Simon worked from the IPSPF and International Pharmaceutical Federation (IPIF) secretariat in The Hague, The Netherlands. Simon was awarded Honorary Life Membership of IPSPF at the 50th IPSPF World Congress conducted in Halifax, Canada.

Simon has spoken about pharmacy practice and pharmacy education in more than 30 countries worldwide, and been a chief investigator or co-investigator on five successful grant applications. Simon was named Young Australian Pharmacist of the Year in 2004.

B G15-005

BIOGRAPHY J.L. CARAPINHA

J.L. Carapinha
Wits University,
South Africa

Joo Carapinha graduated from the University of the Witwatersrand with a Bachelor Degree in Pharmacy. He was President of the International Pharmaceutical Southern Federation. He worked for Glaxo SmithKline (SA) (Pty) Ltd as their Pharmacist In-charge for a period of one year after which the Southern Gauteng Branch of the Pharmaceutical Society of South Africa employed him as their Professional Development Manager. In January 2005 Joo was appointed a Lecturer and Head of the Pharmacy Practice Division at the Department of Pharmacy and Pharmacology, Faculty of Health Sciences, University of the Witwatersrand.

In March 2000 Joo was appointed by the Minister of Labour (South Africa) to serve on the Board of the Health and Welfare Sector Education and Training Authority (HWSETA). He is actively involved in several professional organizations: Pharmaceutical Society of South Africa, Pharmaceutical Care Management Association of SA and the International Pharmaceutical Federation. Postgraduate studies include a Diploma in Manager Development (Durand Management School), Industrial and Organisational Psychology (University of South Africa) and a Masters in Public and Development Management Economic Policy and Public Finance (Graduate School of Public and Development Management, University of the Witwatersrand). He is working towards a Doctorate of Philosophy (Public and Development Management) at the Graduate School of Public and Development Management, University of the Witwatersrand.

Joo's research priorities include generic medicine policy, local production of pharmaceuticals, and pharmaceutical economics and policy.

CHANGING THE PROFESSIONAL STATUS - THE WAY FORWARD TO INTEGRATED CARE

G15-001

CHANGING THE PROFESSIONAL STATUS THE WAY FORWARD TO INTEGRATED CARE

Y.G. Gariépy
Université Laval,
Canada

ABSTRACT: In the province of Quebec, Canada, a major (8 years) review of all health care (doctors, pharmacists, nurses, inhalo-therapists, dieticians, ambulance personnel, etc...) workers activities, has led to rewriting 15 laws, providing for an interdisciplinary legal framework likely to put aside traditional turf battles between professional groups. Adopted in 2002 and enacted in 2003, these laws are fostering the sharing of information as the doctors will now write the therapeutic intention that they have in writing a prescription so that the pharmacist will be able to initiate or adjust drug therapy and not only the dose of individual drugs. For example, if the doctor wants the pharmacist to adjust blood pressure to a level, the choice of drug may now be legally left with the pharmacist.

The presentation will describe the lobbying and legislative process by which pharmacists in Canada achieved changes in professional status and were at the same time involved in a major (1995-2003) review of all health care workers activities. As well it will describe how rewriting 15 laws now provides for an interdisciplinary legal framework likely to put aside traditional turf battles between professional groups. Finally it will explain how the implementation of the changes is going on in 2004 and 2005.

G15-002

PHARMACISTS ROLE DEVELOPMENT AND PRACTICALITIES IN THE UK

S.E. Shurge
PSNC,
United Kingdom

Community pharmacies in the UK needed to develop a new service in the face of real financial threats to income and a perception that pharmacy did not offer value for money for the NHS.

Pharmacy decided to take a pro-active approach to the challenge, and identify new roles and services that could be provided.

A detailed analysis of government health policy objectives, many of which are common to many countries, was undertaken.

An evidential basis for funding needed to provide fair funding for the service was developed and used successfully in negotiations with the government.

A programme of consultation and communication with contractors was implemented ensure they supported the proposals and recognised the need for change.

Support of doctors' leaders was also sought, to manage the risk of opposition to the proposals.

The new contract was introduced in April 2005. Pharmacists assume new responsibilities in three key areas. They will use their clinical skills to improve care of patients with long term conditions by medicines use reviews. As pharmacists quality prescribers this role will increase. Pharmacists will support patients in developing the skills in self care and making better use of other health care resources; and they will play a major role in delivering public health goals.

This will present challenges: developing skills and use of knowledge; change practices, and ensuring acceptable quality and consistency of services.

G15-003

INTER-PROFESSIONAL CASE CONFERENCE MEETINGS INVOLVING PHARMACISTS AND MEDICAL PRACTITIONERS

S. Bell
The University of Sydney,
Australia

There has been a growing recognition of the need to develop inter-professional models of care for patients with chronic and/or complex conditions. A case conference is a meeting of health professionals to plan care for an individual patient. Community pharmacists in Australia have been recognised as key members of the health care workforce responsible for implementing the National Strategy for the Quality Use of Medicines. Community pharmacists participation in case conference meetings, also involving specialist and general medical practitioners, is an area of ongoing research interest. Two models of community pharmacists participation in mental health case conference meetings will be presented. The results of two research projects conducted in metropolitan Sydney will be discussed. Although medications are the patient and health professional preferred treatments for many mental illnesses, psychotropic medications are often prescribed inappropriately. Additionally, people with mental illness frequently express their desire for more information about medication treatments. Improving the quality and accessibility of community care for people with mental illnesses is an aim outlined in recent Australian Government reports. The development of inter-professional services, including case conference meetings, has the potential to improve the quality and safety of community mental health care.

BIOGRAPHIES CHAIRS AND SPEAKERS G18

B G18-001

BIOGRAPHY Y.H. NGUYEN

Y.H. Nguyen
IPSF,
United States of America

Yen Nguyen is a recent graduate of the University of Arizona College of Pharmacy. She is a member of the American Pharmacists Association-Academy of Students of Pharmacy (APhA-ASP), Students' Society of Health-System Pharmacists (SSHSP) of the American Society of Health-System Pharmacists (ASHP), and the International Pharmaceutical Students Federation (IPSF). She is also a member of Kappa Psi. She was the 2004-2005 Chairperson of Professional Development for IPSF and 2003-2004 National Student Exchange Officer for APhA-ASP/IPSF. Her interests include public health education, pharmacy professional development, and international healthcare.

B G18-002

BIOGRAPHY M. AIRAKSINEN

M.S.A. Airaksinen
University of Helsinki,
Finland

Professor Airaksinen started her academic career in the University of Kuopio, Finland during 1985-1999, earning their doctorate (Ph.D.) and masters degree in social pharmacy. Before starting her current job as the first professor in social pharmacy in the University of Helsinki, Faculty of Pharmacy in 2004, she worked as project manager in a 4-year national joint programme TEPPA to promote concordance-based communication practices in community pharmacies. The programme was operated by authorities, professional organisations, universities and continuing education centres. She has been active in the WHO/EuroPharm Forums 'Questions About Medicines' project. In 1996-1997, she served as Scholar-in-Residence at the United States Pharmacopeia (USP), Rockville, MD, USA, being involved in patient information development programmes. Since 2000, she has been serving the FIP Pharmacy Information Section as a member of the Executive Committee. Since 2005, she has been chairing the Council of Europe Expert Group on Safe Medication Practices under the Committee of Expert on Pharmaceutical Questions.

PATIENT COUNSELLING EVENT

G18-001

INTRODUCTION TO CONCORDANCE-BASED COMMUNICATION ABOUT MEDICINES

M.S.A. Airaksinen
University of Helsinki,
Finland

It was about ten years ago when the British colleagues published their brainstorming report on concordance: a new approach to the patient as a partner in health care (www.concordance.org). The concept of concordance and its implementation are very much related to the way health professionals communicate with patients. This has challenged also pharmacists to evaluate their communication behaviours and learn new techniques based on dialogue and mutual agreement. But it is not easy to change the communication culture in pharmacies: long-term efforts are needed at all levels to make a change. This symposium has its roots in a long-lasting cooperation between Pharmacy Information Section and pharmacy students through IPSF. The IPSF has been actively promoting training of communication skills by organizing the Patient Counselling Event (PCE). The essential part of the PCE is video-taped role plays, followed by immediate feedback on performance by using an evaluation form. Although the PCE procedure has proved to be useful, the concordance approach in communications with the patient has been challenging its validity, particularly the way the performance has been evaluated. This symposium will launch a renewed version of the PCE procedure to facilitate rehearsal of concordance-based communication techniques. It also provides information about methods to teach and learn patient counselling skills which can be applied in designing pharmacy curriculum and continuing education.

G18-002

ROLE-PLAYS AND GROUP WORK PUTTING THEORY INTO PRACTICE

M.S.A. Airaksinen¹, E. Schaufma², I. Paumalainen², H. Kansanaho¹, S. Bell³,
¹University of Helsinki, ²University of Groningen, ³University of Kuopio,
⁴University of Sydney,
Finland Netherlands Finland Australia

When you think of drama, you may remember the last play you went to see in town, which made you laugh or cry. Or maybe you think about your own performance at school as an angel in the X-mas play. But have you ever thought about drama as a skill useful to enhance your professional performance? Good communication skills are essential for improving pharmaceutical care. Drama provides an opportunity to make it happen. This session offers ideas on how drama may improve communication skills and how this can be taught. It turns out from the literature that there is some expertise in using drama techniques in different settings, e.g., in public health care programs. Drama is also used in monitoring quality of health care by trained actors as pseudo patients/customers. There is also some experience in training communication skills to health professionals by using different drama techniques. It is quite often done by practising with role-plays. It may also be called simulation or behaviour rehearsal, communication rehearsal or sociodrama according to approach chosen. This session will focus on role-plays applicable to basic academic education and continuing education. Several improvisation games have been developed over the years. A good list in English is available on www.learningprov.com. The games can be used to train different aspects of communication. Interaction with the audience e.g., by asking for ingredients for the scene, makes the setting tailored to that particular audience and makes discussion more lively. A prerequisite for successful use of these techniques is that the moderator of the session has good improvisation skills.

BIOGRAPHIES CHAIRS AND SPEAKERS INDUSTRIAL PHARMACY CAREERS DAY

B IPCD-001

BIOGRAPHY F.A.A. FATAHALL
F.A.A. Fatahall
Egyptian Drug Control & Research Org.,
Egypt

BSc. of pharmacy, Mansoura University. Essay in method validation in pharmaceutical analysis - Cairo University. Essay on face telemetry - Cairo University.
PhD in analytical chemistry- faculty of pharmacy, Cairo University in Stability Indicating Assay Methods For Some Cardiovascular Drugs.
Technical assessor in the Egyptian Accreditation body (EGAC)
Member of the Egyptian syndicate of pharmacists, member of the Egyptian pharmaceutical association, member of the Egyptian hospital pharmacists association
Head of the Chromatography department in the National Organization For Drug Control & Research

B IPCD-002

BIOGRAPHY A.R. SHAHEEN
A.R. Shaheen
Training & Development Health Care,
Egypt

BSc of Pharmacy, PhD of Business Administration from the UK
Managing critical resources- university of Virginia- USA
International management- Columbia university-USA
Certificate of merit 'area of achievement' Cambridge, England
Member of the Egyptian society of hospital management
Ex regional director for Pfizer middle east & central Africa
Ex general manager for sales & marketing, Dar Al Fouad hospital
Currently chairman & CEO- pioneer training & development 'health care'

B IPCD-003

BIOGRAPHY M.A. AMEN
M.A. Amin
Cairo University, Beni Sweif,
Egypt

BSc. of pharmacy, Cairo University. PhD in Biotechnology from Japan 1988.
Lecturer in faculty of pharmacy, Cairo university 1988.
Assistant professor-department of microbiology & immunology in faculty of pharmacy, Cairo University 1993.
Professor- department of microbiology & immunology in faculty of pharmacy, Cairo University.
Vice Dean of faculty of pharmacy, Cairo university, Beni Sweif branch-2003.
Dean of faculty of pharmacy, Cairo University, Beni Sweif branch-2004.
Scientific consultant of the national organization for drug control & research
Member of the specialized councils for the national supreme council for education & scientific research
Consultant of the environmental affairs
Special interests: biotechnology, molecular biology, genetic engineering, quality control & quality assurance of genetically engineered drugs & vaccines, bio-remediation of industrial pollutants

B IPCD-004

BIOGRAPHY M.Y.M. IBRAHIM
M.Y.M. Ibrahim
Novartis,
Egypt

Mona is a young Egyptian pharmacist, graduated from the Faculty of Pharmacy- Ain Shams University 2003. She occupied the position of In-Process Control Supervisor at Novartis. Now she occupies the position of Sterile Production Supervisor in the same company.

BIOGRAPHIES CHAIRS AND SPEAKERS INDUSTRIAL PHARMACY CAREERS DAY

B IPCD-005

BIOGRAPHY H.S. JANSEN

H.S. Jansen
NV Organon,
Netherlands

Henriette Jansen graduated as a pharmacist in 2000 at the Faculty of Pharmacy, University of Utrecht. Right after her graduation she started working at International Regulatory Affairs at Organon. She now holds the position of Quality Officer at Organon Quality Systems. Henriette is Secretary of FIP's Industrial Pharmacy Section (www.industrialpharmacy.org). Before that, she represented the Dutch Industrial Pharmacists at the EIPG.

INDUSTRIAL PHARMACY CAREERS DAY

IPCD-001

SALES & MARKETING OF THE PHARMACEUTICAL INDUSTRY IN EGYPT

A.R. Shaheen
Training & Development Health Care,
Egypt

Sales & marketing is an established career for pharmacy graduates in the health care fields. This profession has a potential opportunity for growth in a highly competitive environment. The Gulf countries are still attracting good number of pharmacy graduates specially those with sales and marketing experience at very competitive packages. Multinational pharmaceutical companies give high attention to this sector of money makers.

IPCD-002

QUALITY CONTROL, QUALITY ASSURANCE & REGULATION IN THE PHARMACEUTICAL INDUSTRY

F.A.A. Fstahall
Egyptian Drug Control & Research Org.,
Egypt

QC,QA &GMP are interrelated aspects of quality management, they are of fundamental importance to the pharmaceutical industry. The guiding principle of GMP is that quality is built into the product not just tested in the finished product. QC is reactive and responsible for measuring everything. QA is proactive and responsible for putting systems together so that things are done right the first time.

ACADEMIC PHARMACY SECTION - POSTER SESSION

AS-P-001

THE ASSESSMENT OF PHARMACY STUDENTS' KNOWLEDGE ON DRUG RELATED PROBLEMS

M. Aciu, D. Calina, F. Popescu,
University of Medicine and Pharmacy,
Romania

Aims: Evaluation of the final year pharmacy students' ability to identify and give recommendations on drug related problems (DRP) is necessary to ensure that currently required knowledge and skills are being taught effectively and efficiently. In addition to standard teaching evaluation method, an important element in faculty evaluation in a pharmaceutical care program will be student performance in practice.

Methods: The study was conducted retrospectively. Data collection was based on the students' final year surgical case reports for 2004 at the Clinical Emergency Hospital, Craiova, Romania. Only the complete students' reports were used for the evaluation. Specific form was used for data collection. Assessments on their ability to identify DRP and provide recommendation were based specific criteria. The data collected was analysed using Microsoft Excel 2000.

Results: There were ninety reports completed out of ninety-five. A total of DRP were detected with mean of 2.6 DRP per patient. Most of the drug related problems, 234 (84,2%) were categorized and 237 (85,3%) identified appropriately. Interestingly, most of the recommendations given 238 (71,6%) were appropriate. Majority of students (89%) used pharmacotherapy textbooks as their references.

Conclusions: Most of students were able to identify DRP and give appropriate recommendations. Pharmacotherapy textbooks were the main sources of the students' references.

AS-P-002

EVOLUTION OF CLINICAL EXPERIENCES FOR THIRD-YEAR STUDENTS: INCREASING THE APPLICATION OF CLINICAL KNOWLEDGE

M. Aciu, D. Calina, L. Bejearu,
University of Medicine and Pharmacy,
Romania

AIMS: To evaluate student and preceptor perceptions of third year pharmacy students' clinical and communication skills and confidence after incorporating patient encounters into the lab experience. This curriculum change was made to prepare students for clerkship rotations and to apply classroom learning to real life situations.

METHODS: A change from a case study format to patient settings where students shadowed physicians, interviewed patients, wrote drug therapy recommendations to physicians, administered immunizations and performed health screening was made for the third year lab. A survey of perception will be conducted to assess their perception of improved skills by our students, since these changes have been made.

RESULTS: Analyzing student evaluations indicates that changing from a case study, problem based learning format to actual patient encounters and counseling has improved the students confidence level in communication with patients and health care providers and in the ability to transfer their clinical knowledge to those patients.

CONCLUSIONS: Incorporating actual patients care experiences into the third year lab has improved the students' confidence on clinical skills, and has better prepared them for their clerkship experiences.

AS-P-003

THE TRENDS OF REQUIREMENTS IN NARCOTIC ANALGESICS FROM 1987 TO 2004 IN TAIWAN

J.H. Li, M.L. Lu, M.M. Wu,
National Bureau of Controlled Drugs,
China Taiwan

The National Bureau of Controlled Drugs (NBGD) is the incumbent agency for controlling and managing controlled drugs. Medical narcotic drugs consumed between 1987 and 2004 in Taiwan were reviewed for the requirement trend. The requirement for morphine has increased 25.7 and 24.5 folds in oral (o) and injectable (i) preparations, respectively. The increases in other narcotic analgesics were less substantial: 1.6 (o) and 2.6 (i) folds for codeine; 0.9 (o) folds and 1.1 (i) folds for pethidine; and 3.9 (i) folds for fentanyl. The use of morphine has constantly increased with the average annual growth rates of 23.7% and 23.4% folds in oral and injectable forms, respectively. For oral and injectable forms of codeine and pethidine, the annual growth ratios have remained stagnant. The annual growths of fentanyl injections ranged between 0% and 17%. The growth of morphine consumption seemed to be very rapid, yet the average daily morphine consumption in Taiwan was still far behind that of many developed countries. Based on the 'defined daily doses' per million people, the daily morphine requirement compared with that of other nations was much lower in Taiwan: one to 11 compared with the U.K., one to 16 compared with the U.S., or one to four compared with Japan. In summary, the amount of narcotics supplements in the past in Taiwan suggests that patients might have received inadequate palliative care for cancer pain and other medical events. Further investigation on factors that might impede the use of opioid analgesics is needed. In addition, educational programs for medical professionals on proper pain management are imperatively required.

AS-P-004

EFFECT OF ATP-SENSITIVE POTASSIUM CHANNEL MODULATORS ON GASTRIC LESIONS INDUCED BY INDOMETHACIN

H.I. Ismail, M.M. Khalifa, M.A. Kassem, O. Ashour,
Minia University,
Egypt

Mechanisms like decreased gastric mucosal blood flow, increased motility, acidity and apoptosis have been proposed for the pathophysiology of indomethacin-induced gastric lesions (IGL). It seems probable that ATP-sensitive potassium (KATP) channels have a regulatory effect on them. **AIM:** Investigation of the effects of KATP channel modulators, nicorandil as a channel opener and glibenclamide as a channel antagonist, on IGL. **METHODS:** Gastric lesions were induced by injection of indomethacin (40 mg/kg s.c.). Nicorandil (2 and 10 mg/kg i.p.) was given to 2 groups and a third group received glibenclamide (6 mg/kg i.p.). Another 2 groups received glibenclamide, concomitantly, with either doses of nicorandil. Nicorandil and glibenclamide were always given thirty minutes and one hour, respectively, before indomethacin. The rats were killed 5 hours after indomethacin and the stomachs were removed. Macroscopic gastric lesions in each stomach were measured and the ulcer index and preventive index was calculated. **RESULTS:** Indomethacin produced ischemic lesions in 95% of the rats with an ulcer index of 20.4. Nicorandil protected by up to 51.2% against indomethacin-induced lesions and glibenclamide aggravated the lesions by 55.1%. **CONCLUSION:** 1) Nicorandil has an ulcer-protective action which is, assumingly, completely attributable to its KATP channel opening action. 2) It is suggested that antagonism of KATP channels is an important pathway for tissue injury by noxious agents and that KATP channel antagonists may play a permissive role in damage produced by other ulcerogens.

3) KATP channel openers may prove to be important candidates for developing new effective anti-ulcer drugs.

ACADEMIC PHARMACY SECTION - POSTER SESSION

AS-P-005

PARADIGM SHIFT TO PHARMACY EDUCATION FOR TRAINING HEALTHCARE-ORIENTED PHARMACIST IN JAPAN -- A CASE OF PHARMACY SCHOOL, MEIJO UNIVERSITY, NAGOYA JAPAN--

K.M. Matsuba¹, H. Kamei², M. Hirano¹, H. Yano², S. Inagaki²,
¹Meijo University, ²Fujita Health University Hospital,
Japan

The most faculty of pharmacy education in Japan have been traditionally interested in scientific research. New education system was required to be a six-year healthcare oriented pharmacy education including over six months of clerkship. In 2004, Government sanctioned for six-year pharmacy education. We will go into new Age in 2006. The Pharmaceutical Society of Japan proposed the concept of the core curriculum in 2002. The new Pharmacy Education will be reconstructed with three kinds of concepts as social needs. The new education is emphasized pharmacy disciplinary Skills and Attitude, in addition to traditional Knowledge education. Pharmacy Students will have to pass the CBT for advancing to 5th year grade. They will be required to practice 6-month of pharmacy clerkship there. After graduation, they will get the requirement for taking National Examination for Pharmacy License. Before realizing the new six-year pharmacy education system from 2006, Meijo University reformed master's course and now tries typical Clinical Pharmacist Education. This education is composed of three big domains, one is Communication Skill, the second is PBL education as a simulation, integrating medical information, and the third is Clinical Training with medical students or medical residents at clinical setting. As the results, pharmacy students learn knowledge, skills, and attitude.

AS-P-007

PERCEPTIONS OF PROFESSIONAL MATURATION AND TRAINING AMONG NASCENT PHARMACISTS AT ONE CANADIAN FACULTY OF PHARMACY

J.D. Beales, Z. Austin,
University of Toronto,
Canada

Background: Over the last decade much change has occurred in the landscape of pharmacy practice. The effects of these changes on scholars of the profession are unclear, which may hamper future curriculum building initiatives. The objective of this study was to explore how pharmacy students understand their professional socialization, maturation and education in the current academic environment. **Methods:** A self-administered questionnaire was followed-up with semi-structured group interviews, conducted with students (n=52) attending a prominent Canadian university. Purposive and volunteer sampling strategies were used to solicit a wide representation of perspectives. The interviews consisted of discussion around specific issues related to professional training, future practice, and the profession. **Results:** Participants closely resembled the proportion of males and females graduating from pharmacy programs nationally, and represented a multi-cultural blend of students. The major themes that emerged were: (1) professional socialization and education are at times in opposition, (2) professional training emphasizes theoretical over practical courses, (3) professional education instills competence yet students lack confidence, and (4) social variables influence interpretations of training and future career aspirations. **Discussion:** These findings suggest that diverse student populations ultimately influence how pharmacy will be practiced in the future. Educators may benefit by ensuring traits of professionalism (i.e., competence and confidence) are endorsed in concert with one another. Future research should explore national and generational trends in these phenomena.

AS-P-006

EVALUATION OF CLINICAL COMMUNICATION OF PHARMACY GRADUATE STUDENTS AT FACULTY OF PHARMACY, CRAIOVA, ROMANIA, AND EFFECT OF OSCE ON EDUCATION

M. Aciu, D. Calina,
University of Medicine and Pharmacy,
Romania

AIMS: Pharmacy graduate students learn the communication skills for Clinical Clerkship at medical site. We carried out OSCE to evaluate their skills and attitudes after the lecture of clinical communication skills. This report shows the results of OSCE carried out first in Pharmacy education in Romania. The students who took an examination, the evaluator and the visitors participated in OSCE, were asked by the questionnaire. The student's attitude's and skills performed were evaluated by OSCE, and also the OSCE itself was evaluated from result of that questionnaire.

METHODS: Subjects comprised 8 first year pharmacy graduate students in Faculty of Pharmacy, Craiova, Romania, in 2004. In OSCE, four kinds of typical scenes that pharmacists were required in clinical site were prepared:

1. Medical interview,
2. Washing hands for the disinfection technique,
3. Explaining expiratory flow meter,
4. Explaining how to apply an eye drops.

From examinees, evaluators, and visitors, we collected opinions about the educational efficacy of the stations where students acted in the OSCE.

RESULTS AND CONCLUSIONS: There were many opinions that students could understand the important point of the communication with the patient by performing before evaluators. It was possible to improve of student's self learning motivation again. By the opinion of the evaluator or the visitor, it was confirmed that OSCE was necessary for the communication education. On this time, we just had small scale of OSCE, however, for the large scale of OSCE execution, it was suggested that securing of staffs, evaluators and well-trained standard patients were important, with needs of appropriate rooms.

AS-P-008

EFFECT OF REACTIVE OXYGEN SPECIES (ROS) SCAVENGER AS (+)-CATECHIN ON METHHEMOGLOBINEMIA

H.H. Hara
Tokyo University of Science,
Japan

Reactive oxygen species (ROS) may accept to be involved in various diseases such as inflammation, ischemia, atherosclerosis, cancer and methemoglobinemia. A potent ROS scavenger, therefore, may be a possible preventative or remedy for diseases related to ROS. In this study, we investigated an effect of ROS scavengers on *in vivo* or *in vitro* models of methemoglobinemia.

Fresh blood was collected from dBY mice hearts, and hemolyzed with addition of pure water. Hemoglobin solution was separated by centrifugation. The changes in OD of the hemoglobin solution at 630nm were measured after an addition of 2.2 mM NaNO₂ solution to the hemoglobin solution. NaNO₂ induced increase in an amount of generation of methemoglobin were inhibited by 3x10⁻⁴M of (+)-catechin and ascorbic acid.

During our continuous studies on acetaminophen dimer, novel two compounds, *cis* and *trans*-N-(4-but-1-en-3-ynyl-oxyphenyl)-acetamide were obtained. An *ip* administration of 60 mg/kg of *cis* isomer induced severe methemoglobinemia in mice. (+)-Catechin (100 mg/kg) was not be able to inhibit the *cis* isomer induced hemoglobinemia in this study.

Further studies continues in order to clear whether ROS scavengers could inhibit methemoglobinemia *in vivo*.

ACADEMIC PHARMACY SECTION - POSTER SESSION

AS-P-009

ASSESSMENT OF PHARMACISTS' NEED IN KNOWLEDGE CONCERNING EFFECTIVE DRUG MANAGEMENT

I. Kazaryan Ghazaryan¹, L. Vardanyan², A. Sevikyan², A. Amirkhanyan¹,
¹Drug Utilization Research Group, ²National Institute of Health,
Armenia

Effective management saves money and improves performance. Availability of appropriately trained specialists is an important precondition of effective drug management.

The aim of work was to assess knowledge of local professionals concerning drug management, to define need in knowledge and to develop appropriate Curricula.

Two Questionnaires were developed and distributed: for post-graduate students and local community pharmacists; for civil servants and public hospitals staff. Questionnaires consisted of 5 parts: Selection; Procurement; Distribution; Use; Medicines policy. Curricula were developed on the basis of review publications with taking into account need of local professionals.

The majority of participants have demonstrated some knowledge concerning effective drug management, however gaps were observed for all aspects of drug supply. The main gaps were found on issues: understanding of Essential Drugs practical applications (Selection); quantifying drug requirement and tender process (Procurement); designing a distribution system (Distribution); effective strategies for improvement (Use); policy process (Medicines policy). Three curricula were developed for: post-graduate education Course for pharmacists and continuing education Course for hospital pharmacists at National Institute of Health; short in-service training for civil servants at Drug Utilization Research Group.

There are some gaps in professionals' knowledge, what is a constraint factor for effective drug supply managing in Armenia. Introducing new Curricula seems to be an essential task.

This work was supported by OSI, New York, USA and NISPACEE, Bratislava, Slovak Republic.

AS-P-011

EFFECT OF CEFEPIME ON STARTLE AMPLITUDE AND PREPULSE INHIBITION OF STARTLE REFLEX IN RATS: ANIPULATION OF GABA-A RECEPTOR FUNCTION WITH MIDAZOLAM.

A.E. Khalifa

Faculty of Pharmacy Ain shams university,
Egypt

Disruption of prepulse inhibition (PPI) of startle response is manifested in schizophrenia and Huntington's disease among other neuropsychiatric disorders characterized by sensorimotor gating deficit. Antagonism of GABA(A) receptor function was documented to enhance PPI response. Nevertheless, contradicting reports suggest that GABA(A) antagonism would reduce PPI response. Cefepime is one of the fourth generation cephalosporins documented to antagonize GABA(A) receptor function. This study investigated the effect of intramuscular injections of cefepime (25 and 90 mg/kg), twice daily for three consecutive days, on both PPI of acoustic startle reflex and acoustic startle amplitude in rats. The effect of administration of the GABA(A) receptor agonist midazolam (1mg/kg i.p.) in conjunction with cefepime was also investigated. Results showed that administration of both dose levels of cefepime caused PPI deficit. Treatment of animals with midazolam in conjunction with cefepime reversed the effect of the lower dose, but not the higher one, on PPI of startle response without affecting startle amplitude in both dose levels. Results of this study, therefore, support the view that GABA(A) antagonism reduces PPI response. It is also concluded that antagonism of GABAergic transmission may be involved in effect of the lower dose of cefepime on PPI response. Other mechanisms may mediate the effect of the higher dose of cefepime on PPI response. Clinical investigations are needed to determine the consequence of using cefepime in disorders of sensorimotor gating.

Keywords

Cefepime, startle response, rat, midazolam.

AS-P-010

NON-TENURE STREAM VS. TENURE-STREAM, FACULTY CAREERS IN CANADIAN PHARMACY

L.J. Muzzin
University of Toronto,
Canada

Aims: Tenure-stream faculty careers in the 9 pharmacy schools (as well as in law, nursing, optometry and dentistry) in Canada were compared to non-tenure stream careers to investigate specialization differences.

Methods: Of 337 face-to-face two-hour faculty interviews in 8 fields at 24 (or about one third of Canadian universities), 71 were in Pharmacy.

Results: Pharmacy was the most diverse of the academic professions ethnically, but

- (1) women and people of color were over-represented in non-tenured positions
- (2) non-tenured faculty were over-represented in lower-paying, teaching-intensive careers in clinical pharmacy which gave them little time for clinical pharmacy research;
- (3) credentials were important in hiring but women of color with PhDs were disadvantaged in achieving tenured positions;
- (4) tenure-stream stream men teaching basic science subjects tended to come from more privileged backgrounds than their female counterparts;
- (5) there were no equity units in pharmacy schools to deal with these issues, contrast to other professional schools in Canada.

Conclusions: Although pharmacy schools should be commended for recruiting diverse faculty, (1) non-tenure stream faculty should be provided mentoring, networking and administrative support to enhance their careers;

(2) The model of equity units in nursing and law in Canada should be used by other professional schools, including pharmacy.

AS-P-012

TEACHING MODALITIES FOR PHARMACISTS IN DEVELOPING COUNTRIES

A. Shantha¹, M. Nappimani¹, R. Manivalan²,

¹C.L.Baid Metha college of pharmacy, ²Annamalai University,
India

Socio-economic conditions play a very important role in health care sector, developing nations. Qualification of pharmacist should depend on the real needs particular nation- example in India- pharmacist can fill in the need for qualified, affordable health care worker. They should be trained in handling emergencies, aware of control of communicable disease, proper use of medicines, knowledge about alternative system of medicine, medication use and stress compliance. Syllabus should be framed and field trips organized where hands-on experience may be obtained. Rural areas must be concentrated and a financially viable program with government aid will go along way to improve the health care sector. The basic lies in training - both theoretical, practical and field training. Symposia and camps may be organized and outcome will be evident in future when they practise what they have learnt.

ACADEMIC PHARMACY SECTION - POSTER SESSION

AS-P-013

USE OF THE OBJECTIVE STRUCTURED DISPENSING EXAMINATION (OSDE) TO ASSESS THE DEVELOPMENT OF DISPENSING SKILL IN PHARMACY STUDENTS IN A SERVICE-LEARNING COURSE.

J.A. Syce¹, D.F. Frieslaar², A. Bheekie¹

¹University of the Western Cape, ²Dr Abdumhman CHC, South Africa

To aid in and objectively assess the development of skill in dispensing and application of rational pharmacotherapy by pharmacy undergraduate students being trained in hospital pharmacy settings a generic OSDE score sheet focusing on 4 areas, viz. preparation for dispensing, establishing contact with patient, counselling and provision of drug information and communication, as well as a special OSDE giving higher marks for certain sections were designed. Three academically matched groups of 4th year pharmacy students undergoing 10-weeks practical training in primary health care pharmacies were exposed to the generic OSDE, the generic OSDE with feedback and a specially designed OSDE during training and assessed at weeks 3, 7, 9 and 10 (tests 1 to 4) by facility pharmacists using the generic OSDE. They were also assessed using a MCQ-format progress test. There was a 5.92 % increase in the students' mean scores from OSDE test 1 to OSDE test 4 and bigger 9.15% (p<0.0001, t-test) increase from OSDE test 1 to OSDE test 2 suggesting that the students' dispensing skill improved more over the initial 4-week period. Similar increases (12.25 %) were seen between progress test 1 to progress test 2 indicating that the students' general knowledge also increased along with their skill in dispensing, but there was no correlation between the 2 sets of scores. Facility pharmacist scores however felt unsure that they were scoring effectively. The results suggest that the newly designed OSDE can be used as a tool for the formative assessment of students and to help them improve their skill in dispensing under real practice site conditions.

AS-P-015

COPING WITH THE CHALLENGES IN PHARMACY TEACHING PROFESSION IN INDIA

S.P. Dhat¹, K.N. Gujar², S.D. Sawant¹, M.S. Honrao¹

¹Sinhgad Institute of Pharm.Sciences, ²Sinhgad Technical Edu. Society, India

In India, due to vast opportunities for Pharma Professionals many students opt for B.Pharm course. With availability of many colleges with subsidized fees for B.Pharm, a student with low percentage can seek admission. Low grasping power of an average Indian student & one who has studied earlier in vernacular language, becomes a big barrier for transfer of knowledge as here all technical education is in English which is not the mother tongue of any Indian. The authors as teachers, have experienced this problem gravely and have worked out different ways to face this challenge. Apart from the coaching classes in English, the authors have carried out various exercises, with the objective of grooming these students. Few of these are:

A) Explaining the manufacturing operations through audio visual aids. The paper reveals data analysis of grasping of operation of 200 students after watching C.D of bottle filling, sealing & labeling process.

B) Patient counseling has been introduced in the B.Pharm course now but is not yet practised in India. Pharma Education here is more industry focused than patient oriented and so community pharmacy is a difficult subject to understand. Audioes practised role play method & dramatised patient counseling for various diseases it was found that the students understood the concept better.

C) Paper reveals case studies of students who have achieved laurels inspite of their vernacular background.

The results of the study were assessed under various parameters & were correlated with earlier academic background of the students. The entire set of observations were analysed statistically & found to prove positive towards the objective.

AS-P-014

INTERNATIONAL ACCESS TO UK-BASED POSTGRADUATE CLINICAL PHARMACY PROGRAMMES

J.C. McElroy, B. McCaw,
Queen's University Belfast,
Northern Ireland

Background and objectives

The MSc in Clinical Pharmacy is the most common postgraduate pharmacy qualification undertaken by UK hospital pharmacists. Our objective was to investigate if current MSc programmes are accessible to international pharmacists.

Methodology

Data relating to the mode of study, attendance requirements, duration and tuition fees were obtained from the web pages of UK universities that offer a taught postgraduate clinical pharmacy programme.

Results

Fifteen UK universities were identified that offer a postgraduate clinical pharmacy programme, 14 of these offer programmes to MSc level and one to PG Diploma level. Five (33%) indicated that they accept applications from international pharmacists. Of those that accept international students, three programmes required students to attend periods of campus-based study and two offered distance learning study with no requirement to come to the UK. The commonest MSc duration was 36 months by part-time study (60%); one university offered a 30 month part-time MSc programme and one offered a 12 month full-time option. Four provided details of fees for international students, ranging from £7,740 to £13,350 (pounds sterling).

Conclusions

Fifteen UK universities offer postgraduate clinical pharmacy programmes, however, only five appear to be open to international students. Limited access may be due to programmes being aimed at specific geographical areas or to the national health service needs of the UK. Two (including the Queen's University Belfast course) do not require student attendance and are therefore the most accessible to international students.

ACADEMIC PHARMACY SECTION - SHORT ORAL PRESENTATIONS

AS-O-001

CLINICAL PHARMACY EDUCATION AND PRACTICE IN JORDAN IN THE NEW MILLENNIUM

A.M. Albsoul-Younes¹, M. Al-Wazairy², A. Alkofahi³

¹University of Science and Technology, ²Jordan university, ³Faculty of Pharmacy, University of Science, Jordan

Aim: Jordan is a small country with a population of about 5 millions, eight faculties of pharmacy, and a little more than 3000 registered pharmacist. With only one faculty of pharmacy adopting the Pharm D program, we compared the pharmacy curriculum of these eight faculties, and interviewed leaders in the profession on possibility of development and implementation clinical pharmacy education and practice in Jordan.

Methods: Fourteen recognized pharmacists from academic and professional practice were asked to express their views on issues related to status of education, practice, and pharmacy curriculum changes.

Result: Most interviewed pharmacists noted that advances in clinical pharmacy should be included in the Jordanian pharmacist education and practice. All interviewed pharmacists believe that pharmacists should have an active role in the drug therapy management of patients; and a greater responsibility for the appropriateness of the drugs patients are taking. Although, they all agree that current programs in pharmacy education in Jordan should be directed towards direct pharmaceutical care of patients, they would rather a program that still emphasizes pharmaceuticals and other basic pharmaceutical sciences. Recognized probable problems facing this new direction could be: influence that comes from other professions, lack of proper job description of pharmacist, and the slow change in educational programs.

Conclusions: The leadership of pharmacy is pro changes towards clinical pharmacy education and practice. They are strong supporters for changes coming from within the profession.

AS-O-002

DIVERSITY AMONGST INTERNATIONAL PHARMACY STUDENTS

D.E. Ball¹, P. Noeris², D. Tagwireyi³, A. Awad⁴, H. Enlund⁵

¹Kuwait University, Kuwait ²University of Otago, New Zealand ³University of Zimbabwe, Zimbabwe ⁴University of Kuopio, Finland

Aims

Understanding diversity of origins and aspirations of pharmacy students is important given trends in harmonisation of training and registration and pharmacist migration. This study compared factors affecting aspirations and motivations among international pharmacy students.

Methods

A cross-sectional survey of students in their professional study years from universities in Finland (Kuopio: BSc and MSc programs), Kuwait, New Zealand (Otago), Sudan (Khartoum) and Zimbabwe using an anonymous self-administered questionnaire.

Results

1525 questionnaires were completed (response rate of 78%). Female students predominated (61-90%) except in Zimbabwe (23%) and most students were local citizens (>85%) except in New Zealand (56%). Larger proportions of Finnish students were over the age of 24 yr (BSc - 22%; MSc - 17%) and married (BSc - 35%; MSc - 32%). Overall, the main reason for choosing to study pharmacy was a desire to help sick people (29%) followed by those whose first choice was Medicine/Dentistry or with financial motives (12% each) but this varied between countries. There were significant national differences in future employment aspirations with private sector employment predominating except in Kuwait; about a fifth of students in New Zealand, Sudan and Zimbabwe intended to work in another country. More than half of each student body wanted to own a retail pharmacy except for the Finnish BSc candidates (27%).

Conclusions

International pharmacy students share some similar aspirations and characteristics but there are important local differences which would influence motivational strategies and curriculum development.

AS-O-003

QUALITY ASSURANCE OF PHARMACY EDUCATION INSTITUTIONS IN INDIA

V.N. Tamiru¹, C. Ramesh²

¹SBD Institute of Pharmacy, ²VIPS, India

The impact of globalization imparted increased awareness and necessity for better quality of training from institutions offering PHARMACY PROGRAMME in India. The economy of Pharmaceutical industry is growing enormously and the Health Care System is coming to the forefront. The changing scenario worldwide cannot allow India to keep TRIPS out of WTO and has no option but shift to Product Patent Regime. The institutions play critical role to devise required education system, revised curriculum, novel teaching methods and constant appraisal of performance to deliver highly competent pharmacy professionals to the industry and health care system.

There are more than 300 institutions offering U.G. programs and over 70 institutions offering P.G. & Ph.D. programs in pharmacy in India. More than 15,000 graduates and about 6,000 P.G. and 75 Ph.D. candidates are coming out of the universities every year. The need to improve quality has arisen because of explosive growth of educational institutions. The present growth rate without parallel exercise in quality assurance programs cannot sustain and hence the necessity arises for assessment of quality. To assess the qualitative competence of educational institutions in India, NBA was set up by AICTE in 1994. The National Board of Accreditation is concerned with assessing and assuring the quality of the various constituent elements of educational institutions. Emphasis on quality improvement led institutions going for Total Quality Management and Benchmarking.

AS-O-004

EVERYONE GAINS - THE BENEFITS OF USING INTERACTIVE TECHNOLOGY IN LEARNING PROCESSES/ACTIVITIES FOR INDIVIDUALS, GROUPS AND THE LEARNING ORGANISATION

J.M. Archer

CPPE,

United Kingdom

Aims

The aims of this project were to develop a learning forum to discover whether interactive technology enhanced the learning process for a large group of people, in a short period of time. It was important to establish the impact of such technology in identifying and meeting learning needs for the individual, the group and for the learning organisation itself in assisting the management of change.

Methods

To determine the criteria and learning objectives to be met, stakeholders were involved in an initial needs analysis meeting. The subject chosen was an area which was new to pharmacists. It was also representative of the type of learning we would wish to address again in the future. The design of the process focussed on: time, delivery, cost and number of people involved. The learning activities were designed to enable the use of interactive technology, which provided feedback at a number of points during the learning process.

Results

All the aims were achieved, providing a large amount of data which will be used in designing similar learning forums. The results have also informed the learning needs in other areas of pharmacy practice.

Conclusions

The use of interactive technology does enhance the learning process but to gain maximum benefits for all stakeholders, it needs to be planned carefully and mechanisms put in place to capture the feedback anonymously; this avoids bias in the data generated and the participants do not feel they are being closely monitored. It is most effective if a large number of participants are involved in the learning forum at one time and provides the opportunity to support the management of change through learning.

ACADEMIC PHARMACY SECTION - SHORT ORAL PRESENTATIONS

AS-O-005

SETTING UP A PHARMACY PRACTICE RESOURCE UNIT

A. Serracino-Inglott, L.M. Azzopiedi, M. Zarb-Adami, E. Nicholl,
University of Malta,
Malta

The establishment of pharmacy practice resource units within schools of pharmacy may supplement practice-based learning and re-inforce the knowledge acquired by students during practical attachments in community and hospital pharmacies. The aim of the study was to develop a pharmacy information unit (PIU) at the department of pharmacy at the university of Malta and to evaluate its use.

Medication packages, samples of individual tablets and capsules, and drug literature were acquired for medicines falling within five drug categories (drugs used for gastrointestinal, cardiovascular, respiratory, musculoskeletal and joint disorders, and infectious). Computer-aided design software was used to develop the design of the room so as to optimize use of the space and present the information unit in a user-friendly layout. A database was designed to include information on the medicines available. A questionnaire was drawn up to assess the design of and information presented in the PIU.

Out of the 415 medications available in pharmacies, 302 (73%) were acquired for the PIU. Out of 190 students following the undergraduate pharmacy course, 99 (52%) visited the PIU within one month of its development. Students accessed mostly the medications display containers (90) and the drug literature (68). They rated the layout and the information presented as good and found the PIU useful. The majority of the students (98) would like to see the unit completed.

The students welcomed the PIU and found the information presented useful. The PIU complements the weekly practical sessions which students undertake in a community pharmacy from the first year of the course.

AS-O-006

E-LEARNING - FINDING ITS WAY THROUGH

T.S. Schilling Hansen, K. Holme Christensen,
Pharmakon,
Denmark

The poster describes the progress of e-learning at Pharmakon in terms of activities, purpose, pedagogics and organisation - right from the limited, rather coincidental, start until now, where the provision of e-learning activities has grown in kind and numbers, adapted to the participants and to pharmacy practice, implemented, evaluated, widely used and seen as an integral concept.

The e-learning activities, all developed at Pharmakon, covered in the poster are

- Homepage for pharmacoeconomist students with access to distance learning materials in the practice periods (exercises: quizzes, chat/discussion etc.), e-learning programmes (texts, cases with feedback, videos, exercises: quizzes with feedback), project forum, mail, educational materials etc.

- E-learning programmes (webbased training), primarily for pharmacoeconomists, used as on-the-job training or as part of a continuing education course

- Read/train/learn programmes: online material for individual training or presentations for the pharmacy staff (e-learning programmes: quizzes and cases with feedback) combined with PowerPoint presentations with presenters' notes and specification of relevant literature and links)

- Postgraduate course in case based pharmacotherapy.

After studying the poster, you will be inspired to find your own way of e-learning, e.g. the importance of a purpose that considers several interests among students, supervisors at the pharmacy, teachers at the school etc.; the mix of pedagogics that relates to e-learning; the importance of interdisciplinary teamwork in a comparatively small organisation working with e-learning.

AS-O-007

ARE PHARMACISTS FIT TO PRACTISE? EVIDENCE NEEDED: ASSESSING THE IMPACT OF PHARMACEUTICAL EDUCATION AND TRAINING

J.A. Amada da Silva, F. Ramos, J. Fausto Ferreira, I. Silva, T. Saraiva,
Ordem dos Farmacêuticos,
Portugal

Quality improvement in health care begins with the quality of its health professionals. Education, training and Continuing Professional Development (CPD) set the basis for professional competence and excellence in the care provided to patients.

To improve or develop new skills, knowledge and professional behaviours, a move towards the settlement of goals on the basis of pharmacists' education and training needs is necessary. If education and training are to be effective, determining pharmacists' needs is essential. Subsequently, to ensure these needs are being answered an evaluation of education and training programs must be implemented.

Evaluating education and training programs must comply with four basic levels: reaction, learning, behaviour and results. Although evaluation has become more common, still, it is being done mostly in the first two levels. Interestingly, it is the last two ones that can give more relevant information for future improvements.

Bearing this in mind, the Portuguese Pharmaceutical Society, in building up its accreditation standards for university degrees and continuing professional development activities, has included those four levels of evaluation. In what regards the university degrees, evaluation of graduates and employers' satisfaction are still being poorly used as indicators. Concerning continuing education and post-graduate programs, of the submitted programs, only very few clearly fulfilled these four evaluation requirements.

One must conclude that much work is still to be done and that schools of Pharmacy, as an important stakeholder, may have here an interesting opportunity of intervention.

AS-O-008

THE DESIGN OF A PHARMACEUTICAL CARE-BASED CURRICULUM IN TAIWAN A FOCUS ON PHARMACY UNDERGRADUATE EDUCATION

A.T. Shu, Y.C. Chen, A.C. Tseng, Y.N. Lo,
Taiwan Young Pharmacists' Group,
China Taiwan

Pharmaceutical care was first defined in 1976 as the care that a patient requires and receives which assure safe and rational drug use. In addition, the World Health Organization (WHO) suggested the future pharmacist must have specific knowledge, attitudes, skills and behavior in support of his or her roles. On the other hand, pharmacy education in Taiwan has been criticized for its curriculum as is not representative of actual practice. Currently, pharmacy education is becoming more clinical in its approach. As such, it is time for Taiwanese pharmaceutical organizations and pharmacy schools to translate the old course into a pharmaceutical care-based curriculum.

The aim of this study is to explore the appropriate methods for developing the pharmaceutical care-based curriculum for pharmacy undergraduate students. The main objectives are to define the concept of pharmaceutical care, discuss the appropriate methods involved in developing pharmaceutical care-based curriculum and identify the methods to evaluate pharmaceutical care-based curricula.

These essential phases, including analysis, synthesis and evaluation, should be taken into consideration during the curriculum development. Some practical strategies for designing pharmaceutical care curricula have been found, which include student-centered learning, problem-based learning (PBL), integrated teaching and systematic education. Additionally, the predicted outcomes and evaluation methods of this innovation are all discussed in this study. In order to ensure that the new curriculum meets the expected educational mission, pharmacy educators should have a clear understanding of pharmaceutical care.

ACADEMIC PHARMACY SECTION - SHORT ORAL PRESENTATIONS

AS-O-009

PHARMACY ETHICS EDUCATION: THE IMPORTANCE OF MORAL DEVELOPMENT AND HUMANITIES IN PHARMACY EDUCATION

D. Parojcic, D. Stapor,
Belgrade University School of Pharmacy,
Serbia and Montenegro

Throughout the world, pharmacists share an obligation to ensure the best possible pharmaceutical care for their patients, and to meet very specific drug related needs of patients. New professional obligations with growing cost of pharmaceutical care and many advances in biotechnology present new ethical situations and dilemmas. Instruction in ethics is included in curriculum in many schools of pharmacy in order to develop students skills as problem-solvers. Rather than to teach them ethical theories or tell them what is ethical and what is not, the ethics course should provide them with a framework to analyze situations and choose an appropriate course of action. Teaching ethics can often be a challenge for the lecturers as well as students, accustomed to a science-based curriculum. That is why, many new teaching models and proactive learning methods are introduced. In Belgrade University School of Pharmacy ethics course is very short one, incorporated in history of pharmacy lectures, on the fourth year of five-year curriculum. It is clear that this is not enough for the ethical considerations in practice of the 21st century. Although the appreciation of the importance of professional ethics and social humanities has a long history in Serbia and Montenegro, pharmacy practitioners have come to realize its importance in the last decade. With more direct-to-consumer advertising, self-medication concepts and e-pharmacy, a national survey (2002) showed that pharmacists in Serbia realized the importance of a background in ethics and social sciences.

AS-O-010

PATIENT EDUCATION, EMPOWERMENT AND SELF-CARE: IMPLEMENTATION OF A FORMAL EDUCATION PROGRAM

W. Y. Dshdhal
Midwestern University,
United States of America

As pharmacists strive to provide quality patient care, patient education is an important role as described by the World Health Organization. The correlation between patients' education level and self-care behaviors is well documented. Heart failure (HF) is a chronic disease of the elderly and is the most frequent discharge diagnosis in patients 65 years of age or older. Non-adherence with medications and/or diet is the most common cause for hospitalization. Living with HF requires major changes in ones everyday way of life. To make the necessary changes, patients need knowledge, support and encouragement. Different strategies to optimize patients' comprehension and enhance adherence to the treatment plan should be utilized. Providing patients with brochures only is not sufficient. In addition, since the disease is a 'silent' one, embracing family members and support systems in the plan is crucial.

A formal patient education program was implemented to teach patients key information about living with heart failure. A thorough explanation of the disease, causes, signs and symptoms, precipitating factors for worsening of their disease, and complications was presented. The treatment plan including non-pharmacologic life style modifications such as diet and exercise and pharmacologic therapy was described in detail including the impact of each of their medications on their short- and long-term outcomes. Family involvement and patients' interactions with each other provided great value to the program. Formal education programs represent an important mean to improve patients' understanding of their disease and therapy and enhance self-care.

AS-O-011

A COMPUTER PROGRAM FOR CONTINUOUS AND LONGITUDINAL ASSESSMENT OF PHARMACY EDUCATION AND CURRICULUM MAPPING.

G. Hussein
Loma Linda University School of Pharmacy,
United States of America

A computer program was designed to assist the assessment committee in the School of Pharmacy, to evaluate and continuously improve pharmacy education, and to comply with the accreditation standards of the American Council for Pharmacy Education (ACPE). The program with its links to a database was designed to work in Microsoft Windows environment. It includes detail information on 6 axes which are school activities, courses, question bank/exams, curriculum objectives, students, and school assessment tools. Information on each axis was linked to a learning outcome that is recommended by the Council for the Advancement of Pharmaceutical Education (CAPE) or by the National Association of Boards of Pharmacy (NABP). Topics within the course axis included course name, coordinator, lectures, and lecture objectives. Each question in the bank included links to a lecture or an activity with key words such as drug/disease covered, degree of difficulty, Bloom's taxonomy level, competency addressed, and student performance answering the question. The program allows for evaluation of student mastering of different competencies which are linked to student performance in questions or activities. The program also allows for evaluation of instructor performance and course contents. While in the developmental stages, the program was instrumental in identifying areas of improvement. Its design received an excellent review by the accreditation Council on Pharmaceutical Education. The experience with the assessment in pharmacy education, and curriculum mapping will be shared.

ADMINISTRATIVE PHARMACY SECTION - POSTER SESSION

APS-P-001

PATIENTS' AWARENESS AND PERCEPTIONS OF MEDICAID PREFERRED DRUG LIST (PDL) - A COST SAVING FORMULARY POLICY FROM STATE OF FLORIDA

L. Lai
Nova Southeastern University,
United States of America

Background: A growing Medicaid budget deficit forced the legislature to focus on initiatives presenting immediate cost savings in state of Florida. In 2001, the Agency for Health Care Administration developed a Medicaid preferred drug list - cost-effective prescription choices - for clinicians that also allows Medicaid negotiate supplemental rebates from manufacturers. There are concerns of the policy might impact Medicaid beneficiaries' health and limit their drug access.

Objective: To determine patient's awareness and perceptions of Medicaid Preferred Drug List (PDL) policy.

Method: A survey study was conducted to evaluate patients' perceptions of PDL policy in 2003. A systematic sampling method was used to randomly select subjects from three community pharmacy at South Florida. Questionnaire consists of five components: awareness, interferes therapy, skipping brand name drugs, delay treatment, and adding more drugs.

Results: 106 patients completed the survey. 54.4% of them were not aware of PDL. 53% subjects believed PDL would not interfere with drug therapy. 31.6% subjects were never skipping the brand name drugs. 78.4% subjects recommended to include more drugs in PDL.

Conclusion: From economic perspective, the PDL has demonstrated significant cost saving to the state of Florida (\$205 million in 2003). From patients' perspective, the PDL did not significantly impact their drugs access and therapy. However, the study also found that over 50% of patients were not aware of PDL after three years of the implementation. There is a need to establish more efficient communication channel to disseminate information directly to the Medicaid beneficiaries.

APS-P-002

MEXICAN CARDIOVASCULAR DRUG MARKET

J. Kravtsov-Jinich¹, M. Altagracia-Martínez², V.G. Rosales-Romero¹, D.S.K. Skromme², M. Rubio-Poo³,
¹UAM-Xochimilco, ²EMSS, ³UNAM-PES-ZARAGOZA,
Mexico

Mexico is currently the largest pharmaceutical market in Latin America, having recently taken the lead from Brazil. Since the recession of the mid-1990s, pharmaceutical spending has increased rapidly, causing the government to consider cost containment measures, mainly through the use of cheaper generic medicines. The market was valued (2002) at around US\$8.2 billion at consumer prices, equivalent to US\$60 per capita. **Objectives:** Aim to contribute to characterize the diuretic agents market in Mexico and to observe regularities and invariance in the pattern of technical change, which hold under different market conditions. **Methods:** Retrospective and descriptive market study. **Results:** The market of the cardiovascular medications is one of the biggest as much in value as in units. It represents annually near 10% of the total pharmaceutical market in value. Among cardiovascular medications the antihypertensive agents (AA) have a very outstanding participation. Calcium channel blockers and angiotensin converting enzyme inhibitors (ACEI) are the leaders of the market. Diuretics and beta-blockers occupied the third and fourth places of the AA market valued. Diuretics sold larger volume than ACEI but less valued share. Among the CCB agents amlodipine is the top drug and four ACEI drugs had a 63% valued share. The top drugs among diuretics are: furosemide 48%, chlorothalidone 12% and spirolactone 10%. General physicians prefer to prescribe ACEIs and cardiologists CCBs. **Conclusion:** In spite of the ALLHAT study and the cost-effective relationship that diuretics have these drugs have a small share value and volume in the Mexican cardiovascular market.

APS-P-003

THE IMPACTS OF E-LEARNING PROGRAM ON PHARMACISTS' COMPUTER KNOWLEDGE IN TAIWAN

W.S. Liou
Tri-Service General Hospital,
China Taiwan

Aims: To increase the internet communications, an e-learning program was developed to enhance the computer knowledge.

Background: Pharmacists are increasing demands for communications. Pharmacists associations are improving their ways of communication and sending information to their members via internet more frequently. However, understandings of computer skill are needed before the cyber-learning program can be implemented. This study was to implement an e-learning program and evaluate the impacts on pharmacists' computer knowledge.

Method: The e-learning program which was consisted of introduction of Window operation system, Office program, internet, and email system, was developed from pharmacists prospective. Pre- and post-tests, which considered age, sex, and location, were performed to evaluate the impacts of the program.

Results: A total of 384 pharmacists attended this program voluntarily. Over 60% of attendees were over 40 years-old. Forty-one percent of pharmacists were female. Two-third of the pharmacists was in community setting. The results indicated that the program had statistical impacts on computer skills. The overall scores were increased from 69.48±0.99 to 79.13±0.86 (p<0.000). Pharmacists with age under 40, in urban area, and in community setting had significant improvement score while sex did not show statistical significance.

Conclusion: The e-learning program was considered successful. Future programs should focus on different issues based on the results. The basic learning program should be continuing, while advanced program can be developed for female, age under 40, or urban pharmacists.

APS-P-004

REDUCING THE ORDER ENTRY ERRORS--AN INTERVENTION BY USING QUALITY CONTROL CIRCLE (QCC) METHOD

Y.M. Hsu, C.Y. Chen,
En Chu Kong Hospital,
China Taiwan

Aims

Computerized prescriber order entry (CPOE) is an application in which prescribers write order online to decrease medication errors. This system has been introduced into our hospital for 6 years but order entry errors, which resulted in medication errors, are still noted. We carried out this interventional study mainly to reduce the order entry errors, and to prevent the medication errors.

Methods

Pharmacists were asked to collect all outpatient department (OPD) medication orders that contained order entry errors from Oct. to Dec., 2003. A total of 124453 OPD medication orders were processed during that period. Of those, 204 orders (1.64%) contained order entry errors that needed to be corrected. We classified the order entry error types and then activated a quality control circle (QCC). By using the Pareto graph, we sorted out the major types of the order entry errors, which corresponded to quantity error, duplicate entries, crushed medication, and incorrect medication duration. All of the above were included, but key-in wrong drug was chosen instead of incorrect medication duration because of its greatest potential for patient harm. After brainstorming, QCC members identified the pivotal causes of each type of error. Subsequently, the solutions to each cause were suggested.

Results

After carrying out the Plan-Do-Check-Act (PDCA) circles, the order entry errors had been reduced from 1.64% during Oct. to Dec., 2003 to 0.95% during April 15 to 30, 2004.

Conclusions

The implementation of the QCC method obtained a marked reduction in order entry errors, decreased the workload of the hospital staffs, and most importantly improved the medication safety.

ADMINISTRATIVE PHARMACY SECTION - POSTER SESSION

APS-P-005

BUSINESS PROCESS OUTSOURCING IN PHARMACEUTICALS

V.V. Sonar, P.J. Wable, M.M. Deshpande, R.S. Bandal, A. N. Shah,
S.V. P. M's college of pharmacy,
India

AIM- To make mark on this globalized world and to get perfection in the market. Pharmaceutical firms looking ahead for growth and Business process outsourcing is essential prime path for them.

METHOD- Business processes to an external provider that in turn owns, administers and manages the selected process based on defined and measurable performance criteria. Work from chemical synthesis for early drug development to development phase of testing new drug and clinical trials can be outsourced. Companies reported the price of research and development continued to rise so outsourcing will be the best solution. Availability of highly qualified skill pool and faster absorption of well-defined business processes leads to higher productivity gains without compromising on quality.

RESULT- Pharmaceutical industries are using this aspect in administration department and taking over the factors like cost advantage, superior competency, utilization improvement, economy of scale and business mitigation.

CONCLUSION- Business Process Outsourcing in small scale industries to promote industrial superiority, best sourcing strategies, correct development and documentation and a firm place in market to compete with large production units.

APS-P-006

AUDITING ADVERTISEMENTS OF MEDICATIONS, PHARMACEUTICALS, COSMETICS, AND FOOD SUPPLEMENTS ON THE TELEVISION, RADIO, AND THE INTERNET

D.Z. Hwel, Y.S. Lin,
Taiwan Drug Relief Foundation,
China Taiwan

Background and Purpose Advertisements containing deceitful messages are major and persistent problems in Taiwan. For the purpose of making profits, marketers promote their products by claiming exaggerated or fabricated executive powers all over the mass media. The purpose of this project is to search for such illegal advertisements and report them to health authorities as evidence base for penalty. The ultimate goal is to prevent consumers from being deceived by these untruthful ads.

Methods Due to the restrictions of limited labor and resources, data were collected from August to December 2004 with random sampling. TV programs and radio shows were randomly recorded and screened for illegal content. Internet postings were searched with key words, such as 'potency', 'breast enlargement', or 'weight loss', for fraudulent pages.

Results From August to December 2004, a total of 818 cases were sent to the Bureau of Pharmaceutical Affairs (BPA), among which 795 cases were assigned by BPA to designated local health authorities for making penalty. Up to now, a total amount of TWD4, 963,000 (USD165, 000) penalty over 230 illegal cases were received. The rate of illegal ads declined as well from 13.1% of August to 6.3% of December in 2004. Relevant statistic data were used for the press conference by Department of Health in Taiwan.

Conclusions The declining rate of illegal ads indicates the effectiveness of penalty to product manufacturers. Press conferences regarding misleading medical ads also make a significant warning impact on manufacturers. In addition, joint action from media regulators is an essential element in clearance of illegal medical ads.

APS-P-007

IMPROVING THE QUALITY OF PHARMACIST-INITIATED EDUCATIONAL PROGRAMS TO THE PUBLIC ON RATIONAL DRUG USE AT COMMUNITY COLLEGES IN TAIWAN

C.S.H Shen¹, K.C.S. Chen²,

¹Chang Gung Memorial Hospital, ²Pharmacy Department, NTU,
China Taiwan

Purpose: The purpose of this study is to provide opportunities for pharmacists to improve their quality of educational programs to the public on rational drug use provided at community colleges.

Method: Coordinators of the teaching curriculum included identifying the location of the 15 college, arranging and contacting 120 pharmacist lecturers to participate, assisting and promoting enrollment of students, and obtaining teaching facilities and materials. A teaching enhancement skill program was provided for the lecturers. In addition, role playing among the lecturers were conducted to encourage an exchange of their teaching experiences with guidance provided and facilitated by expert consultants during this process.

Results: There were a total of 97 out of the 120 lecturers from the three identified areas who participated in the centralized training program. 11 of the 15 colleges appeared well prepared for the program. Each of the 97 lecturers exhibited their abilities to participate as a teacher in role playing as well as being able to share their experiences and show advancement and improvement skills in at least four subject areas.

Conclusion: As a result of pharmacist lecturers being able to provide their feedback and share experiences from teaching during the central training program, the program was successful to incorporate various viewpoints to form a synthesis of experiences combined to achieve improved outcomes. This assisted the realization that teaching quality can be an on-going process for improvement as pharmacists communicate healthcare concepts to the public at community colleges.

APS-P-008

LEGISLATIVE FRAMEWORK FOR MEDICINES CONTAINING NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES IN MONTENEGRO

K. Milosevic Kostadinovic¹, G.I. Petrova²,

¹Apoteka Medicor, Serbia and Montenegro ²Faculty of Pharmacy, Bulgaria

The international control over narcotic and psychotropic substances is in compliance with the UN Conventions but countries are organizing their national legislation according to the local circumstances and legal environment. Montenegro as part of Serbia and Montenegro possess regulatory system on pharmaceuticals that should be suitable to the international rules and to the whole country legal system.

The current study analyzes the development of Montenegro legislation on narcotic drugs and psychotropic substances. Legislation analysis was applied to both, the laws concerning narcotic drugs in Montenegro and International Conventions.

The Narcotic Drugs Legislative aim is to achieve a balance in National Narcotic Control Policy through:

- Ensuring adequate availability of narcotics for medical and scientific use;
- Establishing legislative rules for trade, prescription, distribution and dispensing of this group of medicines;
- Creating a system for tracking the trade with narcotics in all economic segments including illegal ones.

The Montenegro legislation is harmonized with the international requirements. International community is making efforts to eliminate an illicit traffic of narcotic drugs and in the same time has to provide an adequate availability of these substances for medical and scientific purpose.

Every country with its health care professional organizations have to cooperate and encourage governments to create and frequently evaluate their National Narcotic Drug Policy to ensure availability of narcotic drugs and in same time preventing their irrational use and/or abuse.

ADMINISTRATIVE PHARMACY SECTION - POSTER SESSION

APS-P-009

DEVELOPMENT OF A MEDICATION SAFETY ALERT SYSTEM IN A TAIWAN MEDICAL CENTER

C.H. Chen, S.Y. Chien,
Changhua Christian Hospital,
China Taiwan

Aims:

Changhua Christian Hospital has fully deployed Computerized Physician Order Entry (CPOE) System; there are over 7,000 physician orders entered each day. Prevention of medication prescribing errors and enhancement of rational medication use was the primary objective of implementing Medication Safety Alert (MSA) System.

Methods:

Pharmacy Department is actively involved in the development of the MSA system since 1999, allows us to develop and maintain multi-functional clinical alerts. The design of system is based on a CPOE system with each alert module, allowed system to generate different messages for different situations. As a result of displaying pop-up dialog boxes presented as an appropriate interactive option those forces the physician to view ahead before proceeding.

Results:

For nearly 3 years, the system has successfully developed 8 screenings and/or alerts modules: 1) drug-allergy/drug-related adverse events interaction, 2) drug-drug interaction, 3) drug-disease interaction, 4) clinical-context interaction (age/gender-based), 5) dose range/dosing schedule, 6) route of administration, 7) user-class specific, 8) therapeutic duplication; and 2 reminders modules: 1) therapeutic substitution, 2) high-alert medication highlights.

Conclusions:

The benefits of MSA system performs real-time checking can detect and prevent medication prescribing errors, reduce adverse drug events and unnecessary medication use. Pharmacists can play an important role in improving medication safety through actively participate in the medication prescribing process. We will further develop interactive alerts with a user-specific function to enhance patient safety.

APS-P-011

PUBLIC PHARMACEUTICAL SECTOR MANAGEMENT IN ARMENIA

L. Kazaryan Ghazaryan, V. Khachatryan, K. Sahakyan,
Drug Utilization Research Group,
Armenia

Effective public pharmaceutical sector management is an important factor for achieving pharmaceutical policy objectives. The aim of this work was to assess the public pharmaceutical sector management in Armenia and to develop recommendations on its improvement.

Methods: documents review; collecting information from records; interviewing staff at 60 public medical establishments (PME).

Law 'on Drugs' was approved, however only 42% of regulation documents required by the Law have been enforced. Essential Drugs List (EDL) is regularly updated; the first National Formulary was published and 40 standard treatment guidelines were approved. Centralized drug purchasing is not limited to EDL. The highest percentage (58%), essential medicines made up of all medicines purchased by the Ministry of Health, was observed in 2000. Many medicines donated are also outside EDL. Drugs and therapeutic committees have been organized at 23% of 60 PME. Less than a half of 20 PME examined introduced a policy to limit procurement to EDL. Many essential medicines were not available at PME; in average 35% of control group medicines were available at hospitals and 27% - at ambulances. Problems related to expired medicines were reported by 70% of hospitals and 20% of ambulances.

Many managerial strategies known and lessons emerged from other countries experience are still not used in the public pharmaceutical sector management. Developing of regulation documents covering the most important aspects of drug supply would be helpful for improving the situation. Some of drafts are being prepared.

This work was supported by OSI, New York, USA and NISPAcoe, Bratislava, Slovak Republic.

APS-P-010

ESTABLISHMENT OF DRUG LABELING DATABASE IN TAIWAN

S.Y. Chien¹, J.R. Hong², S.C. Chien³,
¹Changhua Christian Hospital, ²NUPA, ³TMUH,
China Taiwan

Aims: Lack of adequate drug labeling is a long-standing problem in Taiwan. The problem is especially serious at primary care clinics and community pharmacies. In 2002, the Department of Health (DOH) issued an order requiring drug providers to list 13 mandatory information items plus 3 additional suggested items on the drug label. However, only medical centers and large regional hospitals had sufficient resource to meet the requirement. In 2004, the DOH of Taiwan appointed The National Union of Pharmacist Associations of Republic of China to compile a database in both Chinese and English for the purpose of drug labeling.

Methods: The database contained vital information on the proper usage of drugs and the appearance of drugs. Data compilation was focused on the popular drugs frequently encountered at primary care clinics as well as community pharmacies. For the task, expert committee and editing committees were formed and standard procedures for editing and double-checking were established.

Results: A complete database in both Chinese and English was established. It contained information for 4408 drugs. Additionally, we standardized 350 groups of terms for describing adverse drug effects and 40 groups of instructive phrases for drug usage.

Conclusions: The database was developed with the aim of establishing comprehensive drug usage information, using plain language and providing must-know effects of drugs during and after use. In the future, healthcare providers and pharmacies may select appropriate information from the database in accordance with their needs and print it out for the patients. It will assure patient safety and improve the quality of pharmacy service.

APS-P-012

ANALYSIS AND RECOMMENDATIONS FOR THE POTENTIAL MEDICATION ERRORS IN ASSOCIATION WITH THE SOUND-ALIKE OR LOOK-ALIKE DRUG PRODUCTS

S.C. Chiang¹, G.T. Chen¹, S.T. Deng², C.S. Lin³,

¹Sun Yat-Sen Cancer Center, ²Chang Gung Memorial Hospital, ³Taipei City Hospital,
China Taiwan

Confusing or similar drug names, labels, and packages are among the major sources of medication errors. These sound-alike and look-alike drug names and packages increase the risk of unintended interchanges of drugs that can result in serious complication, even death. The medication errors associated with these products could occur through every step from physician's prescribing, pharmacist's dispensing, nurse's administration of drugs, to even patient's self-administering of drug products at home. The percentage of errors and injuries caused by faulty names and labels is unknown and hard to estimate. The objective of this study is to picture the incidence and patterns of the medication errors associated with sound-alike and look-alike drug naming, labeling, and packaging in Taiwan. The research method is to collect retrospectively and analyze the records of medication errors dated from January of 2003 to December of 2004 by the departments of pharmacy in several leading hospitals and pharmacies affiliated with private clinics in Taiwan. The results will include the incidence and patterns/types of the medication errors associated with sound-alike and look-alike drug products, the severity of outcome resulting from the errors, and the specific drug products related with potentials of the types of errors. Recommendations for the national regulatory agency, pharmaceutical manufacturers, health care institutions, prescribers, pharmacists, nursing staffs, and patients will also be provided.

ADMINISTRATIVE PHARMACY SECTION - POSTER SESSION

APS-P-013

A SPONTANEOUS REPORTING SYSTEM FOR THE DEFECTS OF MEDICAL PRODUCTS IN TAIWAN

C.S. Guo
National Taiwan University,
China Taiwan

In order to assure the quality of medical products in Taiwan market, a website based spontaneous reporting system has been set up to collect information of product defects on medical products since 2004. In which the on-line submission for reporting product defects and the connection networks of professionals who worked in hospitals as well as in pharmacies to provide information for further investigation on individual reported cases have been established. The standard operation procedures regarding to information collection, case evaluation, action should be taken by the regulation authority were discussed and built up in the connection with the infrastructure of pharmaceutical regulation management. In the system, the recalls of medical products carried out either by the manufacturers automatically or enforced by are monitored as well.

Up to now, 39 reports on product defects were collected. Complaints of those reports include: abnormal in appearance (18, 46%), cannot be used properly (8, 20%), label related problems (6, 15%), abnormal after drug dilution (3, 8%), insufficient in package (3, 8%) and abnormal smell (1, 2%). The current focus of the project is to promote it to the public as well as to the medical professionals. The manufacturers of medical products are invited join the system this year. Hence, a complete network is created to work together to improve the quality of medical products and hence ensure patient safety.

APS-P-014

'COMMUNITY MOMMY'S EYE' PROGRAM - COMMUNITY PHARMACISTS PARTICIPATE IN MONITORING ILLEGAL HEALTH RELATED ADVERTISEMENTS

H.Y. Tai, H.P. Wang,
Department of Health,
China Taiwan

Inappropriate commercial advertisements on food, cosmetics and medicines, especially traditional Chinese medicine (TCM), are prevalent in Taiwan. In order to crack down the misleading of health promotion, the Department of Health (DOH) in cooperation with the National Union of Pharmacists Association, created the 'Community Mommy's Eye' Program to monitor illegal advertisements of health-related products on cable TV. The task force covered 21 out of 23 total counties of this nation. One hundred and seventy three pharmacists took part in this program by monitoring and recording TV programs of illegal advertisements. Monitoring results were constantly published in mass media to raise the public awareness of illegal promotion. Items of illegal promotion was listed in the DOH website (www.doh.gov.tw/014).

In terms of product nature, the illegal rates were 66%, 21%, 7% and 6% respectively for food, TCM, health care related products and cosmetics. Most of the illegal act goes to the lack of evidence-based claims on reducing weight and the treatment on erectile dysfunction (ED). After five months of efforts, the rate dropped from 13% to 6%. The community pharmacists successfully promoted public health in this aspect and gain the public applause by taking part in this 'Community Mommy's Eye' program.

APS-P-015

TAIWAN PERFUMING ESSENTIAL OIL PRODUCTS SELF CARE CAMPAIGN TO ELEMENTARY STUDENTS

L.S. Sung
Taipei Awakening association,
China Taiwan

Purpose: To awake consumer's safety usage on Perfuming Essential Oil Products (PEOP). Since there were severe burning accidents by misusage of the perfuming product by using isopropyl alcohol as a solvent. Also medical claim needs to be clarified. PEOP target buyers are women. As a board member of women's group and a pharmacist, we are the most dedicate candidate to run the campaign to the public.

Method: Targeting to 3rd or 4th grade of Elementary students and their family.
-Design the BRAIN STORMING flyer with the slogan of '3 skips 7 steps'
3 skips are not in a closed room, not close to flame materials, and not spill out.
7 steps are reading product name, manufacturer name and address, ingredients, amount, expiration date, precaution, and PEOP package insert.

-Spread self-care questioners to students through school system. Parents need to answer 11 questions. 165 elementary schools are selected and expecting half of them will involve & reply.

-Kids file their drawing of the campaign. 6 pictures are elected for the prize.
Result: Parents answered questions and kids draw 3 skips and 7 steps' concept. Questioners results that suburban parents are not familiar with perfuming products.

Discussion: PEOP regulatory status is not clear. It is not a cosmetic in Taiwan. However, consumers bought it for their health since the over claiming includes bactericidal, anti-allergic, improve sleep quality, or etc. The society is expecting public education. It is a good model to inform by a women's group and collaborate with pharmacist and pharmacy student for consumers' self care awareness.

Keywords: Perfuming Essential Oil Products

APS-P-016

WHY DO WE NEED TO ORGANISE WHOLESALK PHARMACEUTICAL DISTRIBUTION ACROSS THE EUROPEAN CONTINENT?

J.L. Delmas
French Council of Pharmacists,
France

The wholesale distribution of health products remained at national, or even regional, level for a long time. Some large groups have been, or are now, spreading their activity beyond national borders.

Nowadays, the new large European space generates a need for and possibilities of health products flows under well thought-out, innovative control. A necessary double objective includes the protection against unidentified products and reaching accurate retail volumes of stocks/distances on due time.

The harmonization of Quality policies can only be implemented within an integrated system. The current legislation governing distributors does not encompass the scope and the operations of a global European pharmaceutical distributor to be created. It is likely that the requirements to be met by existing wholesalers and pro-wholesalers will have to be completed by demands regarding transport and full tracking. Progressively pan-European groups will start building such organizations, while European health authorities will establish a new legal environment.

The only chance of a shared, reliable, success lies in an agreement between distributors, producers and pharmacists about their common objectives. We have to work out the economic solution to achieve high quality distribution for all medicines and other health goods, which are so specific. We also have to catch the opportunities because the extended borders of the EU can attract uncontrolled import of uncontrolled products from outside Europe. Therefore quality and integration together will provide the most efficient protection.

ADMINISTRATIVE PHARMACY SECTION - SHORT ORAL PRESENTATIONS

APS-O-001

USE OF THE INTERNET FOR HEALTH INFORMATION BY PATIENTS WITH CHRONIC DISEASE

M. Aciu, D. Calina, L. Bejenaru,
University of Medicine and Pharmacy,
Romania

Aims: To investigate the Internet use among people with chronic illnesses.

Methods: A survey of 4987 adults who have access to the Internet was conducted. Analyses compared respondents in five groups: hypertension, diabetes, cancer, heart problems and depression. We assessed:

- how often respondents use the Internet for health information.

- the use of Internet for prescription medication.

We used multiple regression models to control for age, gender, education and survey design effects.

RESULTS:

1 The use of Internet for health information in the last year ranged from 31% (diabetes and heart problems), to 42% depression ($p < 0.001$).

2 Among users of the Internet for advice about health, perceptions that it takes too long to find information on the Internet were similar across chronic illness groups (39%).

3 When asked if the Internet improved the understanding of their illness and treatment, people with diabetes and heart problems said yes ($p < 0.001$).

4 While 90% reported taking at least one prescription medication in the last year, less than 5% used the Internet for a prescription or buy a medication.

5 A quarter used the Internet to learn more about medications, except for diabetics (33%, $p < 0.001$).

CONCLUSIONS: Despite the strong potential of the Internet to provide useful information, it appears to have only limited impact.

APS-O-002

OPINION ON THE INTERCHANGEABLE GENERIC MEDICATIONS OF THE PATIENTS OF EXTERNAL CONSULTATION OF THE MEXICAN HOSPITAL MANUEL GEA GONZALEZ: A PILOT STUDY.

M. Ahnagracia-Martinez, R. Gómez-Alejandro, J. Kravzov-Jinich, V.R. Castro-Ramirez,
UAM-Xochimilco,
Mexico

The first Mexican Interchangeable Catalog of Generic Medications (GI) was issued five years ago. **Aims:** To know the opinion of the patients of external consultation of the Hospital that belongs to social security system and to know the source of the patients' information with regard to the medications. **Methods:** An observational-cross-sectional pilot study was conducted through a descriptive survey of 25 questions distributed in several categories: demographic, GI consumption and knowledge in comparison with other medications, place of drug acquisition and source of information about the use of the GI. The survey was applied to the patients of the external consultation that attend the hospital. **Results:** A total of 29 surveys were applied. The patients' age ranged from 18 to 62 years old. Of the total interviewed persons 48.3% manifested to know the GI and 51.7% not to know those medications. 89.6% mentioned to know the indications called 'similares', the 79.3% said to know patent drugs. Of the patients that said to be informed about the GI, 78.6% got the information from television, 50% from the hospital and 42.9% from the radio. Of the mentioned subgroup 42.9% said that the GIs are the same that the patent medications, 71.4% commented to have taken at least once in his/her life a GI prescribed by doctor and 80% of those patients were satisfied 100% with the switch from the patent medication to the GI. Of the patients that had never being prescribed a GI, 28% of them commented that they would agree to use GI. **Conclusions:** 51% of the patients of the study hospital do not know the GIs, although the GI medications are of obligatory use in the public health sector.

APS-O-003

ECONOMIC EVALUATION OF SECONDARY STROKE PREVENTION WITH ACE-INHIBITORS

A.G. Wintenstein
University of Florida,
United States of America

This presentation aims to enable the attendee to (1) describe decision tree models used to project cost-benefit and cost-effectiveness of alternative treatment strategies, (2) discuss features important to decision-makers when developing such models, and (3) to describe features that determine the validity of economic models.

Several methodological considerations important in the interpretation of economic findings will be illustrated using a recently completed study on the cost-effectiveness and cost-benefit of ACE-inhibitors in the prevention of secondary stroke. The study was based on clinical trial data that demonstrated a reduced incidence of recurrent stroke associated with the prophylactic use of ACE-inhibitors. While the clinical trial remained data collection at the point of secondary stroke occurrence, the economic study simulated associated healthcare utilization and cost over a 2-year follow-up period. Patient progression was simulated using a decision tree model based on published epidemiologic data on healthcare utilization and claims database extracts.

The original study data will be used to (1) discuss common sources for cost and healthcare utilization data, (2) illustrate the effect of differential mortality and open versus closed study cohorts on cost-benefit results, (3) show how technical procedures such as mid-cycle corrections and discounting affect findings, and (4) how parameter uncertainty is incorporated in sensitivity analyses.

APS-O-004

MEDICINE PRICES IN KUWAIT

D.E. Ball¹, N. Al-Saffar², K. Tisocki¹, P. Capps¹,
¹Kuwait University, ²Pharmacy Services Administration, Minsit,
Kuwait

Aim:

A medicine price survey was conducted in Kuwait using the methodology of Health Action International (HAI) and the World Health Organization (WHO) [1].

Methods:

Public sector medicine prices were obtained from Central Medical Stores (CMS). Twenty-five public health pharmacies and 25 private pharmacies were selected from 5 health areas of Kuwait City using clustered randomised sampling. The availability and price of the innovator brand product (IB) and lowest priced generic equivalent (LPG) of 35 medicines were surveyed in each pharmacy. The median price ratio (MPR) compared to international reference prices was calculated.

Results:

Thirty-two (91.4%) of the study medicines were available at CMS. Median availability was 12% for both IBs and LPGs at public pharmacies and 84% and 0% respectively at private pharmacies. The public procurement MPR for IBs was 5 i.e. five times higher than the reference price, and for LPGs was 1. The MPRs for medicines in the private sector were 17.5 and 15.7 for IBs and LPGs. Innovative brand ciprofloxacin tablets in the private sector had the highest MPR (110).

Conclusions:

Public sector medicines are procured at low prices compared to international reference-prices which indicates high efficiency of the public procurement system in Kuwait. However, private pharmacy medicine prices are much higher than reference prices. Contrary to international trends, buying generic medicines in private pharmacies does not result in significant cost savings for patients.

References:

1. Health Action International/World Health Organization. Medicine prices - a new approach to measurement. Geneva: WHO/HAI; 2003.

ADMINISTRATIVE PHARMACY SECTION - SHORT ORAL PRESENTATIONS

APS-O-005

AVOIDABLE MEDICAL COST RELATED TO INAPPROPRIATE USE OF ANTIBIOTICS FOR ACUTE UPPER RESPIRATORY INFECTION.

F.Y. Hsiao¹, W.F. Huang², Y.W. Tsai³

¹Institute of Public Health, ²Inst. of Health & Welfare Policy, ³National Health Research Inst.,
China Taiwan

Background: Inappropriate antibiotic use is generally considered to be the primary cause of antibiotic resistance in the community. Well-established guidelines have, thus, recommended using antibiotics only when they are likely to be beneficial. According to CDC (U.S.) guidelines, nonspecific upper respiratory tract infections (URI) are not improved by antibiotics and they are not recommended.

Objectives: This study investigates patterns in prescriptions of antibiotics for acute URI and calculates the avoidable medical cost resulting from inappropriate use of antibiotics.

Methodology: The study draws its data from 1,947,447 outpatient visit claim records for 2002 from Taiwan's National Health Insurance (NHI), a universal health insurance plan that covers most medical and drug prescription costs for its citizens. Logistic regression with random effect was used to analyze the appropriate use of antibiotics with respect to patient age, gender, and health care provider characteristics.

Results: A large proportion (20%) of the drug prescriptions for acute URI fell outside of published guidelines. Inappropriate use of antibiotics was positively associated with primary clinics. Annual drug cost for treatment of this disease was \$ 751,608 with about 20% (\$ 150,922) going towards inappropriate prescribed antibiotics.

Conclusion: Adherence to established guidelines for treating acute URI would have resulted in decreased risk of drug resistance, improved quality in antibiotic use and considerable savings to the health care delivery system.

APS-O-007

INTELLIGENT MOMMY – A CAMPAIGN FOR COMMUNITY PHARMACY SERVICE IN TAIWAN

H.P. Wang, H.Y. Tai,
Department of Health,
China Taiwan

The implementation of Separation of Dispensing from Prescription (SDP) faced difficulty for the past forty years in Taiwan. Patients with chronic disease counted for 18% of total patient population while only 5% of refills goes to community pharmacy in 2003. Learned from SARS outbreak, the advocate of community value on community pharmacy service

led to the campaign of 'Intelligent Mommy' initiated by the Department of Health (DOH).

Slogans were designed to catch general public's attention. Mommy stands for love and caring, while Intelligent Mommy stands for pharmacists as knowledgeable professional Mommy furnished with information technology. Campaign was conducted in more than 50 community colleges covering 2000 silver-hair civilians, 54 elemental schools covering more than 15,000 students, and in 80 communities covering 7,400 of ill patients of whom home-care medication was needed. More than 440 pharmacists took part in this campaign. The 'We are family – community pharmacy service to the elderly and disabled civilians' Program were also implemented, in which the refills were delivered to patients who were too ill to visit hospitals or pharmacies. As a result, the release of refill prescriptions to community pharmacy increased significantly. The most successful campaign was noticed in Taipei the capital, Taichung and Tainan. To be specific, the increase of the release rate of refill prescriptions in the capital was from 27% in 2004 to more than 63% in 2005. More than 153 community pharmacies started to collaborate with hospitals to carry the refill services.

APS-O-006

EXPANSION OF POINT OF CARE PHARMACIST SERVICES IN PEDIATRICS AND SURGICAL UNIT OF A TERTIARY CARE HOSPITAL OF PAKISTAN.

Z. Ghous, Y. Shafiq, A. Gul, S.S. Ali, A. Larif Sheikh, S.S. Raza,
Aga Khan University Hospital,
Pakistan

Objective: To determine the quantitative impact of Point of Care Pharmacist services in a pediatric and surgical unit of tertiary care hospital. **Background:** Pharmacists were already involved in clinical round in different parts of hospital. After getting some very positive results in a pilot where a full time pharmacist was placed inside ward, the concept was replicated in other parts of hospital. This study is designed to determine the impact of placing pharmacist inside ward during working hours over three months. **Methodology:** Pharmacists were selected on the basis of their number of interventions, C.B results and feed back from area supervisor. After being trained and assessed by Clinical Pharmacist, they were placed in corresponding wards. **Results:** Pediatrics Ward: Number of interventions increased from average 15/month to 35/month and the cost saving increased from 7000/month to 45000/month. Adverse drug reactions reporting increased from 1/month to 4/month. On average 5 missed doses has been identified and 54 drug information's have been provided per month. 15 cases of in-appropriate drug storage have also been identified. Surgical Ward: Number of interventions increased from 25/month to 145/month while Cost saving increased from 50,000/month to 212922/month Adverse drug reaction reporting has been increased to an average of 6/month. 20 drug food interactions and 37 missing doses have also been identified, while a total of 167 drug information has been provided to physicians and nurses. **Conclusion:** Point of Care Pharmacist can impact the patient care in different aspects, once placed inside ward. Pharmacist can apply his knowledge for better care of patient.

APS-O-008

MANDATORY REPORTING OF ADVERSE DRUG REACTIONS

R. Vaillancourt, A. Gervais, C. Gauthier,
Canadian Forces Health Services,
Canada

Practice Innovation:

An ADR form must be completed by a health care professional for all ADRs which is then forwarded to the Canadian Adverse Drug Reaction Monitoring Program when these case reports are reviewed and entered into a database that is constantly monitored for signals. The CF has added a component to these procedures whereby health care professionals are required to file an ADR report with Canadian Forces Drug Exception Centre (CFDEC) for any adverse reaction to a drug on the CF drug benefit list if the patient subsequently requires a drug not listed on the CF drug benefit list.

Implementation:

The program was implemented in November 2003. Between November 2003 and March 31st 2005, the CFDEC received 118 requests for drugs not on the CF drug benefit list as a result of an ADR to a benefit drug. In comparison, between May 1999 and October 2003 the CFDEC received 56 requests for drugs not on the CF drug benefit list as a result of a reported ADR to a benefit drug. Since the knowledge of drug risk evolves over the lifetime of the drug, the CF contributes to the risk assessment that must continue beyond the pre-market evaluation phase. Although not all ADRs are captured, it is an improvement over the underreporting documented in the literature.

Implications for Practice:

As the results of the previous two studies assisted in managing the formulary to prevent positive patient health outcomes and to minimize adverse reactions, the forthcoming documented adverse reactions will continue to assist in assessing the risk of drugs on the CF drug benefit list in the CF population.

CLINICAL BIOLOGY SECTION - POSTER SESSION

CBS-P-001

EFFECT OF SOME CALCIUM CHANNEL BLOCKERS IN EXPERIMENTALLY INDUCED DIABETIC NEPHROPATHY IN RATS

W.M.Y. Yousef
Faculty of Medicine,
Egypt

Introduction & Aim: Diabetic nephropathy (DNP) is considered a CKD (Chronic Renal Disease); **Materials & Methods:** Eighty male albino rats weighing (130-180gm) were used in this study. These animals were subdivided into five equal groups. Insulinopenic diabetes was induced by STZ, two weeks later, 30 minutes of complete ischemia was induced in the left kidney to induce diabetic nephropathy then treatment was started for 12 weeks. **Results:** Combination of renal ischemia with DM produced a significant increase in rat weight, rat kidney weight, BUN (Blood Urea Nitrogen) level, K/B (Kidney/Body weight) ratio, random blood glucose, 24 hrs urine proteins, and 24 hrs urine volumes and creatinine clearance. Treatment with diltiazem or nifedipine significantly lowered elevated SBP and elevated 24 hrs urine volumes. Light microscopic examinations of diabetic kidneys revealed glomerulopathy characterized by thickening of the glomerular basement membrane, mesangial matrix expansion, arteriolar hyaline and large proteinaceous deposits occluding some capillary loops and hyaline deposits within the glomeruli. **Conclusion:** It can be concluded that, renal ischemia hasten the progression of DNP, diltiazem and nifedipine have a tendency to reverse of changed parameters toward normal values except biochemical parameters.

CBS-P-002

EFFECT OF ATP-SENSITIVE POTASSIUM CHANNEL MODULATORS ON INDOMETHACIN-INDUCED GASTRIC LESIONS

H.I. Ismail, M.M. Khalifa, M.A. Kassem, O. Ashour,
Minia University,
Egypt

Mechanisms like decreased gastric mucosal blood flow, increased motility, acidity and apoptosis have been proposed for the pathophysiology of indomethacin-induced gastric lesions (IGL). It seems probable that ATP-sensitive potassium (KATP) channels have a regulatory effect on them. **AIM:** Investigation of the effects of KATP channel modulators, nicorandil as a channel opener and glibenclamide as a channel antagonist, on IGL. **METHODS:** Gastric lesions were induced by injection of indomethacin (40 mg/kg s.c.). Nicorandil (2 and 10 mg/kg i.p.) was given to 2 groups and a third group received glibenclamide (6 mg/kg i.p.). Another 2 groups received glibenclamide, concomitantly, with either doses of nicorandil. Nicorandil and glibenclamide were always given thirty minutes and one hour, respectively, before indomethacin. The rats were killed 3 hours after indomethacin and the stomachs were removed. Macroscopic gastric lesions in each stomach were measured and the ulcer index and preventive index was calculated. **RESULTS:** Indomethacin produced ischemic lesions in 96% of the rats with an ulcer index of 20.4. Nicorandil protected by up to 51.2% against indomethacin-induced lesions and glibenclamide aggravated the lesions by 55.1%. **CONCLUSION:** 1) Nicorandil has an ulcer-protective action which is, presumably, completely attributable to its KATP channel opening action. 2) It is suggested that antagonism of KATP channels is an important pathway for tissue injury by noxious agents and that KATP channel antagonists may play a permissive role in damage produced by other ulcerogens.

3) KATP channel openers may prove to be important candidates for developing new effective anti-ulcer drugs.

CBS-P-003

THE STUDY OF BLOOD CADMIUM CONCENTRATION IN HYPERTENSIVE AND NORMOTENSIVE ADULTS IN TEHRAN'S HOSPITALS

A. Bakhtiarian
Tehran University of Medical Sciences,
Iran

Background: Hypertension is a very common and important disease. There is conflicting report about cadmium, a trace element in the genesis of hypertension.

Material and Method: In this study we examined the relationship between blood cadmium level and hypertension prevalence in a population-based sample of hypertensive and normotensive patients in the Shariati and Imam Khomeini hospitals in Iran. Cross sectional samples of 370 patients (age:40-70), who participated in a physical examination from these hospitals'survey conducted in 2004. The range of blood cadmium levels from patients was 0 to 69.45 µg/l. The mean blood cadmium levels of normotensive patients (42.05±2.52 µg/l) were higher than hypertensive patients (26.26±3.62 µg/l). There was a significant difference in mean blood cadmium levels of normotensive men (43.25±2.65 µg/l) and hypertensive men (27.01±4.29 µg/l) in this study (P<0.0001). The comparison of blood cadmium levels of normotensive women (30.76±6.56 µg/l) and hypertensive women (24.81±6.56 µg/l) did not show a significant difference. This difference weren't affected by age sex, smoking.

Conclusion: In this population we concluded there is no positive relationship between the concentration of blood cadmium and hypertension.

Key word: cadmium, hypertension, cardiovascular disease.

CBS-P-004

OBSERVATION OF THE ISCHEMIA-INDUCED CONFORMATIONAL CHANGES OF NUCLEIC ACIDS IN RAT HIPPOCAMPAL TISSUE BY FOURIER TRANSFORM INFRARED MICROSCOPY

Y.D. Cheng¹, T.H. Lin¹, H.Y. Liu¹, J.T. Yang², J.B. Wu²,
¹Chang Gung Memorial Hospital, ²China Medical University,
China Taiwan

Aims: The purpose of this study is to examine the biochemical imaging changes and nucleic acids conformational changes in rat hippocampal tissue, and observed the distribution of nucleic acids in hippocampal tissue using IR microspectroscopic imaging, mapping, and line scan analysis techniques.

Methods: All rat brains were obtained immediately after resection of these rats. Samples were obtained from each sections, frozen in liquid nitrogen, and stored at -80° until used. The infrared spectrum of each rat brain tissue was obtained with a Perkin-Elmer Spectrum One FT-IR spectrometer equipped with a Perkin-Elmer AutoIMAGE IR Microscope.

Results: Nucleic acids caused infrared absorptions between 1300 and 1000 cm⁻¹. Absorptions at approximately 1235 cm⁻¹ and 1056 cm⁻¹ were generally attributed to stretching vibrations of the phosphodiester groups of the nucleic acids bond. The major distributions of nucleic acids are appear in hippocampus CA2 and dentate gyrus of sham-operated rat brain tissue. At 2 h post ischemia the nucleic acids level was mainly distributed in dentate gyrus and some spread in CA3. The distribution of nucleic acids was increased in each hippocampus regions at 6 h post ischemia, especially in dentate gyrus region. At 12 h post ischemia the nucleic acids level was mainly distributed in CA1 and CA2 regions. At 24 h post ischemia the nucleic acids level was increased in CA1 and CA2 regions.

Conclusions: The analytical results indicate that the FTIR microspectroscopy with imaging, mapping, and line scan methods could be a new technique to observe the biochemical changes of nucleic acids level in rat brain tissue.

CLINICAL BIOLOGY SECTION - POSTER SESSION

CBS-P-005

ASCORBIC ACID EFFECT ON ALPRAZOLAM ACTION IN ALBINO RATS

S.M. Aburawi, Reda Altubuly, K. Alshaeqi, H. Elhopishy,
El-Fatch University-Faculty of Pharmacy,
Libya

Ascorbic acid serves as a coenzyme when the rate of reaction is critical. Its mechanism of action, however, remains obscure. The anxiolytic effect of alprazolam is studied in presence of ascorbic acid. The anti-anxiety action and motor activity of albino rats were measured using the elevated plus maze test; muscle relaxant effect was studied using pull-up test. Three experiments were carried out; the first was of four groups of rats: single dose of 1% Tween80 (1ml/kg), 125mg/kg, 250mg/kg, and 500mg/kg of ascorbic acid were administered (I.P.) to the different groups. The second and third experiments, rats were divided into four groups: single dose of 1% Tween80, alprazolam 2mg/kg, ascorbic acid 125mg/kg or 500mg/kg, or combination treatment of alprazolam and ascorbic acid were administered to different groups. Results showed that, ascorbic acid alone produced dose dependent anxiolytic effect; it has no muscle relaxant or sedative effect up to 500mg/kg. Alprazolam produced anxiolytic action without sedation or muscle relaxation; in the combined treatment, ascorbic acid did not potentiate the anxiolytic action of alprazolam, but it had an additive effect. Ascorbic acid did not potentiate the CNS alprazolam effect, since sedation was not observed. The combination treatment showed significant muscle relaxation effect, which was not present by the administration of either alone. Muscle relaxation may be produced peripherally through the interference by ascorbic acid and alprazolam with the mechanism of skeletal muscle contraction. Ascorbic acid may involve as a coenzyme and produce synergistic effect on alprazolam as muscle relaxant.

CBS-P-006

L-ARGININE THERAPY: THE NATURAL PROTECTION FROM CARDIOVASCULAR DISEASE

M.Z. Gad¹, M.Z. Gad¹, S.A. Elmaraghy², A.T. Fahim², MA Hamdy²,
¹Faculty of Pharmacy - Ain Shams Univ, ²Faculty of Pharmacy, Cairo Univ.,
Egypt

Several studies in human & experimental animals indicated that L-arginine intake has multiple beneficial pharmacological effects when taken in doses larger than normally taken in diet. These effects are mediated through nitric oxide - dependent and - independent mechanisms. In this presentation, I will focus on the cardiovascular effects of L-arginine. In the cardiovascular system, exogenous L-arginine causes a rapid reduction in systolic and diastolic pressures when infused into healthy humans and patients with various forms of hypertension. Furthermore, oral L-arginine supplementation attenuates platelet reactivity and improves endothelial function in animal models of hypercholesterolemia and atherosclerosis. The clinical studies for L-arginine in humans were also highly positive in improvement of endothelial dysfunction and even preventing restenosis after balloon angioplasty. Thus L-arginine shows promise in the treatment and prevention of cardiovascular disease including atherosclerosis, hypertension, hyperlipidemia, and angina pectoris. This presentation will go in detail on the molecular mechanisms of L-arginine cardiovascular effects in humans with reference to the anti-atherosclerotic properties of L-arginine therapy.

CBS-P-007

SIMVASTATIN REVERSES CYCLOSPORIN A-INDUCED VASCULAR DYSFUNCTION IN MALE RATS: A BIOCHEMICAL, PHARMACOLOGICAL AND HISTOPATHOLOGICAL STUDY

M. Helmy¹, A.A.M. Abdel-Galil¹, M.M.A. El Sawy², E.I. Saad², A.G. Omar²,
¹Faculty of Pharmacy, Alexandria, ²Faculty of Pharmacy, Univ. of
Alexandria,
Egypt

Cyclosporin A (CyA) is the immunosuppressant most frequently used in transplant surgery and in the management of autoimmune diseases. CyA-induced oxidative stress together with dyslipidemia have been implicated in the pathogenesis of vascular dysfunction associated with CyA therapy. The present study investigated the possible protective effect of simvastatin (Sim), a lipid-lowering drug with potent antioxidant properties, against CyA-induced vascular dysfunction in male rats. Administration of CyA (s.c., 20 mg/kg/d, for 14 days) in male rats (220-280 g) resulted in a significant increase in both lipid peroxidation (measured as malondialdehyde) and glutathione (GSH) content together with a significant decrease in superoxide dismutase (SOD) activity in plasma and aortic homogenate. In addition, glutathione peroxidase (GPx) activity was elevated in rat aortic homogenate but remained unchanged in plasma. CyA treatment was also associated with a significant increase in nitric oxide level in plasma and aortic homogenate as well as an elevation in plasma cholesterol, triglycerides, LDL and a reduction in HDL levels. Vascular dysfunction was further confirmed by the attenuation of endothelium-dependent relaxation and histopathological examination of aortic rings. Co-administration of Sim (s.c., 2.5 mg/kg/d, for 14 days) with CyA significantly reversed most of the deleterious effects that accompanied CyA treatment. The present study provides good evidence that both oxidative stress and hyperlipidemia underlie the CyA-induced vascular damage, an effect that could be reversed by simvastatin co-administration.

CBS-P-008

BIOPHYSICAL AND PATHOLOGICAL FINDINGS OF SILICONE BREAST IMPLANT BY FOURIER TRANSFORM INFRARED MICROSCOPY

Y.D. Cheng¹, M.C. Hsieh¹, S.T. Deng¹, C.S. Wang¹, Y.Y. Lai²,
¹Chang Gung Memorial Hospital, ²Chung Shan Medical University,
China Taiwan

Aims: In order to identify and document the presence of foreign materials in tissue surrounding breast implants, Fourier transform infrared microscopy (FTIR-MS) is an ideal technique for examining tissue for the presence of implantable biomaterials in this study. **Methods:** Two female patients A & B (42 & 47 yrs old) with post-mastectomy breast silicone were studied using infrared microscopy. Patient B had developed bilateral breast cancers. From fresh surgical samples, a series of 10 µm sections were prepared and mounted on aluminum foil-coated microscope slide for FTIR, while the neighboring slices were mounted on glass slides for standard histological staining. A precise localization of tissue structure is essential for a spectroscopic correlation.

Results: FTIR in these two patients revealed the silicone compound could be identified from the fingerprint region corresponding to matching peaks at about 1260 cm⁻¹ attributed to a -CH₃ bending vibration, a pair of peaks between 1100 and 1000 cm⁻¹ due to Si-O-Si stretching, and a sharp Si-C stretching peak at about 800 cm⁻¹. The cancer tissues could be identified by a characteristic spectrum between 1600 and 1700 cm⁻¹ in one with breast cancer. The curve of IR spectrum from patient B represents a mixed or combined spectrum of silicone and breast tissue.

Conclusions: The FTIR spectra enabled identification of the foreign materials injected and the surrounding cancer tissues, observed by light microscopy in the disease tissue. The distribution of foreign material within the breast tissue could be further determined by means of this technique.

CBS-P-009

HEPATOPROTECTIVE AND ANTIPYRETIC ACTIVITIES OF KYLLINGA MONOCEPHALA ROOTS

H.V. Raju¹, T.V. Narayana¹, V.B. Vivek², M. D'Souza³, V.I.Hukkeri³,
¹SBD Institute of Pharmacy, ²KLES College of Pharmacy, ³KLES College of
pharmacy,
India

Ethanollic and aqueous extracts of *Kyllinga monocephala* (Roth) roots were evaluated for Hepatoprotective & Antipyretic activities using Standard bio models.

Both alcoholic and aqueous extracts were screened for their hepatoprotective activity against carbon tetrachloride induced liver damage in albino rats. Various bio-chemical parameters were studied to evaluate hepatoprotective activity of extracts, which include determination of serum enzyme levels namely, serum glutamate oxaloacetate transaminase, serum glutamate pyruvate transaminase, serum alkaline phosphatase and serum bilirubin (total and direct). Both extracts proved to be significant ($P < 0.0001$) in bringing down elevated serum enzyme levels in albino rats. Determination of liver weight and histopathological studies of liver samples supported anti-hepatoprotective potential of *Kyllinga monocephala* roots, as it demonstrated regeneration of hepatocytes in extract treated groups.

The above extracts were also screened for antipyretic activity against yeast-induced pyrexia in rats. Alcoholic extract inhibited pyrexia to the extent of 98% at 3 rd hour and that of aqueous extract 91.89%. Both extracts proved to be significant ($p < 0.001$) in reducing the elevated body temperature and are comparable with paracetamol. The study provides scientific data and demonstrates Hepatoprotective and antipyretic properties of *Kyllinga monocephala* roots as claimed in traditional system of medicine.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-001

ACCESS TO MEDICINES IN NIGERIA-GENDER PERSPECTIVE

U.G. Okafor¹, A.O. Adedeji²,

¹Pharmacists Council of Nigeria, ²Sky Sea and Sand Pharmacy, Nigeria

It has been estimated that one half of the African population lacks access to the most basic essential medicinal remedies. Gender disparities, resulting in women's low status in the society are at the root of the poor state of women's health in Nigeria.

Constituting about 49% of the entire population of over 100million, most Nigerian women are poor, uneducated and reside in rural areas. Millions of Nigerian women face special problems of disadvantage, discrimination and abuse. These problems not only constitute major challenges in their own rights but also create formidable obstacles to attainment of healthcare, including access to medicines and their appropriate use; and compound their risks of survival.

This study focuses on the situation of Nigerian women's access to medicines against a set of legally defined rights. Constraints to access to medicines and the cultural factors that lie behind them are analyzed with a view of exploring appropriate measures including policies that would address them.

CPS-P-002

PERCEPTIONS AND PERCEIVED COMPETENCIES OF COMMUNITY AND PRIMARY CARE PHARMACISTS REGARDING PHARMACIST SUPPLEMENTARY PRESCRIBING IN THE UNITED KINGDOM

D.M. Dawoud¹, L.I. Goodyer²,

¹King's College London, ²Leicester School of Pharmacy, United Kingdom

Introduction: National roll out of Supplementary Prescribing in the UK commenced in 2003. By January 2005 there were 27 universities and institutes providing training for pharmacists. Few studies have investigated pharmacists' attitudes towards a prescribing role. In this study the views of community and primary care pharmacists regarding supplementary prescribing and their self-perceived competencies have been assessed. **Method:** A total of 189 questionnaires were sent to PCT and community pharmacists at 3 Primary Care Trusts in South London. The questionnaire included closed and open ended questions. Preliminary analysis was carried out using descriptive and Chi Square statistics. **Results:** The response rate was 27%. Sixty-three percent indicated they plan to become supplementary prescribers within two years. The majority (92%) agreed that doctors have concerns regarding the new system. All respondents anticipated problems in obtaining workable Clinical Management Plans and 59% anticipated problems in implementation in community. Ninety percent felt they had sufficient clinical knowledge of the prescribing area and could implement a concordance approach to prescribing. However, only 30% felt they were competent to review a diagnosis and generate treatment options. No association was found between years of experience, holding postgraduate qualification and feeling competent in the competency area. **Conclusion:** pharmacists felt competent to undertake supplementary prescribing and perceived training to be beneficial. Concerns were expressed about some issues related to supplementary prescribing, such as doctors' concerns and funding the service, which need to be addressed.

CPS-P-003

INVESTIGATION REGARDING THE SITUATION OF UTILIZATION OF THE INTERNET FOR GATHERING OF USEFUL INFORMATION IN THE COMMUNITY PHARMACY IN HOKKAIDO, JAPAN

Y.H. Hayase, M.M. Miho Murakami, M.C. Masako Chiba, Hokkaido College of Pharmacy, Japan

In order to grasp the present condition of IT-izing at the community pharmacy, we considered the conditions of the Internet use and the pharmacist's consciousness. (Methods) Question sheets with return envelopes were sent to all the pharmacies (1905), which were members of the Hokkaido Pharmaceutical Association as of December, 2003.

(Results and Discussion)

602 of 1905 answer sheets were returned which was 31.6% response rate.

High rate of 69.3% of pharmacies linked to the Internet, and it seemed that the rate of the Internet connection increased with the size of the pharmacy.

We considered the situation of getting information by the Internet.

36.2% of them used the Internet when getting 'inserts'. Similarly, the figures were 26.2% for 'similarity between pioneer drugs and generic drugs', 21.1% for 'instructions on how to use the medicine' and 30.5% for 'health food information'.

The use of the Internet in cases where it's use would facilitate getting the exact information more quickly by using the data base on the networks was less than expected. It suggested that the pharmacists have insufficient knowledge about the Internet usage.

As a boomer of the advancing medical treatment, a pharmacist has to pursue his studies on a daily basis. It can be predicted that medical IT-ization will progress further in the future. Considering the situation of the present pharmacy and the pharmacist, we may not be able to adapt to the change of the environment.

Therefore, in order to advance IT-ization of a pharmacy, it is considered that the improvement in the pharmacist's information literacy and the reform of his consciousness are required.

CPS-P-004

MEDICATION ERROR IN PRESCRIPTIONS OF ELDERLY ADULTS ATTENDED IN PUBLIC HEALTH CENTERS OF MEXICO DF

M. Altagracia-Martinez, R. Gómez-Alejandro, J.A. Corona-Rojo, A. Ramírez-Camacho, UAM-Xochimilco, Mexico

Aim: Is to detect medication errors in the prescriptions emitted to elderly adults that assist to public health centers in Mexico city. **Methods:** A retrospective, cross-sectional, descriptive and observational investigation was carried out. 100 prescriptions of elderly adults older than 70 years were selected randomly. The consistency of the pharmacological treatment was analyzed with the diagnosis, the prescribed medication and its potential interactions, as well as the execution of the prescription according to the Mexico General Health Law (LGS). Prescriptions were considered as correct if they met the following criteria: filled observing the LGS, correct patient, correct medication, correct dose, correct route of administration and correct frequency and time of treatment. A database was created in the statistical program SPSS version 10. **Results:** Of the analyzed prescriptions 36% belonged to men and 64% to women, the age ranged from 70 to 95 years and the media was 76.32 year-old. The most frequent illnesses were arterial hypertension (40%), diabetes mellitus (21%), and gastritis (15%). The number of medications prescribed per patient was, 45% of the patients were prescribed with one medication, 13% two and 20% three, with a media of 1.75 medications per patient. They were found 186 medication errors in the 100 analyzed prescriptions. The errors of dose omission and of the concentration of the medication were the most frequent. 48 of the prescriptions were correct according to the methodology and 52 incorrect. **Conclusions:** Medication errors are frequent in the prescriptions of elderly adults that attend to public health centers of Mexico DF.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-005

THE USE OF GEOGRAPHICAL INFORMATION SYSTEMS TECHNOLOGY (GIS) TO ASSESS DEMOGRAPHIC VARIATION IN THE USE OF ANTIBIOTICS.

G. Becket, P.T. Norris, D. Ecke,
University of Otago,
New Zealand

Aims: Microbial resistance to antibiotics is an increasing problem globally, and this resistance is partially related to inappropriate use in humans. In this presentation we describe the use of GIS technology to assess the demographics of antibiotic prescribing and dispensing in a small New Zealand town. In particular the relationship between antibiotic dispensing and patient gender, age and socio-economic status is explored.

Methods: Through the individual community pharmacy databases, complete data on antibiotic dispensing in individual patients in a specific town was identified. Geocoding was used to link the antibiotic prescription data with census data and the socio-economic status of the area in which the patient lived.

Results: 42% of residents received one or more courses of antibiotics in 2002. Those who received antibiotics received an average of 2.1 dispensings. Children received antibiotics more frequently than adults, females more than males and there was a strong relationship between socio-economic status and antibiotic dispensing.

Conclusions: Rates of antibiotic use in the community are strongly influenced by age, gender and socio-economic status. Community pharmacy databases linked with GIS technology provide a useful tool in assessing patterns of prescribed drug use.

CPS-P-006

REPRESENTATION OF STORAGE CONDITIONS OF PHARMACEUTICALS IN ZONE IV COUNTRIES LIKE INDIA

M.S. Honso¹, S.P. Dhat¹, S.B. Jadhav²,
¹Sinhgad Inst. of Pharm. Sciences, ²Modern College of Pharmacy,
India

Aim is to discuss relation of storage conditions with shelf life of drugs in Zone IV countries.

A fieldwork was done to 1 Understand WHO (World Health Organization) guidelines for storage conditions of pharmaceuticals, study their implementation after Trade Related Aspects of Intellectual Property Rights enforcement 2 Understand reasons for postponing these guidelines implementation in India 3 Survey of 80 retail pharmacies in four different townships in India and analyze few formulations near expiry date stored under higher temperatures and to suggest rational line of action for maintaining efficacy. WHO suggests retail pharmacies to be airconditioned which is not followed in India. 180 retail pharmacies were surveyed in five different townships in India. Observations were- Khopoli Mah-surveyed 10; all without Airconditioners, Lonavala Mah-surveyed 20; all without Airconditioners, Jalgaon Mah-surveyed 30; 8 Airconditioned, 22 without, Pune Mah-surveyed 20; 4 Airconditioned, 16 without, Delhi-surveyed 100; 10 Airconditioned, 90 without. (Mah-Maharashtra- major state in India)

Jalgaon survey showed 26.7 % retail pharmacists agreeing to the norms and implementing them.

Authors analyzed few formulations stored at higher than specified temperatures, expired sooner than the label claim.

Arrhenius and Q10 equations can be used to calculate shelf life of product stored under different set of conditions, such as when cool conditions cannot be maintained. WHO guidelines must be followed but if difficult to do so, expiry date can be calculated using equations mentioned above. This is imperative in countries like India where 70% population has no access to modern medicines.

CPS-P-007

@-CHILDRENS-CLUB

M.H.T. Thomsen, C.L. Lauemøller,
Apoteket Triangeln,
Denmark

Introduction

We live in a society where the flow of information is quick and often overwhelming. Because of this there is an increasing demand on professionals in the health care sector to guide our customers in this massive flow of news. Frequently some topic or another, concerning health, is taken up in the media. Often the quality of the information is variable.

The topics, dealt with, are almost always emotionally charged when they concern children's well-being. Therefore it is important to provide sober and professional information about health, diseases, and medicine for children.

Aim

The purpose of this project is to establish an '@-childrens-club' with information to parents concerning the sickness and health of children.

Method

Enrolment should be possible at the counter at the pharmacy and on the pharmacy homepage. Approximately four times a year we will send the members an e-mail with news about relevant topics concerning children.

In addition to this extra newsletters can be sent out whenever some relevant topic that needs discussion or explaining have been brought up in the media. The service 'ask your pharmacist' with questions from the members of the club will also be available on the homepage. Selected questions and answers can be included in the newsletters.

Theme-days at the pharmacy will also be part of the project. These will deal with topics relevant to the time of year or general news.

Results and conclusion

The results and the conclusion of the study will be presented.

CPS-P-008

NETFARMACIA. PHARMACEUTICAL COMMUNICATIONS NETWORK

P.C. Capilla, C. Peña, M. Fuentes, J. Herradón, J. Carbonell, I. Linaza, L. Amaro,
General Spanish Council of pharmacists,
Spain

The General Spanish Council of Pharmacists started up in 2004 the project Pharmaceutical corporate intranet with the fundamental objective of evolving, renewing and consolidating the Integral Network project of the Organisation of Pharmaceutical Associations. Since then, the General Spanish Council of Pharmacists have been working in the development of a safe net and new services. It will be a safe communications channel which will permit: Improvements in safety, reliability, speed and flows of information between the General Council, the Autonomous Councils, the Pharmacists Associations and Association Members. Integration of other branches of the pharmaceutical sector: industry, distribution, Administration. Centralisation and sharing of information and services with the aim of strengthening professional activity with the minimization of efforts and costs.

METHODS. Security and privacy.

Uses securitisation technology, certificates, digital signature.

Broadband network. (Availability of accesses)

Multiservice network.

Supports new services: group work, videoconference, e learning, instantaneous messaging, etc.

Network designed to measure.

Using the resources existing in each Pharmacists Association, pharmacy, etc., according to its interconnection needs.

CONTENTS AND SERVICES

Module for electronic dispensing of prescriptions at the national level

Prescriptions dispensing circuit with the participation of the agents involved.

centralised database of association members.

Pharmaceutical computing platform.

Integration and centralisation of Pharmaceutical Care data.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-009

STRATEGIC PLAN FOR THE DEVELOPMENT OF PHARMACEUTICAL CARE. PRACTICAL ACTIONS 02-06

P.C. Capilla, C. Peña, J. Herradón, J. Carbonell, M. Fuentes, I. Linaza, L. Amaro,
General Spanish Council of pharmacists,
Spain

This is a global project consisting of a set of actions directed towards facilitating the implementation of Pharmaceutical Care among pharmacists via the Official Associations of Pharmacists of different cities and in coordination with the General Council. The patient is the focus of action of the pharmacist who collaborates with the doctor.

Method

The project uses Bot Plus which is a database containing a wide range of health information and developed for assisting the pharmacist.

Results

In Phase One, during the period 2003-03, 3,000 pharmacists participants.

In Phase Two carried out in the period 2004-05, known as the Support Plan for Official Associations of Pharmacists of different cities. Actions developed:

1. Active Dispensing of Estatin
2. Pharmaceutical Indication in Tobacco Withdrawal - 2005
3. Pharmaceutical Indication in the Common Cold - 2005
4. Pharmacotherapeutic monitoring in diabetic patients - 2005

Pharmacists participating in these Actions and who sit an exam receive an official accreditation by the Continuing Education Committee of the Interterritorial Health Council. Quality reference, official recognition from the administration and common consideration in the entire State Territory.

Conclusions

The number of pharmacists participating: 4,300 all over the country. Results:

- There are 72% of the total dispensations, it is the patient who requests the dispensation of Estatin.
- there are 80% who say they know what Estatin is for.
- there are 78% who know how to use Estatin.

CPS-P-011

RURAL PHARMACY PROJECT (AKA) 'GENUINE MEDICINES RIGHTS'

W.O. Eubiebi¹, W.O. Eubiebi², F.O. Nwogalanya³

¹Assoc. of comm. pharm. of Nigeria., ²WETSON Pharmacy LTD., ³STAZEL PHARMACY LTD.,
Nigeria

Introduction: Nigerian pharmacy laws allows non-Pharmacists to sell medicines.

Although they are licensed to sell only non-prescription medicines, they sell prescription medicines because of poor supervision. Genuine medicines and quality pharmaceutical care is not available to rural populace.

The AIMS of the project are therefore are:

1. To make genuine medicines available to the rural people.
2. To encourage pharmacists to become financially independent by assisting them with an interest-free loan.
3. To provide other services such as information on immunization and other health matters.

METHOD: Appeal was made to the Local Government Authorities to provide and equip the premises. The Association of community Pharmacists of Nigeria then gave an interest-free loan to selected pharmacists to start the rural Pharmacies.

In the early part of 2005, Six such rural pharmacies were started as pilot states.

RESULTS: The pharmacies have started and it is too early for results and any empirical conclusions. However, we are hopeful that the project will succeed, so that the second phase which will involve other collaborators such as NGOs and other government agencies, will lead to the provision of genuine medicines and quality pharmaceutical care to the rural populace.

CPS-P-010

ANTIBIOTICS IN THE ENVIRONMENT; A STUDY IN A MULTICULTURAL AREA IN STOCKHOLM, SWEDEN

F.S. Salih, A.J. Jallow,
Apoteket AB,
Sweden

Introduction: The use of antibiotic mixture for infants is accustomed in Sweden. The mixture is prepared at the Pharmacy just before dispensing and the amount prepared usually exceeds what is required for the treatment period. Like all medication, unused or remaining mixture should be returned to the Pharmacy for appropriate destruction.

It was observed at two Pharmacies, which serve a population of about 40 thousand originating from not less than 100 countries, that unused antibiotic mixtures is not returned accordingly for disposal. When asked, the customers answered that the remaining mixture is disposed directly in sinks or the floor.

Objectives: The main objective was to find out the types and extent of antibiotics disposed directly into the environment and to study the acute and long term effects of different antibiotics on the environment. We also aimed to develop intervention strategies to avoid direct disposition of antibiotic mixture into the environment.

Methods: The study will be carried out in March throughout the summer of 2005 when the allergy- and infection period are at peak in Sweden. Pharmacist will assist customers to fill in a questionnaire developed for the purpose each time an antibiotic mixture is dispensed. All customers will be offered special plastic bags and information about disposal of the remaining medication in different languages. Literature search will be performed to study the effects of different antibiotics on the environment.

Results: Because the project is ongoing, the final results will be available at the FIP of 2005 in Cairo.

CPS-P-012

PROMOTING THE RELEASE OF PRESCRIPTIONS FOR CHRONIC DISEASE TO COMMUNITY PHARMACY AT TAIPEI

F.H. Chen, L.J. Lin, C.M. Wang, J.M. Lien, S. Wu,
Taipei Pharmacist Association,
China Taiwan

Aims: Promoting the release of prescriptions for chronic disease (CDP) to community pharmacies (CPs) was the program to follow the second step of Taiwan Pharmaceutical Affairs Administration policy to decrease medication errors and enhance patient safety.

Methods: (1) Taipei Municipal Health Bureau encouraged Taipei Municipal Hospital (TMH) to release chronic-disease-prescription to CPs on Jan. 1, 2004. (2) Taipei Pharmacist Association (TPA) supported this project and prepared all details. (3) TPA visited all CPs and called for training and meeting. (4) The CDP of TMH began to release to CPs in Aug. 2004. (5) The CPs not only dispensed but also provided pharmaceutical care along with delivering CDP to each mild and weak patient's home to improve patient safety. (6) Once upon the time, the CDP release-rate grew up to 30%, it will help promote the separation of prescription from dispensing prevalently in all Taiwan area.

Results: The CDP release-rate of TMH grew up to 57.14% (18,210 prescriptions/mos released) in Dec. 2004 (18.5% in Mar. 2,854 prescriptions/mos released) and significantly increased 36.7%. It was an exciting encouragement.

Conclusions: The separation of prescription from dispensing have launched for 8 years in Taiwan, but the rate of dispensing prescription at CPs was low. Through the cooperation of TMH and TPA will increase the CDP release-rate. It will help further promoting the policy in Taiwan. Over 70-80% of Taipei citizens were satisfied with our promoting program, thus hasten the separation of prescription from dispensing in Taiwan.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-013

ACTIVITIES AND PERCEPTIONS OF COMMUNITY PHARMACISTS

PROVIDING TOBACCO CONTROL IN THAILAND

C. Thananithisak, P. Nimpitakpong, N. Chalyakunapruak, Naresuan University, Thailand

Aims: To understand the community pharmacists' involvement in tobacco control and their perceptions of new role and barriers.

Methods: Two groups of early adopters were identified as (1) thirteen community pharmacists who participated in the first smoking cessation training and (2) forty-two community pharmacists identified through mail questionnaire as providing any activities related to tobacco control. Data from the questionnaires were analyzed descriptively, while content analysis was performed with the data collected from telephone interview with the 13 pharmacists.

Results: Out of 42 pharmacists, 81% provided educational materials and 71.4% provided smoking cessation with non-drug counseling. Only 7% reported having community involvement. Even though the perceived roles in tobacco control of these pharmacists were high, they also reported several barriers. The barriers being perceived as high included unavailable educational materials, lack of smoker demand and lack of knowledge and skills. Low rate of patient completed the follow-up and unavailable pharmaceutical products were perceived as probable barriers. On the other hand, lack of time and lack of reimbursement were perceived as less important. The content analysis confirmed these findings.

Conclusions: The activities related to tobacco control of this group of early adopters were mainly performed only in their drugstores. The results confirmed what we have known about the characteristics of the early adopters as being driven by professional role and less concerns with resources such as money and time spent in adopting the new roles.

CPS-P-014

CONCORDANCE - A METHOD TO IMPROVE DRUG USE,

S.G. Petersson
ABLA,
Sweden

The effectiveness of medicine therapy is closely related to patients adherence. Patient adherence is low (1), in long-term treatment often below 50% and under-use of medicines seem to be more common than over-use.

The concept of concordance (2) to improve drug treatment appears to be promising. Concordance is a relationship between health care providers (doctors, nurses and pharmacists) and patients that recognises both the professionals' and the patients' health beliefs, keeping misunderstandings at a minimum.

A three year long national programme has set three goals, common for doctors, nurses and pharmacists presented below, to reach concordance.

-See the patient as a partner. The patient should actively participate in the treatment.

-When prescribing or monitoring drug treatment, ask about the patient's experience from and attitude to the disease and its treatment.

-The professions as partners. Develop a mutual understanding of each other's functions, collaborate and use each other's competence to improve the patients' active participation in the treatment.

Pharmacists have an important role both in motivating the patient for treatment and in the follow up and support off the treatment.

Local programs focusing on concordance are presently under way and late in 2005 the effect on adherence will be evaluated on a national level.

References:

1. McGeev H. A review of the literature on drug adherence. Report. The Royal Pharmaceutical Society of Great Britain, London 1996.
2. Marinker M, Shaw J. Not to be taken as directed. *Br Med J* 326:2003:348-9

CPS-P-015

INTRODUCING NEW SERVICE IN THE BELGRADE COMMUNITY PHARMACIES

V. Kocic Pesic, S. Stojanovic,
Pharmacy Institution Belgrade,
Serbia and Montenegro

The aim is to present the way of new service development, introduction and assessment in the community pharmacies of Pharmacy Institution 'Belgrade'.

Introduction: Strategic goal of pharmacy practice must be improving the quality of service and customer satisfaction which finally has the aim in improving health of population.

Method: Basic approach in achieving this goal is applying integrated management systems - GPP and ISO 9001:2000 standards. Quality of service is cohesion of pharmacist's practice and performance of technical component of service which all together should satisfy patient's needs.

It is possible and necessary to implement activities such as: promotion of health and prevention of ill-health, monitoring of drug treatment, patient's education.

Development of new service has several phases: generating ideas, general specification, feasibility study, pilot project, detailed design, testing.

Before implementation in the practice there should be established fully detailed operational plan: forming competent team for service design, choosing pharmacies and staff to be involved, education of staff, pilot project, corrective steps, final implementation.

A worked number of pharmacies, success assessment.

Results: Results will be presented on the set example of introducing new service - Counseling on obesity in the community pharmacy. Included parameters are patient's satisfaction with quality of service, general medical parameters.

Conclusion: New philosophy of pharmacy practice towards promotion of health and prevention of ill-health as well as management of new service is the challenge for creation of modern, society-useful and profitable pharmacy.

CPS-P-016

STUDY ON THE INTERACTIONS ENCOUNTERED IN PRESCRIPTIONS COMMONLY WRITTEN IN CLINICAL PRACTICE

N.A. Sabri¹, D.A.A. Mostafa²,

¹Faculty of Pharmacy, Ain Shams University, ²Faculty of Pharmacy, MIU, Egypt

Detection of drug interactions (DI) and contraindications for diseases in more than 500 prescriptions (Rx) collected from insurance health hospitals, students hospital of Cairo University and private clinics through a period of 12 months Rx were classified into 11 groups according to the number of drugs present in each Rx and into 14 according to the patients/diseases.

Demarcation of the significance, score, onset and effect of DI was done where a number from 1 to 5 was assigned to each DI monograph based on the editorial groups assessment of DI severity and documentation with discussion of type and mechanism of DI. The % severity level of DI detected in Rx, classified according to number of drugs were 10.50% (major), 47.36% (moderate) drugs and 42.14% (minor), 65.27% of which were pharmacokinetic (PK) while 34.73% were pharmacodynamic (PD). DI% existed in Rx of diabetes (20%), respiratory tract infections (18%), endocrine glands disorders (20%), liver diseases (20%), neurological disorders (23%), cardiovascular (41%), disorders (23%), GIT (13%) and osteoarthritis (13%). Severity level % of DI in these cases was 14.17% (major), 53.33% (moderate), 32.5% (minor), 61.67% of these DI were PD and 38.33% PK. Examples of detected DI, possible increase in the hypoglycemic effect of sulpharylurea prescribed with gemfibrozil, enhancement of anticoagulant activity administered with aspirin and possibility of hemorrhage. Results of this study implies the importance of presence of computerized systems for checking Rx in hospital and community pharmacies with encouraging services provided by community pharmacist's interventions to prevent drug-related problems by detecting DI in Rx before their administration by the patients.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-017

THE ANALYSIS OF USE AND ADVERSE DRUG REACTIONS OF NONSTEROIDAL ANTI-INFLAMMATORY DRUGS

A. Orozovic, M. Toskic-Radojicic,
Military Medical Academy,
Serbia and Montenegro

Introduction: The pilot study was based on the questionnaire in order to get data about the use of non-steroidal anti-inflammatory drugs (NSAID) and their adverse reactions.

Material and methods: In our group of 150 patients from the Polyclinic Pharmacy, Military Medical Academy, Belgrade, according to the questionnaire we made a survey about the use and adverse drug reactions of NSAID (the period of the research was from June to September 2004). The data were processed by using the commercial statistical software applicable on the PC (for Windows, R.4.5, Stat Soft, Inc., USA, 1993).

Results: 95,6 % patients suffer from some kind of rheumatic diseases, 64,4 % suffer from such diseases for more than 5 years. The average age of the patients was 70 years. The number of female was doubled in comparison to the male. The most frequent adverse reactions were nausea (33,3 %) and pain in the stomach (22,2 %). The majority of patients (64,4 %) use drugs for lessening the gastric disorders, most often metformin (31,1 %).

Conclusion: The results showed that selective COX2 inhibitors were not significantly present in the therapy. If the patients do not complete the questionnaire with the help of the competent interviewer, the number of valid answers does not go over 30 %. The analyses of a small number of questionnaires do not provide statistically significant responses about the frequency and the severity of adverse drug reactions.

Keywords: non-steroidal anti-inflammatory drugs, adverse drug reactions, drug interactions, questionnaire

CPS-P-018

EFFECT OF THE VITAMIN SUPPLEMENT DRINKS ON WORK PERFORMANCE - A DOUBLE-BLIND, RANDOMIZED CLINICAL TRIAL ON HEALTHY VOLUNTEERS

M.I. Isawa¹, I.H. Noh¹, E. Nakashima¹, H. Shimada²,
¹Kyoritsu University of Pharmacy, ²Shimada Clinic,
Japan

Purpose: In Japan, the sale of the vitamin supplement drinks obtaining a refreshing effect and greater energy is increasing, but their efficacy has not been examined in clinical trials. The purpose of this research was to clarify the effect of three types of the supplements on work performance in a double-blind, randomized clinical trial in health volunteers.

Methods: We used three vitamin supplement drinks: type 1 comprised vitamins, taurine, caffeine and alcohol, type 2 also contained several amino acids, and type 3 also contained several botanical herbs. Twelve healthy volunteers given these vitamin supplement drinks described the effects on a subjective scale in a self-report questionnaire followed by an interview with a medical doctor. As an objective measure, work performance was examined using the Uchida-Kraepelin mental work test and WAIS-R (Japanese Wechsler Adult Intelligence Scale-Revised) test.

Results and Conclusion: The self-reported questionnaire indicated significant improvements in prevention of sleepiness and lack of energy. In both the Uchida-Kraepelin mental test and WAIS-R test, the mean amount of work was increased by the administration of the drinks, but without statistical significance. In conclusion, the efficacy of the vitamin supplement drinks seems to be primarily subjective.

CPS-P-019

ACETYSALICYLIC ACID - ACETAMINOPHEN EVALUATION OF DRUG SAFETY

V. Lovrek¹, M. Medic-Saric², B. Zorc², A. Smolic-Bubalo²,
¹Medika d.d., ²Faculty of Pharmacy and Bioch., ³PhytoPharma,
Croatia

Acetylsalicylic acid and acetaminophen are effective analgesics frequently prescribed or purchased over the counter. While they are most commonly used to treat mild to moderate pain, they can also be used in some forms of severe chronic pain. Acetaminophen has little anti-inflammatory activity. Their safety is well established when they are used according to manufacturers' instructions.

The aim of this study was to investigate pharmacists' role in evaluation of drug safety for acetylsalicylic acid and acetaminophen and to search out what amount of these drugs are used in Croatia.

An analysis of the medicine consumption 2000 to 2004 in Croatia has been presented. Consumption was compared using the methodology of DDD and on the financial basis of wholesale patterns. The comparison was made by proprietary names, INNs and by rank and proportions.

The lectures about useful and toxic effects of acetylsalicylic acid and acetaminophen were observed throughout of Croatia. The lectures were attended extremely well.

The results showed experiences from Croatia. Over 80% of pharmacists know that the acetylsalicylic acid should not be prescribed for children under the age of twelve years due to its association with Reye's syndrome. Acetaminophen is the choice in pregnancy and for children under the age of twelve years, but exclusively in prescribed dose. In case of prolonged use or excessive dosage, damage to liver or kidneys cannot be excluded. The sale of acetaminophen is not limited in Croatia, but recommendation in some states of West Europe is to sell acetaminophen in packs of 10-12 tablets.

CPS-P-020

CAMPAIGN FOR PREVENTION OF MEDICATION ERRORS CAUSED BY PHONETIC OR SPELLING SIMILARITY IN THE NAMES OF MEDICINES

P.C. Capilla, R. Abad, L. Amaro, P. De Aencos, M. Arteta, A. Barrio, P. Bui, J. Carbonell, M. Fuentes, J. Herradón, T. Hidalgo, E. Jiménez, I. Linza, P. Lopez, M. Matero
General Spanish Council of pharmacists,
Spain

In 2005, the General Spanish Council of Pharmacists, via its National Memberships of Hospital Pharmacy and Community Pharmacy and with the collaboration of the ISMP-Spain, started up the campaign for prevention of medication errors caused by similarity in the names of medicines.

OBJECTIVE

To promote and develop strategies and recommendations aimed at preventing medication errors and reducing adverse occurrences caused by medicines.

MATERIAL AND METHODS

The General Council drew up some notification forms intended for the reporting of errors detected by pharmacists working in community pharmacies or by hospital pharmacists.

RESULTS

The Working Group of the General Council assessed the real errors and established a risk index following their own methodology, selecting pairs of names with greatest risk.

ANALYSIS AND EVALUATION

The total number of notifications: 1013, 937 valid ones were obtained.

CONCLUSIONS

The total number of notifications received demonstrates the interest that this campaign has aroused among pharmaceutical professionals.

The similarity of the names of some medicines registered in our country can lead to medication errors. The availability of a national database with pairs of similar names of medicines, resulting from this campaign, is the first step towards establishing prevention measures.

74,6% of real errors notified were detected by the intervention of the pharmacist before reaching the patient.

The positive predisposition of pharmacists reveals their involvement in campaigns for health promotion and the prevention of illness.

CPS-P-021

INTERNATIONAL COMPARISON OF THE PHARMACIST EDUCATION-SYSTEM IN PHARMACY SCHOOLS REGARDING THE USE OF NON-PRESCRIPTION DRUGS AND SELF-CARE

E. Nakashima¹, M.I. Minae¹, N. Kose¹, T. Mariko¹, O. Michitaka¹, M. Hammarlund-Udenaes², Y. Kang³, Y.S. Yoshimichi/Sai¹,
¹Kyoritsu University of Pharmacy, Japan ²Uppsala University, Sweden
³Sookmyung Women's University, South-Korea

Aims: Many people now take an active role in their own health care. Numerous factors have contributed to the growing self-care movement in Japan. Non-prescription drug therapy is an essential component of self-care, and the proper use of non-prescription drugs is one of the most important missions of the pharmacist. However, at present, there is little education and research regarding the proper use of non-prescription drugs in pharmacy schools in Japan. In order to develop a curriculum, we compared the education-systems in pharmacy schools in different countries.

Methods: We obtained information about the syllabus from the home page of each university. Detailed information was obtained from our sister universities in foreign countries.

Results and conclusions: In some countries, they use a textbook of more than 1300 pages. In addition to the lectures on prescription drugs, there are patient assessments and consultations for patients seeking relief at the local pharmacy. The content of such material involved the type of medication, symptoms treated, possible side effects, interactions between non-prescription and prescription medications. It is important for pharmacists to have a suitable training to allow them to recognize conditions that are self-treatable with non-prescription drugs, to assess patient needs, and to advise and counsel patients regarding self-care. The new curriculum was implemented for 2-year students, and its intelligibility and user-satisfaction were assessed.

CPS-P-022

IT SKILLS MAPPING OF PHARMACY PROFESSIONAL DEVELOPMENT STUDENTS (PD) IN FINLAND

K.M. Vihavainen¹, M.T. Närhi¹, U.M. Henell²,
¹Pieksämäki 1. Pharmacy, ²Lahti 7. Pharmacy,
 Finland

The further networking of the healthcare profession as well as the development of a technology has created a demand for information technology training in the pharmacy line of work. In recent years pharmacies have added the internet, a pharmacy network and a work training program utilizing information technology. Medical databases: useful tools in regular pharmacy work. Nowadays an experimental electronic dispensation program is already in use. This will most likely spread to all pharmacies in health centres in the near future. The purpose of this study was to find out what kind of IT skills pharmacists have and how they have got these skills. The research method was an internet survey for pharmacy professional development students (PD). There were responses which meant a response rate of 56%. Of the respondents about 65 % said they had moderate information technology skills and about one quarter said they had good skills in the area. The respondents had the best knowledge in the area of word processing. Spreadsheets, images and presentation software were also quite well handled by the respondents. Information technology skills were mostly self-taught along with help of books. The respondents said they required further training in various different areas. Over half of the respondents said they need training in accounting programs. Almost half would like further training and knowledge of web design, data manipulation and presentation graphics, network security, spreadsheets as well as database and statistical programs. One in every four would also like more training in programs used in the pharmacy field of work.

CPS-P-023

HEALTH CAMPAIGN IN DERMOPHARMACY: 'HEALTHY MOUTH, HAPPY CHILDREN'

P. Capilla¹, A. Aliaga¹, D. Fernandez²,

¹Consejo General de Farmacéuticos, Spain ²University of Malta, Malta

INTRODUCTION

The General Council of Official Associations of Pharmacists, via the Dermopharmacy Committee and with the collaboration of Laboratorios PHB, Oraldine Junior and Sanitas, is introducing a campaign of education by the pharmacist called 'Healthy mouth, happy children', which has the acknowledgement of the Ministry of Health and Consumption as being of health interest.

This campaign aims to educate children on the need for adequate oral hygiene for preventing future problems in adulthood.

Pharmacists will be going to schools and teaching children the correct rules of oral hygiene in order to prevent pathologies associated with its absence: caries and periodontal diseases.

MATERIAL AND METHODS

Specific material has been designed with the participation of 2000 pharmacists and 150,000 children aged between 6 and 12:

- Poster to help spread the campaign
- Pharmacist's guide, including teaching contents on the subject of oral health
- Video with the basic concepts which the pharmacist will use in his/her presentation.
- Activities notebooks with educational cards and games on oral hygiene
- Leaflet aimed at families so that parents can participate in introducing correct hygienic-dietary habits

RESULTS

The campaign is going to be evaluated by means of surveys conducted to children before and after the educational work of the pharmacists.

CONCLUSIONS

- The aim of this campaign is to:
- Make children aware of the need for correct oral hygiene.
- Acknowledge the social work of the pharmacist.
- Assess the involvement of the pharmacist as a promoter of health.

CPS-P-024

THE BURDEN ON CANADIAN PHARMACISTS FROM DRUG SHORTAGES

W.A. Meek¹, J. Poston², K. Woodend², K. Weir²,

¹Dutch Village Pharmacy Ltd., ²Canadian Pharmacists Ass'n,
 Canada

Aim: This study examined the extent of drug shortages at the community pharmacy level and the implications of shortages for Canadian pharmacists and their patients.

Method: Surveys and tracking sheets were faxed to 1000 Canadian community pharmacists stratified by province and region.

Results: Two hundred and eighteen (21.8%) and 155 (15.5%) pharmacists completed survey and tracking sheet respectively. Sixty-three percent of respondents experience drug shortages during a shift and 80% experienced shortages over a one-week period. Pharmacists in the east and mid-west regions of Canada were more likely to report if shortages were more frequent than 12 months before.

Five drugs produced by three different manufacturers were repeatedly reported as being in short supply. Drugs in short supply did not differ by region, location, or purchase source. Pharmacists reported spending an average of 18 minutes per work day dealing with drug shortages. Time was spent contacting physicians and counselling the patient on the substitute drug. Shortages were attributed to manufacturing problems, cross border drug trade, and raw material shortages. Seventy percent of respondents receive no notice when a drug was in short supply.

Conclusions: Pharmacists appear to be experiencing regular drug shortages and they believe shortages have increased over the past year. Shortages increase pharmacist workloads, delay or discontinue a patient's treatment, cause repeat visits to pharmacy, and affect patient care. Governments need to take responsibility: monitoring the functioning of the pharmaceutical supply chain to ensure that shortages do not become a major problem.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-025

E-LEARNING AS AN IN-HOUSE COMPETENCE DEVELOPMENT TOOL, WITHIN A LARGE PHARMACEUTICAL ORGANISATION.

P. Wästedt sandin
Apoteket AB,
Sweden

Apoteket AB is the sole retailer of all pharmaceutical products in Sweden. The huge geographic area requires a lot of outlets and a big number of employees, which creates an environment where e-learning, are a natural complement to the traditional education.

E-learning is defined as electronic learning with web or CD based courses and the advantages are availability, individuality and cost effectiveness.

In a broader perspective e-learning can be seen as different kind of IT systems supporting individual learning and competence development. Interactive tests, group discussions, individual searching on the web and virtual training with simulations of different customer cases, plays an important role in the aim of developing individuals to better understand customer needs.

There are many standard tools at disposition within our organisation for the development.

These tools, as well as internal photo- and picture collections, different publishing tools and the intranet, makes it possible to in a cost effective way, produce and design educations for areas like economy, pharmacy, quality, environmental work and sustainable development.

To continuously develop competencies and improve the level of knowledge within the organisation is one of the strategically most important tasks, in order to meet constantly increasing economical demands and market conditions.

CPS-P-026

'HEALTH SQUARE' AT THE PHARMACY - SUCCESSFUL TO REACH THE POPULATION WITH HEALTH INFORMATION

L.L.M. Stencke
Apoteket AB,
Sweden

Aims: The Health Square at the pharmacy in Lidköping was created by the Primary Healthcare, the Health Promotion Council and the Pharmacy to reach the population with information about health, self medication and life style counsel.

Methods: All with health promoting interest were invited. The pharmacy personnel, a district-nurse, as well as all type of professional staff from public and private cares and volunteers from clubs, associations and other organisations met the people at the square and gave information about health. Other activities were a health library, self testing blood pressure, fat-% and weight, selling exercise promotional equipment, a relax area, notice-board for health activities, physical activity prescriptions, health profile estimation and life style counsel, evening lectures, health information computer, exhibitions etc.

Results: Inquiries were sent to 1500 randomly chosen inhabitants at 3 times, before the start and after 1 and 2 years of activities. 30% of the population has got information about the Health Square and 40% have been using it. 40 to 50 different organisations and professionals have been acting at the square each year. It has affected about 10% of the population to change life style, either diet, weight, physical or social activities. Almost 10% of the population claims that their physical and psychological health is better after 2 years of activities. The number of people using self medication instead of seeking for care at the medical care has been doubled.

Conclusions: The pharmacy is a suitable meeting point, where the whole society can gather to reach and affect the inhabitants with valuable health information.

CPS-P-027

NEW CURRICULUM AND THE ROLE OF PHARMACISTS: PRIMARY CARE AND PHARMACISTS

K. Kusuhira
Showa Pharmaceutical university,
Japan

We herein report on a new curriculum with regard to primary care and pharmacists.

Pharmaceutical education in Japan, which spans more than a century, will dramatically change from 2006 with the aim of training reliable pharmacists and high quality pharmaceutical researchers. The features of this educational reform will include the following: The period of education will change from four years to six years; 2) a humanistic approach will be adopted; 3) there will be a focus on the interconnectedness of subjects, and; 4) six months of pharmacy practice will be required.

Due to the rapid aging of the population, the medical supply system in Japan has been reviewed and medical functions have become more diversified. For this reason, the work of pharmacists in hospitals is now directed at inpatients, while the work of pharmacists in pharmacies is now directed at outpatients, patients consulting at home, and drug sales.

There has thus become a requirement for pharmacists to help people in the community be free from anxiety when using medication, and also promote the health of people beginning with disease prevention.

CPS-P-028

QUALITY MANAGEMENT IN FINNISH COMMUNITY PHARMACIES - CASE LEPPAVAARA PHARMACY

R. Salo¹, L. Nummela¹, J. Kaase²,
¹Leppävaara Pharmacy, ²Ass. of Finnish Pharmacies,
Finland

The Association of Finnish Pharmacies (AFP) offers three quality management tools tailored for use in pharmacies. The use of these tools in Finnish Pharmacies, especially in Leppävaara Pharmacy, is discussed in this poster.

Customers are nowadays more conscious of their health and medication and need more information. The quality of service and information must be similar regardless of the person in charge.

The three tools offered by the AFP are:

1. Quality management handbook 'Läsnä palkitse'

This handbook can be used as an introduction into quality management but it is also useful in pharmacies which are more experienced in quality management.

2. Training program 'The Pharmacy's Steps of Quality'

Designed for helping pharmacies with the implementation of the EFQM Excellence Model. Over 100 community pharmacies have completed the training program and most of them are using the model to some extent.

3. Handbook 'The ISO 9001:2000 Standard in the Pharmacy'

So far eight community pharmacies have received the ISO 9001:2000 certificate. The handbook can be used when building a quality management system for a pharmacy or when applying for a certificate for an existing system.

Systematic quality management has brought knowledge about the pharmacy's processes, a common way of working, a way to evaluate and improve the way of working. It has also brought even more satisfied customers. The whole staff is very proud of achieving the ISO-certificate.

In Leppävaara pharmacy continuous quality management is now an integral part of everyday work. The possibility of applying for the National Quality Award will be discussed.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-029

PHARMACEUTICAL ADVICE TO DANISH SENIOR CITIZENS' HOMES

A.H. Helbo
Danish Assoc. of Bachelors of Pharmacy,
Denmark

Introduction

Several Danish pharmacies have developed a business model based on giving pharmaceutical advice to Danish senior citizens' homes. Directly targeting the staff at senior citizens' homes, the pharmacies can increase awareness of multiple topics including:

- General pharmacology
- Quality management of drug handling
- Development of control systems to assure that the correct drugs are given
- Dose dispensing

Objectives

- To obtain a status of clinical pharmacy used at Danish senior citizens' homes
- To understand what kind of advice there is a need for at Danish senior citizens' homes
- To evaluate the market size for this kind of advice
- To find out which competences are needed to enable optimal advice giving

Method

Data's gathered through formal, structured anonymous telephone interviews with senior citizens' homes directors at 15 Danish senior citizens' homes. Fifteen homes representing 2,3 percent of all Danish senior citizens' homes (there are approx. 663) are being sampled. The participating directors are randomly chosen and the questionnaire has already been tested in three pilot interviews.

Results

The study will take place in the spring of 2005.

CPS-P-030

NON - VERBAL COMMUNICATION II

J.W. Wagner¹, B. Andersen²,
¹Stevens Pharmacy, ²Bertie Andersen,
Denmark

ABSTRACT.

History:

Last year poster presentation at the IIP Congress, was an early start of this project. This year we have completed our project and today it is available in every pharmacy in Denmark.

The project was financed by the Pharmacist Foundation of 1991.

The Danish Pharmacist Association hold the copyright.

Introduction:

We have developed a program, to serve a particular group of customers, who are not able to speak or understand Danish or English, e.g. tourist, refugees, speechless or illiterate.

To use the program you need a computer connected to internet or cd-rom.

Methods:

A computerized two part communication system, based on pictures instead of a written text.

Part one - identification of symptoms. The customer select from more than 100 drawings/pictures/photos to identify their symptoms.

Part two - the customer receives the information, how to handle the medication, in pictograms (instead of a written text). The system contains more than 18 different pharmaceutical forms.

We are going to bring our laptop, to present a systematic overview of the system and show examples of how to identify symptoms and give information.

Results:

- Better communication
- Faster identification
- Understandable information
- all this leads to a better compliance.

Conclusion:

Information for All - a Human Right.

CPS-P-031

COMPARING PRACTICE ENVIRONMENT OF COMMUNITY PHARMACISTS IN TAIWAN TO USA - IMPLICATIONS TO ENHANCE PROFESSIONALISM

C.E. Chen¹, H.L. Lee², L. Huang², A.W.F. Ou³,

¹Tai-Lin Pharmacy, ²Taipei County Rph Association, ³TSHP,
China Taiwan

Aims: The goals of this study were 1) to understand the root causes of the still disappointing results after 10 year of separating dispensing and prescribing, 2) to compare the significant different aspects in practice environment for community pharmacists between in Taiwan and in the US; 3) to identify the key factors which led to the differences; and 4) to construct valid recommendation to improve the practice environment as well to enhance professionalism for the community pharmacists in Taiwan.

Method: Utilizing authors' personal experiences as a community pharmacist in both the US and Taiwan for the past 10 years, collected information and documents in the 4 aspects of societal professional role of pharmacist, law & regulations, curriculum in the pharmacy schools and reimbursement measures on dispensing fee and drugs; were reviewed and analyzed.

Result: Three factors were identified as the key differences for the community pharmacists: 1) the Law does not restrict the pharmacy ownership by a prescriber, 2) the availability of the prescription under N.H.L. reimbursement measures, 3) pharmacy schools do not offer sufficient hours in clinical knowledge and internship training in the community pharmacy. Documentation of the recommendations was presented to Pharmacist Associations and various Education Conferences for the last 6 months.

Discussion: Professionalism and societal image of the US pharmacists have been the goals for pharmacists in Taiwan to pursuit. Leaders from Associations and the pharmacy schools shall make efforts to revise Law, redefine drug reimbursement measures, and reform the curriculum at the Schools to enhance practice environment in Taiwan.

CPS-P-032

THE NEW ROLE OF PHARMACIST IN PATIENT EMPOWERMENT IN CROATIA

J. Blekic¹, Lj. Majstorovic², M. Brns³, M. Ladavac⁴, M. Jukic⁵,

¹Ljekarna Blekic, ²Ljekarna Osijek, ³Center for Patients' Rights, ⁴Ljekarna Pazin, ⁵Ljekarna Split,
Croatia

The role of pharmacist in Croatia has been changing to a great degree over the past several years, which is caused by comprehensive changes of a country in transition. In health care, Croatia is starting to change from a paternalistic to a partnership-based model, which is a long and complex process. Last year the Parliament passed the Patients' Rights Act that contributes directly to Patient Empowerment. Furthermore, the Pharmacy Act was passed on 29 July 2004, which directly involves pharmacists in Patient Empowerment through pharmaceutical care.

In contrast to these tendencies, the latest 2005 Regulation on Health-Care Contracting introduces the right and duty of prescribing generic substitution drugs for GPs exclusively. As a consequence, neither patients nor pharmacists can participate in decision-making, which can result in a situation where patients do not receive information on side effects of a generic drug. The survey regarding this provision that was conducted among patients and pharmacists indicates that the Regulation should be changed urgently to better suit the needs of patients and pharmacists.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-033

THE QUALITY IMPROVEMENT PLAN FOR COMMUNITY PHARMACIES ESTABLISHING COMPUTERIZED DISPENSING SYSTEM: FROM ONE PHARMACY POINT EXPANDING TO LINES THEN ENTIRE AREA IN TAIWAN

C.E. Chen¹, H.L. Lee², K.P. Chen², Y.H. Lee³,
¹Tai-Lin Pharmacy, ²Taipei County Rph Association,
China Taiwan

Aims: The project was funded by the Bureau of Pharmaceutical Affairs, Department of Health, as a research grant. The goals were to identify means to create the computerized dispensing system in the community pharmacies and to provide specific training programs on dispensing and refilling prescriptions for chronic diseases to community pharmacists.

Method: Taipei County was selected as the designated area to implement the plan. Our approach was to focus on developing one model computerized dispensing system at one pharmacy, and then use this experience to train other pharmacists to join our line [seed pharmacies]. When the line pharmacists after training are fully equipped to dispense their prescriptions at local community pharmacies, then the entire area pharmacists in the local community can be enrolled into the program afterwards. Meanwhile, the prescription refills can be filled at the line [seed pharmacy] then up to entire area in stead of current at only the original hospital.

Result: 25 seed pharmacies were selected to participate in the quality improvement plan for one year. The total numbers of prescription received by our team (25 pharmacies) were shown to increase from 8900/month to 14000/month on 2004. Also the numbers of refills at our community pharmacies instead of the original hospital were shown to increase 5 times. The dignity of the participating community pharmacists were shown to arise due to the patient medication consultation function performed.

Discussion: 25 pharmacies are not enough to serve the whole Taipei County. Our concept needs to spread to more pharmacies and the dispensing process SOP also needs to be set up.

CPS-P-034

EFFECT OF PHARMACIST INTERVENTION IN OLD AGE HOMES IN CHENNAI (INDIA) ON PATIENT COMPLIANCE

M. Nappinnai, A. Shantha,
C.I. Baid Metha college of pharmacy,
India

Committed pharmacists self sponsored, undertook a study on the effect of intervention by pharmacist in old age homes in the medication administration to the inmates. Prior to the study based on a questionnaire analysed the percentage of compliance which was low at 25 % only. On active intervention by motivation, counselling, helping in identification by packing in coloured paper packs, introducing the concept of medication records, the study period was of a duration of about 6 months. 10% of patients monitored, expired during the evaluation time. But the result was analysed by surveying the result of intervention study by questionnaire method after six months from the starting of intervention. Statistical analysis of the result showed significant difference in patient compliance (50 %). The patient's co-operation was essential. Study proved the importance of pharmacist in the little explored area of old age retirement homes.

CPS-P-035

IMPACT OF PHARMACEUTICAL CARE ON ASTHMA PATIENTS IN COMMUNITY PHARMACY

Y.S. Lee, Y.H. Tam,
National defence medical center,
China Taiwan

Purpose: The purpose of the study is to investigate the value of pharmaceutical care on community asthmatic patients provided by community pharmacists.

Methods: Three pharmacists took 24 hours asthma management training program, practiced at three different locations selected to join the study. Physicians practicing at different clinics were invited to select patients and refer patients to visit each corresponding pharmacist. Pharmacist located in each pharmacy randomly assigned patients to treatment group and control group. Patients in the treatment group had comprehensive education on usage of peak flow meter and medication devices, how to self-monitoring the progress. Patients in the control group had only education on usage of peak flow meter and record in their diary. Pharmacists provide one-year services to each patient and measure their outcomes at several time-points.

Results: 116 patients completed the one-year follow-up evaluation among three pharmacies. However, only 36-37 subjects in the experiment group and 34-41 subjects in the control group completed three measurement of knowledge, quality of life, compliance, and satisfaction questionnaire. The data of PEFR of the treatment group increased progressively, while patients in the control group maintained. The mean PEFR at beginning was 199 or 237 to the 12 months of 397 or 263 for the treatment or control group. Respectively. All four questionnaire results indicated that patients in the treatment group significantly better than that in the control group (ANCOVA results).

Conclusions: Pharmacist in the community setting can significantly improve the outcomes of asthmatic patients.

CPS-P-036

A WINDOW POSTER CAMPAIGN ON HEALTH EDUCATION AND PREVENTION FOR FRENCH PHARMACISTS

A. Blanc¹, F. Blanchet¹, J. Solotti², C. Dreux¹,
¹CESPHARM - Ordre des pharmaciens, ²LEEM,
France

A poster campaign on health education and prevention for French community pharmacists has been designed by the Health and Social Education Committee for French Pharmacy (CESPHARM) in partnership with the French Representative Institution for Drug Companies (LEEM) and the French Medical Research Foundation (FRM).

The aim of the program was:

- To strengthen the role of the pharmacist as a major actor of health education and prevention
- To encourage pharmacists to tackle their patients about public health subjects
- To make the patients inclined to ask their pharmacist questions about their health and their medicines.

The Cespharm and its partners started this program in June 2003 for two years. They proposed to provide the pharmacists who joined the program an adhesive frame to put on their window and 6 posters per year.

The poster campaign was elaborated around 3 main themes:

- Proper use of medicines:
Proper use of medicines in paediatrics, in general population, concerning elderly people and prevention of isotropy
- Cancer prevention and detection:
Solar prevention for children, national program on nutrition, detection of breast cancer
- Health world days:
Osteoporosis (October 20th, 2003), AIDS (December 1st, 2003), Tobacco (May 31st, 2004 and 2005), Diabetes (October 14th, 2004)

In order to help the pharmacists to inform the patients, a selection of leaflets for the public and professional documents was available.

900 pharmacists joined the program. This poster campaign allowed them to save a part of their window for health education and to be involved in major public health issues.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-037

SAFE AND EFFECTIVE USE OF MEDICINES- A PILOT- AND DEVELOPMENT PROJECT

M. Lyngé¹, B. Mortensen², S. Nøregård³, H.U. Schaffalitzky¹, P. Wisbech³, L. Fønnesbæk⁴, B. Frøkjær⁵, H. Herborg⁶, D. Tømsen¹,
¹Løve Apotek, ²Ringe Apotek, ³St. Nicolai Apotek, ⁴Pharmakon, Denmark

Aims

- To develop and validate a pharmacy based primary care programme aimed at insuring safe and effective drug-use among users of anti-hypertensive medicines
- To develop a concordance-partnership between GP's and pharmacy staff and non-adherent hypertensive patients
- To develop and validate instruments to document the effect of the program.

Methods

From December 2004 through May 2005, three pharmacies worked with the implementation, testing and validation of the programme. 30 patients showing signs of non-adherence were included in the study.

Intervention:

The patients were assigned to either a comprehensive or a basic version of the multidimensional intervention programme.

The programme consists of:

- Quick screening for non-adherence and identification of problem types
- Patient story-telling as the key starting point
- Assessment and possibly adjustment of drug therapy
- Finding resources in the patient-system
- Individual coaching, in order to tailor solutions to individual needs and resources

resources

- Offering relevant reminder technology and/or patient instructions
- Follow up
- Close collaboration with patient's GP

Results

Pharmacy reported changes: Perspective and knowledge change from compliance to concordance thinking. Pharmacies are now taking responsibility for implementation of drug regimen. New competencies in coaching based on patient story-telling. Better patient-pharmacist and GP-pharmacist relationships.

Conclusion

Both versions of the programme were feasible. The project has induced change in pharmacy performance and competence in relation to implementation of drug therapy.

CPS-P-039

PHARMACEUTICAL CARE SERVICE IN RURAL AREAS

K. Digné, S. Källemark-Sporrøng, E. Nylander, E. Enare, M. Seimerson, M. Lindberg, Apoteket AB, Sweden

Aim: To offer pharmaceutical care services in rural areas in Northern Sweden.

Background: Läkemedelsprofilen, L (Patient Medication Profiles) is a service available in approx. 10 % of Swedish pharmacies. The service builds on pharmaceutical care as described by Cipolle et al, i.e. a practice where pharmacist and customer in cooperation aim at optimizing the outcome of medication. The pharmacists have undergone special training.

Method: The four most northern counties in Sweden include almost half of the area of Sweden and approx. 10 % of the population. Inhabitants typically live along the coastline, but there are also a few towns in the inland. Distances are long between municipalities and the 114 pharmacies, in these counties divided into 17 groups. To accomplish a good coverage throughout the region each group has pharmacists trained to work with L. Although the service is primarily available in some pharmacies, we can offer it at other pharmacies as well. The pharmacist can spend a day a week at another pharmacy or the customer can get an appointment at the pharmacist's usual work-place. In between meetings with the trained pharmacist, customers can get prescriptions filled in by regular local pharmacists. The L-pharmacist will then be informed, register in the database and follow-up by telephone or at the next appointment.

Results: The service with L in rural areas in northern Sweden is being built up. Today it is available at 40 pharmacies with 70 specially trained pharmacists. In March 2005 there are 250 customers using the service, 11 of these at pharmacies without their own L-pharmacist. And the number is continuously rising!

CPS-P-038

A SURVEY OF PEOPLE BEHAVIOR OF USING MEDICAL OR HEALTH RELATED PRODUCTS IN TAIWAN

L. Huang¹, Y.N. Lo², D.J. Shiu², C.S. Gau³,
¹Far Eastern Memorial Hospital, ²Ching-Kang Foundation, ³School of Pharmacy NTU, China Taiwan

Aim: In Taiwan, the expenditure of health care rises annually. It has been suggested to be partially due to the improper use of medication. The issue of wasting medication resources is widely discussed especially in the concerns of the increased financial burden of National Health Insurance system in Taiwan. Therefore, this survey was conducted to evaluate people's behaviors in using medical and health products.

Method: A four-page questionnaire concerned with the use of medical and health products was established and used for this study. Sixty-two pharmacists were trained to do the interview during Oct. to Dec., 2004.

Results: A total of 2,412 valid copies of questionnaires were included for analysis. The interviewees' mean age is 51.7 yrs and 52% of them are female. Most interviewees (49%) are with an education level of junior high school. About 74% of them took western medicine in the past one month and obtained the western medicine from hospitals mostly. Besides, 22% and 41% of the interviewees took Chinese medicine and health products, respectively. Chronic disease is the main reason to take either western or Chinese medicine, but up to 74% of the interviewees took health products for health promotion. 18% of the interviewees had co-medication of drugs and health products, 17% of them took medicine from previous prescriptions, and 32% of them declared that they would worry about interactions. They obtained information of medical products mainly from doctors, pharmacists and drug labelings.

Conclusion: It is surprising that about 88% of the interviewees have used medical and health products. Physicians are still the main drug information sources.

CPS-P-040

EDUCATION OF PHARMACY ASSISTANTS BASED ON ACTIVE LEARNING AND REALISTIC SITUATIONS RECORDED 'ON LOCATION' WITH FOCUS ON CHALLENGES CONCERNING COMMUNICATION WITH DIFFERENT KINDS OF CUSTOMERS

J. Grønne, M. Larsen, Sønderbro Apotek, Denmark

The education of pharmacy assistants is a three-year education, which takes place partly at Pharmakon (the training center for pharmacy education in Denmark), partly in a pharmacy. Pharmacy assistants may handle the dispensing of prescriptions and advise about drug use. The apprentices attend courses at Pharmakon (in total 20 weeks) followed by examinations. During the periods of apprenticeship, a distance learning programme with theoretical teaching at the pharmacy, is followed. This education is traditionally based on theoretical subjects concerning pharmacology, pharmaceutics and social pharmacy. The aim of this education project is to develop a new kind of education method with focus on the most important task in community pharmacy: The professional and individual dialogue-based advising of customers about drug use. The education method is different from traditional teaching with a curriculum. Instead, the education is based on active learning with interpersonal discussions in relation to situations, which illustrate realistic challenges in communication with different kinds of customers. These situations are recorded 'on location' in the pharmacy and are being analyzed throughout during the lessons. So far we have developed 12 lessons, which progressively develop the apprentices' communicative skills. The content of the lessons is professional communication applied on the main OTC groups. This method appears to prepare the apprentices for the real dialogue with customers in a better way compared with apprentices from former year groups. The education method is not fully developed. More lessons, with further integrated subjects, are planned for the next year.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-041

A NEW TYPE SYSTEM FOR COMMUNITY PHARMACIST'S SKILL UP

Y.N. Nanaumi
Seven Pharmacy,
Japan

Now we came to take up 'POS' (Problem Oriented System) as a subject of the training of skill up for many pharmacists to be able to improve communication with the patient more in Japan.

This POS is a new chart system to do problem extraction of the patient was made by Dr. L. Weed in 1968.

We started a revision of a patient record (YAKUREKI) which we usually used as medication record since 1999 and made YAKUREKI which could finally practice POS in 2000.

And we did a training program to manage the new YAKUREKI more for one year.

This program is evaluation of contents mentioned in YAKUREKI and examination of POS according to a disorder.

[Evaluation items]

- 1 Articulate-ness of the situation of the patient
- 2 Articulate-ness of information to be necessary to compound it
- 3 Articulate-ness of situation / knowledge of taking medicine
- 4 Articulate-ness of problems in medical treatment
- 5 Articulate-ness of the situation and problems of living environment.
- 6 Articulate-ness of the situation and problems of HealthCare.
- 7 Articulate-ness of process of guidance of a pharmacist
- 8 Articulate-ness of guidance / the directionality that should advise it

Score of evaluation did UP in one year, and ability for mention to YAKUREKI of a pharmacist and ability for practical use of POS improved.

A community pharmacist can be opposite to problems of medical treatment and health care of the patient by utilizing this POS, and it becomes possible for only guidance and advice in a glance of the patient.

If practical use of this YAKUREKI and practice of POS are important as new skill up means of a pharmacist, I propose it.

CPS-P-042

INHALE TECHNIQUE ASSESSMENT - FIRST PUBLICLY PAID HEALTH SERVICE IN DANISH PHARMACIES

L.K. Kasril¹, A. Birsting¹, A.D. Dyssegaard¹, L. Pomesbæk Jensen²,
¹Danish Pharmaceutical Association, ²Pharmakon A/S,
Denmark

Introduction

Inhale technique assessment is the first publicly paid health service in Danish pharmacies. The service has been established as an offer to asthma patients to ensure an optimum treatment. It is carried out with focus on instruction and demonstration of inhalation technique, assessment of the customer's technique and counselling according to the individual need of the patient.

Method

The service is carried out according to a standardised model. The model has been tested in a smaller number of pharmacies before being spread to all pharmacies.

To help implementing the service in pharmacies, various tools have been developed. The pharmacy is furthermore offered assistance with the implementation by free pharmacists, who are especially acquainted with implementation of health services.

Result

At the Congress, lasting results of the service as well as experience with the implementation will be presented.

Conclusion

Through a systematic work we have succeeded in developing a model and in obtaining payment for a pharmacy service, which helps improve drug treatment.

CPS-P-043

NATIONAL SYSTEM FOR DOCUMENTATION OF DRUG-RELATED PROBLEMS IN SWEDISH PHARMACIES

B.S. Ed, A.M. Forsén,
Apoteket AB,
Sweden

Aim: To gain more knowledge of patients' use of drugs by documentation of drug-related problems (DRPs) in a computerized system in daily practice in Swedish Pharmacies.

Pharmacy practitioners can by prevention, identification and resolution of DRPs make an important contribution to patients' medication practices and improve the use of drugs. Since 2001 documentation of DRPs is an important part of daily practice in Swedish pharmacies. The aim is to increase our knowledge of the patients' use of drugs and thereby further improve the pharmacists' patient counselling. The documentation of DRPs is also a way to demonstrate the benefit of the pharmacists' professional work. The number of documented DRPs per 1000 filled prescriptions is used as a measure in Apoteket AB's Balanced Score Card, the tool used for controlling, planning and assessing the pharmacy practice. The fact that DRPs are used as a measure gives professional counselling increased priority.

The first computerized system for documentation of DRPs was based on locally stored documentation and hence the possibility to use data was limited. In April 2004 a new computerized system for documentation of DRPs was introduced in all Swedish pharmacies. Documented DRPs are now stored in a national database, The Swedish DRP Database (SWE-DRP). The system have extensive search-tools and during the spring of 2005 a statistical-analysis-tool is developed.

The SWE-DRP will bring new opportunities. We hope to stimulate increased learning in the Swedish Pharmacy organisation, deepen the knowledge of patients' use of drugs and in the long run further increase the benefit for patients' of the pharmacists' counselling.

CPS-P-044

PATIENT COUNSELLING IN APPLE PHARMACY - HOW TO IMPROVE QUALITY?

A.M. Pertovaara
Omena-apteekki Virkkala,
Finland

The theoretical principles concerning patient counselling have traditionally been in quite high level in the quality system of Apple Pharmacy.

However, the practice has not been in concordance with the principles. The pharmacological basis of the information given has been in order but whether we have asked the right questions in the right time or given our 'hidden' or 'silent' information to the usage of the patient has been more questionable. In fact, everybody working with customers have developed their own way of giving the information.

To solve the problem we all agreed that we have to develop some basic instruction in patient counselling which we all should follow.

During the annual quality-seminar of the Apple Pharmacy we discussed the principles of counselling of both prescription only medicines and of self-care medications. We also discussed the ways in which to give life-style counselling for people with different health risks.

The details of these processes are under development and will be described in the poster.

The other important issue was to find out possibilities how to measure the quality and outcomes of the counselling. We found out that if we want to measure the process we need to document it. For this documentation we now have a data program called ProCuro® which enables not only the checking of interactions but also the documentation of the information given to the patient. With this tool we can at last get reliable knowledge about the information given and we are able to measure the quality of counselling in Apple Pharmacy.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-045

QUANTITATIVE REGIONAL FLOW OF ANTIBIOTICS IN SWEDEN SUPPORTS ENVIRONMENTAL RISK ASSESSMENTS

S.B. Castensson¹, A. Ekedahl², H. Johansson³, K. Lindborg³,
¹Apoteket AB, ²Apoteket AB, Stab FoU, ³Miljardalens Högskola,
Sweden

Antibiotics have been available as drugs for more than 50 years. An optimal use of the products is essential and is directed by a lot of factors like regional disease patterns, antibiotics available, resistance situation etc.

The environmental impact of antibiotics may be substantial as pointed out by many authors. To get a more clear picture of the real exposure we have developed a method to show the quantitative exposure to land and water in various regions of Sweden. The method can be applied to resolve the antibiotic flow to local geographic areas like towns and rural districts.

The statistical methods used has been validated. A comparison of three years of regional data from Sweden is presented.

The presentation of flow data on a municipality level combined with the sampling and analytical efforts performed by local water protection operators and other investigators will help to get a solid base for judgements about the environmental risks linked to different antibiotics.

CPS-P-046

EVALUATION FOR THE BLOOD PRESSURE OF THE POPULACE IN KAOHSIUNG BY PHARMACIST IN COMMUNITY PHARMACY

M.C. Lai¹, Y.H. Wen², S.P. Lee¹, C.S. Tang¹, S.S. Wu¹,
¹Kaohsiung Pharmacists' Association, ²Institute of Kaohsiung Medical
Universit,
China Taiwan

Objective: The study was designed to evaluate the blood pressure of the populace in Kaohsiung with JNC 7 guideline.

Methods: 35 community pharmacies, which were designed to have 19 and 16 community pharmacies in the north and south districts in Kaohsiung. The populace were suggested to measure their blood pressure by the pharmacist with a normal procedure. The results were recorded in the forms by pharmacist and the populace were explained how to prevent hypertension with healthy habits, and if necessary, how to use the medicines rightly or refer to a clinic/hospital.

Results: There were 1414 persons in the research of the study. According to JNC 7 guideline, the blood pressure was shown as stage 1 hypertension (20.9%), stage 2 hypertension (9.6%). The group, who knew themselves without hypertension, was shown as stage 1 hypertension (16.3%), stage 2 hypertension (5.5%). The hypertensive groups without and with treatment were shown as stage 1 hypertension (37.8%), (33.3%), stage 2 hypertension (20.0%), (15.3%) respectively.

Conclusion: The group who knew themselves without hypertension had 21.8% persons to neglect one's hypertension. And the hypertension with treatment group also had 48.6% persons not to meet the JNC 7 guideline. It is necessary for the community pharmacist to make efforts in pharmacy care with clinic/hospital to prevent hypertension.

CPS-P-047

PREVENTION OF MEDICATION ERRORS IN THE PHARMACY

H. Herborg¹, P. Knudsen¹, M.S. Knudsen², A.R. Mortensen², A.M. Hellebek¹,
¹Pharmakon, ²Danish Pharmaceutical Assoc., ³Danish Soc. for Patient Safety,
Denmark

The purpose of the study was to increase patient safety in use of medicines in primary care.

OBJECTIVES

To measure frequency and type of errors registered in the pharmacies

To estimate the seriousness of the errors

To establish solutions for error prevention

METHODS

40 randomly selected pharmacies performed the data collection from October 2004 to February 2005. Retrospective documentation, registered in the pharmacies, was collected for 5 error types for a 3-month period:

Prescription corrections

Reports on dispensing 'near misses'

Reports on dispensing errors

A prospective anonymous reporting system was piloted: Adverse drug events were reported by the pharmacies through a shared web-based reporting system. The collected data were analysed partly by descriptive statistics and partly by root cause analysis.

RESULTS

1015 prescription corrections and 229 dispensing 'near misses' were registered. Reports on dispensing errors and adverse drug events were combined resulting in 371 cases of errors reaching the patient. Approximately 70% of these could harm the patient. Results indicate 1 dispensing error per 10,000 drug prescriptions.

The main part of the errors was found in the transcription stage. Here four root causes were identified: handwritten prescriptions, strength and dosage stated in ways leading to misunderstanding, lack of effective control of prescription label and medicine, lack of concentration caused by interruptions.

CONCLUSION

Pharmacies prevent a large number of prescription and dispensing errors. Dispensing errors are rare, but the majority is potentially harmful. Root cause analysis has shown potential for error prevention.

CPS-P-048

EXAMINATION OF COUNSELLING TIME AND SYMPTOM RESOLUTION FOR COMMON AILMENTS TREATED WITH OVER-THE-COUNTER MEDICATIONS PROVIDED DIRECTLY BY PHARMACISTS

R. Vaillancourt¹, M. Kearney¹, J. Ma¹, A. Gervais¹, R. Kassam²,
¹Canadian Forces Health Services, ²University of British Columbia,
Canada

Background

Canadian Forces (CF) members without access to a military pharmacy are eligible to obtain non-prescription, over-the-counter (OTC) medications directly from community pharmacists. Performance indicators, such as symptom resolution and time spent by a pharmacist providing counselling are continuously monitored.

Objective

To examine relationships between counselling time and symptom resolution among CF members receiving OTC medications directly from civilian pharmacists.

Methods

Patients who obtained an eligible OTC medication were identified using electronic pharmacy records and were contacted within 8 weeks to participate in a telephone survey. Survey results were pooled and analyzed with respect to symptom resolution and counselling time.

Results

In an analysis of 686 transactions, 80% of CF members reported complete resolution of their symptoms, 18% reported partial resolution, and 2% reported no change in their symptoms after obtaining an OTC medication directly from a community pharmacist. No CF members reported a worsening of their symptoms. No direct relationship was found between counselling time and symptom resolution. A majority of CF members surveyed reported receiving between one to five minutes of counselling from a pharmacist.

Interpretation

One to five minutes of counselling from a community pharmacist is adequate to produce complete or partial symptom resolution in CF members using OTC medications to treat common ailments. The trend towards complete symptom resolution makes a relationship between symptom resolution and counselling time more difficult to elucidate. More data is needed to reveal any such relationship.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-049

PATIENT SELF-PRESCRIBING VS. REQUESTING ADVICE AT DRUG STORES: DO DISPENSING PATTERNS DIFFER?

S. Suttajit¹, A. Wagner², R. Tantipidok³, Ch. Sitti-umom³, D. Ross-Degnan²

¹Maharakham University, Thailand ²Harvard Medical School, United States of America ³Chulalongkorn University, Thailand

Aim: To measure whether dispensing patterns for adults with upper respiratory infections (URIs) differ when patients purchase self-prescribed medicines compared to when medicines are recommended by drug sellers, in order to design appropriate interventions to improve care.

Methods: We interviewed 779 adults (>18 yrs) with URIs within the 2 previous weeks in a systematic random sample of households in two Bangkok slums; 371 had visited a drug store for treatment of their URIs, classified as viral or bacterial using a standardized symptom score.

Results: Nearly half of URI patients visited drug stores; 45% self-prescribed medicines and 55% requested advice after describing symptoms. Most (82%) URIs were likely viral. Patients who reported seeking advice, were more likely to purchase each drug category evaluated and pay more than self-prescribing patients. When requesting advice, 65% of patients received an antibiotic vs. 24% of self-prescribing patients. Care seeking and medicines dispensing patterns did not significantly differ by type of URI. Unnecessary antibiotic use among viral URI patients raised drug costs by 58%. Costs of symptomatic treatment recommended by drug sellers were 55% higher than when self-prescribed.

Conclusions: URI patients purchase more drugs, spend more, and more frequently receive inappropriate antibiotics when asking for drug sellers' recommendations than when self-medicating. Interventions should empower patients to understand and obtain appropriate symptomatic treatment for viral URIs.

Funding: Grants from the USAID-funded ARCH and RPM Plus Projects, WHO Essential Drugs and Medicines Policy Department, and Thailand Research Fund

CPS-P-050

TOBACCO FREE BUS - PHARMACISTS PARTICIPATION IN THE TOBACCO FREE CAMPAIGN

Y.C. Lo¹, W.F. Wang², D.J. Hsiao³

¹The Pharmaceutical Society of R.O.C, ²Yes Chain Pharmacy, ³ChingKang Foundation, China Taiwan

Community pharmacists in Taiwan play not only as neighbors for residents in communities but as important educators in promoting public health policies as well. Therefore, their assistances in launching the global network of pharmacists against tobacco can be more effective and beneficial.

In 2004, The Yi Lan Green Expo served as an ideal occasion to promote the nature ecology protection and tobacco free concept. Community pharmacists were asked to invite residents in their communities to sign up the Tobacco Free Bus and to visit the Yi Lan Green Expo. Almost 20 community pharmacists made tobacco damage leaves to the public while traveling in the bus so that non-smokers were aware of the dangers of tobacco in order to prevent them from smoking, and smokers could think about quitting smoking and eventually quit the habit.

Activities on the bus included: playing the VCD about probing tobacco damages health; distributing tobacco hazard leaflets; giving tobacco control questions and answers; answering participants' questions on tobacco and surveying smokers' willingness to quit smoking. Prizes were offered to those with the correct answer in the question and answer section.

A total of 397 participants were in 10 tobacco free buses. More than 90 % of people were willing to join this kind of activity again, and wanted to support smoking-cessation programs. There were 55 participants smokers in this activity, and were inhibited to smoke in whole activity. Thirty participants left their contact information (telephone number/ email address), and wished to get help from pharmacists to quit smoking. The community pharmacist were following and giving assistance for the smokers.

CPS-P-051

THE 1ST REPORT FROM 'VISITING PHARMACEUTICAL CARE AT HOME CARE'

Y.N. Nanaumi

Seven Pharmacy,

Japan

In Japan, there is the service covered by public medical insurance that a pharmacist visits the patient's home, and does consultation or guidance about medication and health-care.

This is 'Visiting Pharmaceutical Care'.

How will the elderly patient receive prescribed medicine?

In fact, by 'a family' and 'a friend' or 'delivery', there will be many cases that medicine is sent at hand of the patient. Therefore, the patient comes to a window of a community pharmacy and does not talk with a pharmacist. May a pharmacist give medication without understanding a state of the patient?

Therefore, in aging society, Home care is an important and new system of community medical care.

It is very significant for the future of a pharmacist that a pharmacist addresses with this community medical care as a member of a community medical care team.

We have begun to take an active role of visiting pharmaceutical care at home care since 1995.

Therein, in 2000, a nursing care insurance system was enforced in Japan, and a portion of the duties that we did in medical insurance shifted to nursing care insurance, and a pharmacist had to be concerned with care with medical professional, the doctor, the dentist, the nurse.

This presentation introduces background or the environment that were to address with this treatment at home for the first report using a concrete example.

In addition, we report a role as a member of the community medical care team which we were able to find newly because a pharmacist appeared from a community pharmacy to an area and a duty, outlook on ethic as a pharmacist.

CPS-P-052

CONDUCTING HOME MEDICATION REVIEWS BY COMMUNITY PHARMACISTS IN THE COMMUNITIES OF KEELUNG, TAIWAN

Y.C. Chen¹, Y.W. Hsieh¹, S.Y. Pai¹, S.T. Deng¹, A.T. Shu², C.M. Wang³

H.C. Chen², Y.N. Lo³, D.J. Shiao³, C.S. Gau³, L.J. Huang³

¹Chang Gung Memorial Hospital Keelung, ²Pharmacists Association, ³Ching-Kang Foundation, China Taiwan

Aims:

1. To enhance population's concept of developing a healthy community
2. To maximize patients' benefit from their medication regimen
3. To advance the separation of drug prescribing from medical practice in Taiwan

Methods:

The patients were picked up via the computerized medical record system of a regional hospital in Keelung. The residents living near the community pharmacies were also recruited into this program by accredited pharmacists.

The suitable patients were identified by the following criteria:

1. Currently taking ten or more medications per day
2. Patients having difficulty managing their medications

The accredited pharmacists were requested to visit their nearby patients with patient's consent and four-page structured questionnaire was used in this behavioral survey.

Results:

In total, 79 home medication reviews were conducted by 12 pharmacists. Among first home interviews, 25 patients were recommended to receive follow-up telephone interviews for monitoring due to their complicated drug use. One month later, the follow-up interviews showed that all patients' knowledge of medication use and adverse drug reaction was significantly improved comparing to their previous interview records. Additionally, 5 patients asked for the second home interviews and 2 patients asked for the third home interviews within three months due to impaired vision or cognitive difficulties.

In conclusion, the home medication reviews conducted in Keelung have improved patients' awareness of appropriate medication use. Also, home medication review program has successfully improved relationships between patients and pharmacists.

CPS-P-053

HOW TO OPTIMISE AND SECURE THE USE OF DRUGS BY IDENTIFICATION OF EXPECTED NEEDS,

S.K. Kofod
Kastrup Pharmacy,
Denmark

Aims:

The aim of this project is to identify expected needs, that will benefit the patient's use of OTC- and prescription-only medicine. We want to prevent adverse effects and optimise the use of medicines and support the patient's self-care.

Methods:

We know from experience that patients don't always read the information note, and therefore advices sometimes are detected too late.

We inform about expected needs and provides counseling, information and sale of products that will benefit and optimise use of medicine.

Expected needs are categorised as follows:

- Preventing adverse effects, e.g. lip-salve, when treated with medicine containing isotretinoin.
- Preventing infections, e.g. advice patients to use disposable washcloths, when infected with impetigo
- Relieving symptoms, e.g. nose-drops to relieve pain in ears when patients have sinusitis.
- Devices for drug-use, e.g. auto-drop to help dispensing eye-drops.

Results:

Often the patients themselves were not aware of the possibilities for better treatment and when counselling are offered the patients are very satisfied.

The pharmacy has increased the sales of many products, including articles the patients often would have bought elsewhere.

Examples are presented on the poster.

Conclusion:

The employees at the pharmacy are more conscious about identifying the patients' expected needs. Advices are often followed by supplementary sale, that will benefit both the patients and the pharmacy. Patients will get a necessary, that will optimise their treatment. The pharmacy will benefit from the sale and from having very satisfied patients.

CPS-P-055

E-THERAPEUTICS - ELECTRONIC DECISION SUPPORT TOOLS FOR PHARMACISTS, PHYSICIANS, NURSES AND OTHER PRIMARY HEALTH CARE PRACTITIONERS

W.A. Meek¹, J. Cooper²,

¹Dutch Village Pharmacy Ltd., ²Canadian Pharmacists Ass'n,
Canada

Aims: e-Therapeutics aims to support best practices in medication management and to improve drug safety, collaboration and cost effectiveness by providing busy practitioners with point-of-care access to evidence-based drug and therapeutic information.

Methods: The e-Therapeutics project has produced easy-to-use, electronic decision support tools. It provides access to current, evidence-based, Canadian drug therapy information through a web portal with selected content on a PDA. Content includes disease and symptom management, drug monographs, new drug safety information from Health Canada, drug interaction database, public drug plan coverage, links to references.

Development is made possible by a contribution from the federal Primary Health Care Transition Fund. This initiative involves broad stakeholder collaboration to ensure e-Therapeutics meets user needs, that the change management strategy supports best practices and adoption of decision support technology, and that a business model supports sustainability.

Results: Release 1 (Nov 04) was piloted with physicians, pharmacists and nurse practitioners. Release 2 (Jan 05) has enhanced functionality and content. User testing is ongoing. Release 3 involves integration with other e-health applications (e.g. physician/pharmacy systems, e-prescribing). e-Therapeutics supports federal and provincial governments' strategies for Canada Health Infoway, a national pharmaceutical strategy and primary health care renewal.

Conclusions: e-Therapeutics provides busy health care providers with access to the right information at the right time to make the right therapeutic decision.

CPS-P-054

PROMOTING PHARMACEUTICAL CARE THROUGH A MODEL FAMILY PHARMACIST SERVICE IN THE COMMUNITY IN TAOYUAN COUNTY, TAIWAN

C.S.H. Shen¹, H.H. Cheng², J.Y. Chen², C.Yu Chen², S.R. Lin²,
¹Chang Gung Memorial Hospital, ²Taoyuan Pharmacist Association, ³Health Bureau of Taoyuan,
China Taiwan

Purpose: The aim of this study is to set up a model community pharmacist service that was initiated by community pharmacists to keep abreast with their hospital counterparts in providing medication information to patients by pharmacists.

Method: Eighty-four pharmacists were included in this study. They were divided into six categories by specific job description groups. The study was carried out in three parts: first, to expand the source of prescription dispensing; second, set up the prescription drug supply center, and third, is to promote pharmaceutical care in the community.

Result: There were 5825 prescriptions released from government health stations and dispensed by community pharmacists for chronic diseases in a four-month period. Thirty-seven pharmacists indicated their willingness to raise funds to establish the prescription drug supply center. There were 119 pharmacists who passed the training courses on chronic disease management and infectious disease control programs. 56 lecture courses in drug usage education to community were reported to have been provided, there were a reported 31 adoption communities that were established in addition to 33 pharmacy service centers that were being successfully being offered.

Conclusion: The study showed that in addition to improved utilization of the community pharmacist professional knowledge in patient care, the average number of prescriptions dispensed increased from 848 to 1456 per month. This would also illustrate the increased need for community pharmacist involvement in medication information and counseling as more prescriptions are prescribed in the patient population.

CPS-P-056

ARE THE DRUG USE INFORMATION LEAFLETS AVAILABLE FOR THE POPULATION OF THE CITY OF YEREVAN?

H.G. Danagulyan¹, H.Ch. Harutyunyan¹, Ch. Shakaryan¹, A. Soghoyan²,
¹Pharmprogress NGO, ²Department of Health and Social Affairs,
Armenia

Background: The sources of the medicines for the population of Yerevan are: a) Humanitarian medicines distributed to the representatives of the social and economical risk in municipal clinics;

b) Medicines acquired in the community pharmacies.

Aim: The determination of the accessibility of the drug use information leaflets for the population of Yerevan

Methods: 1. The monitoring of the medicines distribution in the municipal clinics. 2. A seven-day monitoring of the medicines trade in 5 pharmacies.

Results: During the year 2004, 45570 representatives of risk groups received humanitarian drugs. 79.9% (36450) of them did not get the leaflets. This problem occurs as a result of the fact that humanitarian medicines are received in packages containing 100 and more units which include only one leaflet, although are distributed to the patients partially. 2. During a seven-day period 3475 persons bought medicines in the above mentioned 5 pharmacies. The 48% of the clients (1668 people) received the medicines including drug use information leaflets. The rest 52% (1807 people) did not receive the leaflets as far as the medicines bought by them did not contain the drug use information leaflets at all or because of buying medicines in incomplete packs.

Conclusions: The leaflets containing the directions of medicine usage rules were not available for more than 50% of the population of Yerevan. It is necessary to organize special measures for providing leaflets with all the medicines distributed through the clinics and community pharmacies.

The research was carried through the financial support of AAA NGO Centre and USAID.

Grant contract #18/NGOTMNN/00.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-057

REPRESENTATION OF TOPICAL PREPARATION PRESCRIBED IN 2004

K. Milosevic Kostadinovic¹, M. Stupar², N. Dragicevic Curic², D. Parojcic²,
¹Apoteka Medicor, ²Faculty of Pharmacy,
Serbia and Montenegro

Aim of this research was to represent therapeutic fields of topical preparation prescribed and dispersed in our pharmacy during 2004.

Applying of topical preparations to the skin and mucous membranes intent in most cases localized effect within the skin or mucous. In these cases most frequent were corticosteroids 65.2%, antibiotics 53%, antiseptics 63.5%, antifungics 32%, local anesthetics 2.9%, and sunscreens 0.98%. Some of the preparations were combined, e.g. combination of antibiotic and corticosteroids. Every combination was count by their combined parts. Interesting part was that 0.8% of all dispersed topicals were transdermal delivery systems.

All data was analyzed and divided in therapeutic groups by their INN International Non-proprietary Name.

Result showed us very interesting and in some cases not expected fluctuation of some therapeutics in different part of the year.

CPS-P-058

TANZANIAN INITIATIVE TO ADDRESS ACCESS TO QUALITY DRUGS AND SERVICES IN AREAS WITH FEW PHARMACIES

M. Sigonda-Ndomondo¹, E. Alphonse¹, M. Clark², N. Heltzer², R. Mbwana²,
R. Shirima²,

¹Tanzania Food and Drugs Authority, Tanzania ²Management Sciences for Health, United States of America

Aims: For communities with few or no pharmacies, establish a regulated network of accredited drug dispensing outlets (ADDOs) where availability of quality, affordable non-prescription medicines and a limited number of key prescription medicines is improved and trained dispensers provide quality services.

Methods: Improve pharmaceutical quality and services through ADDOs by changing behavior of shop owners and dispensing staff through education and incentives, improving regulatory capacity, shifting client demand/expectation of quality products and services, and gaining stakeholder support across the public and private sectors.

Results: Pharmaceutical product quality, quality of dispensing services, and availability, affordability, and geographic access of both products and services were fastest impacted. Pre-program concern of potential inappropriate dispensing of prescription drugs by non-pharmacists was unfounded. Nearly all shop owners surveyed believed the investment to become an ADDO was worthwhile.

Conclusions and Challenges: The ADDO pilot program achieved its goal of introducing to one region of Tanzania an improved private sector retail pharmaceutical services network. Ongoing challenges relate to training and continuing education, supervision, regulation, maintaining commitment from stakeholders, and ensuring a workable strategy and funding for national implementation and on-going operations. The Tanzanian government acknowledges the critical public health role of non-pharmacy retail shops and is considering rollout of the program to all areas of the country.

CPS-P-059

CUSTOMER OFFERING IN 75 PHARMACIES IN SWEDEN - TO ADAPT COUNSELLING AND DISTRIBUTION ACCORDING TO DEMANDS OF EACH CUSTOMER.

S. Malmqvist, K. Odla-Liljedahl,
Apoteket,
Sweden

Introduction

To be able to fulfill the customer's expectations of good accessibility and needs of counselling we have described customer offerings that will make it understandable to the customer what to expect from the pharmacy. This also enables the employees of the pharmacy to better understand their role. With the clarified customer offerings we also have achieved what skills and competence are needed within the staff.

Method

At first, the possibilities in which different ways the customer could receive counselling and distribution of pharmaceuticals were described. These possibilities we named customer offerings. The method is in three steps.

1. Define roles. From the customers offerings we defined the different roles needed within the pharmacy. Each different role was specified with a certain competence.
2. Define competence gaps. After this initial step we created methods to define the competence gaps within each specific role.
3. Certify competency qualifications. The following step is to educate and eliminate the competence gap. The final step is to certify the competency qualifications.

Targets

1. Each pharmacy shall try to improve their accessibility to minimize queue time.
2. Interviews with personal shall show evidence of positive developed work role.
3. An opinion poll of customers will show an improved apprehended service.

CPS-P-060

POLLUTION AND HEALTH - ADDITIONAL RESPONSIBILITY OF PHARMACIST TO THE SOCIETY IN INDIA

V.N. Tammiru¹, B. Jayakar²,
¹SBD Institute of Pharmacy, ²VMCP,
India

Pollution is the current buzzword. Where are we heading with all the advancement in all walks of life? India is one of the top five growing economies in the world. Industrialization increased pollution levels and health hazards. There is urgent need to make India not only wealthy but also healthy by containing the level of pollution. Although India's position improved since 2002, it continues to be among the worst polluters ranking 101 on the latest global Environment Sustainability Index (ESI). Surveys are conducted on the effects of outdoor pollutants (SO₂, TSP, NO₂, CO, O₃, PM) and indoor pollutants (TSP, PM₁₀, PM_{2.5} STS).

Study conducted in Bangalore city indicates high prevalence of nasopharyngeal symptoms in 30-50% of the subjects. Prevalence of chronic bronchitis and asthma was about 30% with higher mean and peak levels of SO₂ and NO₂. The percent prevalence rates of respiratory features are higher in rural children compared with urban children. The pollutant levels are lower in rural areas. The pharmacist has to act fast and move ahead in a responsible manner to save lives. The pharmacist should take the initiative to educate the people of the society by counselling the health hazards created by pollution. The disappearance of erstwhile 'Family Doctor' concept will justify the role of pharmacist as Family Pharmacist. The Pharmacist should motivate himself to be the savior of the society and should undergo the required training voluntarily along with other health organizations. The pharmacist should be proud for having professional commitment in providing optimal value services to the society.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-061

IMPROVING ACCESS TO AND USE OF MEDICINES THROUGH ESTABLISHMENT OF A CHEMICAL SELLERS FRANCHISE IN GHANA

K. Eghan¹, E.E. Egan², D. Mensah², J. Idun², A. Marsden³, R. Staley⁴, K. Achinfu⁵, A. Dodoo⁵, D. Ofori-Adjei⁵

¹MSH SEAM Ghana, Ghana ²GSMFEL, Ghana ³MSH Europe, France ⁴MSH, United States of America

⁵University of Ghana, Ghana ⁶Noguchi Institute, Ghana

Aims: Licensed Chemical Shops (LCS) and non-prescription drug outlets account for over 66% of total community drug outlet visits in Ghana and are the main source of medicines in rural and peri-urban regions. To address issues of quality of products and services provided in LCS and to improve access to essential medicines in underserved populations, GSMF Enterprises Limited, working with MSH, established a Chemical Sellers franchise for Ghana.

Methods: Following stakeholder meetings and business plan development, selection criteria for LCS conversion, training materials, monitoring and supervision procedures, and standard operating procedures for franchisees, along with development of a centrally coordinated logistics and supply system to ensure supply of products for the franchise shops, were developed. Concurrently, development of a comprehensive marketing plan was initiated.

Results: Over 200 CAREshops are now open in the Volta and Eastern regions of Ghana, with over 500 owners/dispensers trained. Analyses of data collected on pre- and post-training knowledge, availability of cancer drugs, stocking and supply of insecticide-treated bed nets, number of referrals to health facilities, and appropriateness of drug dispensing decisions have provided positive results. Community and LCS acceptance has proved positive.

Conclusions: Private sector initiatives in drug supply anchored around franchising of essential medicines, training, supervision, and monitoring have the potential to improve access to and use of medicines in underserved populations of Ghana.

CPS-P-063

METHADONE, NALTREXONE AND BUPRENORPHINE THERAPEUTIC PROGRAMMES IN PORTUGUESE PHARMACIES

M.J. Toscano¹, B.E.S. Ferreira¹, A.T. Teles²

¹ANP, ²Associação Nacional das Farmácias, Portugal

Issue: A collaboration Protocol in order to establish the methadone Administration Programme in the Pharmacies was signed, on the 3rd of June 1998, by SPTT, today IDT (Drug Addiction Institute), OF (Pharmaceutical Society) and ANP (Portuguese National Association of Pharmacies). In June 2001, it was signed a Protocol concerning the administration of naltrexone. In January 2004, the buprenorphine Protocol was signed and INFARMED (Portuguese National Pharmacy and Medicines Institute) has also become a partner.

Setting: As pharmacies are uniformly well spread throughout the country, this fact allows the drug addicts to follow their recovery treatment programme in a pharmacy in their residential or professional activity area with unequivocal advantages, namely in the treatment adhesion and continuity. The patient benefits can better be perceived through his social integration and private life improvement.

Project: These programmes are targeted to patients already participating in CATs programmes. Pharmacies are integrated in the programmes, according with CATs needs. Pharmacists invited to join the programmes should previously attend a training session organised by IDT, OF and ANP. Daily the pharmacist administers a methadone solution or a dose of naltrexone or buprenorphine to the patient.

Outcomes: From 1998 to 2004, a total of 1160 patients were enrolled in the methadone programme in 186 pharmacies. It was provided training to 393 pharmacists, from which 30 pharmacists of 313 pharmacies during 2004, in collaboration with 28 CATs.

CPS-P-062

SAY NO TO A SECOND HAND NEEDLE- NATIONAL NEEDLE EXCHANGE PROGRAMME PORTUGAL

M.J. Toscano, A.T. Teles, C. Caldeira, Associação Nacional das Farmácias, Portugal

Issue

In Portugal, the HIV transmission among Injected Drug Users (IDU) is a major problem. In October 93 it was developed a Needle Exchange Programme as a result of a partnership between the Ministry of Health (represented by CNLCS - National AIDS Committee) and ANF - National Pharmacies Association.

Setting

The programme has the following goals:

- to prevent IV and sexual transmission of HIV in IDU;
- to avoid sharing of needles and other material, by facilitating access to sterilised devices;
- to avoid the random disposal of syringes and their re-use, by collecting and destroying them;
- to promote safe sexual behaviours, by increasing the use of condoms.

Around 75% of all Portuguese Pharmacies take part in the Programme. Two mobile posts were also set up in 2 problematic Lisbon neighbourhoods. Partnership protocols have been signed with 34 institutions which provides also: health care services, medical surveillance, detection of HIV and other STD, proper meals, psycho-social and juridical support, guiding for health care services.

Project

The mainly instrument of the Programme is a preventive KIT provided to IDU on basis on deliver and place in a proper container of their used syringe and needle. The KIT contains: 2 syringes and needles, 2 condoms, 1 disinfecting tissue, 1 vial of distilled water, 1 filter and 1 leaflet.

Outcomes

Between October 1993 and December 2004, 32,846,581 needles and syringes have been exchanged, collected and destroyed.

Other positive outcomes:

- free access to prevention material;
- geographical distribution;
- guarantee of intact prevention material stock in the exchange places.

CPS-P-064

ANALYSIS OF DISPENSING OF HERBAL MEDICINES

A. Grundler¹, A. Meštrović², R. Bušelić²,
¹Phoenix Farmacija, ²Farmapharm Pharmacy, Croatia

On Croatian pharmacy market there are a lot of prepackaged compounding herbal medicines. Some of them are registered as medicines, but mostly as food supplements. Considering their different composition and form, analysis was directed to solid oral forms with herbal compounds only. A goal of analysis was to find out a rate of their dispensing in our pharmacy during 2004. To collect data of total dispensing we used our business software, and to collect data about personal dispensing we created a «Personal self-medication card», with name and age of customer, and date and name of bought herbal medicine. Because of various dosages and packages we have established a single dose (1 tbl, caps) as measure. The results have shown that we dispensed 35% medicines, 29% analised herbal medicines, and 36% other pharmacy assortments. Herbal medicines were dispensed on amounts: 54% for cerebral circulation (ginkgo and garlic), or 24,240 single doses, 9% for calming (valerian), 7% for immunity (schisandra, ginseng), 7% for prostate (sabal palm, settle), 7% for urinary tract (cranberries), 6% for colon cleaning (senna and similar), 3% for vitality (ginseng), 3% for menopause (soya, black cohosh), 3% for liver (milk thistle), 1% for depression (St. John's wort), and 1% for vein (horse chestnut). Also we have found 7 cases of interaction, 5 of them ginkgo with anticoagulant.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-065

THE MEDICINES INFORMATION NEEDS OF OLDER PEOPLE WITH SIGHT LOSS: PERCEPTIONS OF PHARMACIST RELATIONSHIPS WITH OLDER PATIENTS WITH A DISABILITY

M.J. Gibson¹, P.R. Knapp¹, D.K. Raynor², P. Turpin²,
¹University of Leeds, ²RNIB,
United Kingdom

This paper presents findings from a qualitative research project which examined the medicines information needs of older people with sight loss. The study involved depth interviews with older people with sight loss, their informal carers and healthcare professionals, including community pharmacists.

While the study focuses medicines information, this paper examines perceptions of the pharmacists involved in their care. In addition, the paper investigates pharmacists' perceptions of the information needs of older people with sight loss in relation to their medicines.

The paper explores the strong belief amongst the healthcare professionals interviewed that pharmacists are in the most appropriate position to provide information about medicines and it was recommended that pharmacists take a lead in this area as part of a multidisciplinary effort to improve medicines management amongst all patients. Pharmacists could become conduits or 'brokers' of medicines information between pharmaceutical manufacturers and end users and this also applies to the provision of information in different formats for people with sight loss.

CPS-P-066

HEALTH COMPUTERS

M. Norelius¹, J. Söderberg²,
¹Apoteket AB, ²U M AB,
Sweden

Background

Apoteket AB has during the past five years worked with local health care centres (so called health squares) built in Swedish pharmacies. The 'health computers' started as subprojects within these. Initially the health computers were ordinary PCs that were placed in the public areas of the local health care centres but this showed to be problematic for many reasons; maintenance, getting personnel to see the computer as a resource and not as a time consumer, information security, customers leaving unstable material on the computers at extra.

Methods

It was therefore decided to develop a special solution especially made for the pharmaceutical environment which lead to today's version. There are now 130 health computers in health care centres and pharmacies all over Sweden.

The health computer should:

- Be a gateway to health on the internet, the health computer is where the customer finds quality assured information that they can read at once or study more thoroughly later on their own computer
- Support pharmacy personnel's dialogue with the customers
- Be a 'reliever', the health computer should make it possible for the customers to handle needs that they normally need personnel assistance with
- Source for data, the health computer is a excellent platform for folk health questionnaires, customer enquiries etcetera

Results

In our paper we will demonstrate the information and the services in today's version of the health computer and we will report what we have learned from the first two years with a fully functioning concept (approximately 30 000 hours of customer usage). We will also discuss our future plans and visions.

CPS-P-067

AUSTRALIAN NATIONAL COMMUNITY PHARMACY SURVEY

V.B. Sunderland¹, C.G. Berbois²,
¹Curtin University of Technology, ²Curtin University,
Australia

The aim was to provide a database of the major functions and their rates of provision in Australia's community pharmacies.

A questionnaire consisting of 33 questions divided into 231 sub-questions was sent to 1391 (29%) of Australia's community pharmacies, in June 2002. The sample was stratified according to a remoteness index. An overall response rate of 81.3% was achieved. Data were entered into a computer assisted data entry system and exported to SPSS (version 11) for analysis. National estimates of services involved weighting the stratified data by the total in each subgroup and summation.

Enhanced pharmacy services provided by trained staff included asthma (14.9%), diabetes (17.2%) and hypertension (13.3%); harm reduction (14.6%), smoking cessation (19.0%) and herbal medicines (73.2%) were frequently available.

Many community pharmacies provided medicines with dosage administration aids for approximately 10% of dispensed prescriptions, with about half without an additional charge. In addition to methadone and buprenorphine community pharmacies provided supervised dosages for other anaesthetics (21.4%), benzodiazepines (35.9%) and other psychotropics (12.6%). An estimated 22,432 prescriptions were declined to be dispensed weekly. The main reasons being inappropriate drugs or doses, suspected adverse effects or prescription defects.

Each pharmacy on average had 25.87 requests for self-medication and 28.85 patients seeking health advice daily. Of these 2.93 (10.2%) were referred to doctors and 1.24 (4.3%) to other health workers.

These data identify many significant professional services, several beyond those traditionally provided by community pharmacies.

CPS-P-068

SURVEY OF USE OF BARRIER CONTRACEPTIVE PROTECTION AMONGST SECONDARY SCHOOL STUDENTS IN LAGOS

A.E. Joda
Faculty of Pharmacy, University of Lagos,
Nigeria

AIMS: To determine use of condoms amongst sexually active secondary school adolescents as a measure of positive sexual behaviour against HIV/AIDS/STIs.

METHOD: 180 pre-tested questionnaires were administered and collected from 6 schools (3 junior, 3 senior) in Lagos. The questionnaire sought demographic information as well as answers to the research questions. 100% recovery was obtained.

RESULTS: Respondents were 54% female, 46% male with mean age 14±2.1 years. 33 respondents (18%) had had sexual intercourse before and only about half this number used condoms. Amazingly half of these indicate that they sometimes re-use their condoms in order to save cost. Mean number of current sexual partners is 1.7±1.81. More than half of the respondents have a lifetime number of more than 2 lovers. Many of the respondents believe that sexual activity is common amongst students in secondary schools. Of the 102 reasons given for this, 43 (42%) indicated moral decadence being high in the present generation of students and 27 (26%) indicated high level of physical attraction between students amongst others. Other reasons given include peer pressure, improper dressing and economic challenges. Responses indicated both sexes equally responsible.

CONCLUSIONS: Condom use as a measure of protection against HIV/AIDS/STIs needs to be encouraged amongst sexually active secondary school teenagers as risky sexual behaviours are still being practised by adolescents. Community Pharmacies are usually patronized for the purchase of condoms and other barrier methods for contraception and should serve as an avenue for educating these customers as they purchase needed items.

CPS-P-069

EVALUATION OF A TWO YEARS' IMPLEMENTATION PROGRAM OF A NEW PHARMACEUTICAL SERVICE IN INSTITUTIONS FOR THE ELDERLY

J.F. Locca¹, M. Ruggli², M. Buchmann¹, O. Bugnon¹,
¹Polyclinique Médicale Universitaire, ²Swiss Assoc. of Pharmacists,
³Pharmacy Tête Noire,
 Switzerland

AIMS
 To evaluate the implementation of a new pharmaceutical support service provided since 2002 by 22 consultant pharmacists in 38 institutions (1968 patients) for the Elderly in one state of Switzerland.

METHODS
 The implementation was facilitated by the development of an educational program, by protocols and standards and by the coordination of a working group of consultant pharmacists assisted by experienced pharmacists and a coach. The involvement of the pharmacists and the quality of the delivered service was assessed with regard to the terms defined in the tariff agreement. The economic data of the institutions were analysed for the years 2001 to 2003.

RESULTS
 In 2003, 38 of the 39 institutions (97.4%) had implemented the pharmaceutical service. 20 of 22 consultant pharmacists (90.9%) had provided an expert report (including suggestions for a more effective treatment regimen) on 36 institutions (92.3%). All pharmacists met the minimum standards required. Structured data on 28 institutions (77.7%) were obtained from 16 (72.7%) pharmacists, allowing the realisation of the pharmacoeconomic benchmarking. Within two years (2001-2003), the interdisciplinary approach driven by pharmacists resulted in a decrease of the costs of about 7.1% while the costs' projections without assistance expected an increase of 21%.

CONCLUSIONS
 The program aimed at implementing pharmaceutical assistance in nursing homes was effective. The economic and operational results of the pilot phase were confirmed at a larger scale. Priorities for pharmaco-clinical research (especially in psychogeriatrics) were identified in order to continue to improve the quality of care for the Elderly.

CPS-P-070

ACCEPTANCE OF THE HEALTH HYPERTENSION PASSPORT, AN INTERACTIVE TOOL TO FACILITATE PATIENT INVOLVEMENT IN THE MANAGEMENT OF THEIR DISEASE

A. Niquille, E. Guignard Hefti, M.P. Schneider, O. Bugnon,
 Faculty of Pharmacy, Geneva,
 Switzerland

Introduction
 The Health Hypertension Passport (HHP) focuses on empowerment, and increase in patients health education, motivation and dialogue between care-partners. Beyond transmitting patient-oriented information on hypertension and risk factors, the HHP allows patient to record blood pressure, weight, physical activity and drug consumption data as well as questions/comments on health that should be passed on to the community pharmacist (CPs) or the general practitioner (GP).

Aims
 To evaluate acceptance of the HHP by patients, CPs and GPs.
Methods
 CPs and GPs were asked to distribute 5 to 20 HHPs and to inform patient about its use. Acceptance was evaluated by the rate of HHP distribution, quality and quantity of collected data and questionnaires at the end of the study.

Results
 70% CPs or GPs (2840) agreed to participate. Only 114 HHPs were distributed (median=2/CPs or GPs; quartiles: 0-5; range: 0-20) despite the high patients acceptance's rate (69%). The length of use was variable (median=54 days; quartiles: 47-74; range: 32-196). HHP was broadly well accepted and perceived as useful by most of the patients, CPs and GPs. 58% of patients would like going on with their HHP and 59% of CPs and GPs would like using it in daily practice.

Conclusion
 The level of HHP acceptance was high but the HHP distribution rate by the CPs and GPs was unfortunately poor. Therefore, CPs and GPs' awareness of available and innovative tools in chronic disease management should be increased. Larger studies are needed to evaluate HHP clinical efficacy and acquire efficiency's recognition by health insurance.

CPS-P-071

ANTIBIOTIC USE IN DENTAL CARE IN COMMUNITY PRACTICE

L.M. Azzopardi, A. Serracino-Ingloff, M. Zarb-Adami, J.A. Vassallo,
 University of Malta,
 Malta

The aims were to determine local prescribing trends of antibiotics by dental practitioners for treatment and prophylaxis of dental infections and to determine pharmacist intervention in dental infections.

Two self-administered questionnaires were prepared and psychometrically evaluated. The dentists' questionnaire was completed by 83 dental practitioners (58% response) and the pharmacist's questionnaire was completed by 105 community pharmacists (51% response).

Pharmacists reported that prescriptions from dental practitioners include: antibiotics (22%), mouthwashes (19%), analgesics (17%) and dental hygiene products (16%). Dental practitioners reported that for dental infections co-amoxiclav is the first-line treatment in non-hypersensitive patients (26%) while metronidazole is preferred in hypersensitive patients (26%). Pharmacist stated that the commonly dispensed antibiotics from dental prescriptions were metronidazole (42%) and co-amoxiclav (20%). Dental practitioners felt that pharmacists should inform the patient about medicine use (83%), 65% of the pharmacists always advise the patient on medicine use while 27% do not provide advice presuming that the dental practitioner has advised the patients. Community pharmacists would suggest dental hygiene practices (81%), referral to dental practitioners (51%), and analgesics (45%) when presented with symptoms of dental infections.

Prescribing trends by dental practitioners compare with the local guidelines. Community pharmacists should take a more pro-active intervention in advising patients on medicine use in treatment and prophylaxis of dental infections.

CPS-P-072

PUBLIC PERCEPTION OF THE COMMUNITY PHARMACIST IN GOZO

A. Serracino-Ingloff, L.M. Azzopardi, M. Zarb-Adami, T. Abela,
 University of Malta,
 Malta

Public perception of the community pharmacist is an important feature in processes undertaken to confirm the benefit of pharmacists' intervention in patient care. The aim was to examine public perception of the community pharmacist in Gozo, an island in the Maltese archipelago (30 000 population).

A psychometrically evaluated self-administered tool was distributed to 365 Gozitans (58% females, 42% males, age range 18-65 years, average age 29 years). The tool assessed consumer satisfaction with professional services provided by the pharmacist and analyzed the perception held by consumers of the community pharmacist as a health advisor. Data was analysed using the Biomedical Data Package and paired t-test was carried out.

The average consumer satisfaction score was 82% and consumers from the town had a better consumer perception (average score 84%, range 54-100%) as compared to consumers from the villages (average score 80%, range 48-100%) ($p < 0.005$). Consumers aged over 36 years had a better satisfaction score than younger consumers ($p < 0.001$). Pharmacists are perceived as healthcare professionals who are also running a business (59%). The pharmacist is considered a primary advisor on symptoms of cough, diarrhoea, constipation, colds and flu, and indigestion. Consumers would like to see longer pharmacy opening hours (63%), extended diagnostic services such as HbA1c testing (45%), and a private pharmacist counselling area (37%).

Community pharmacists should consider the improvement issues raised by consumers in order to improve public perception of community pharmacists' intervention in patient care.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-073

INVOLVEMENT OF PHARMACISTS IN THE MONITORING OF ORAL ANTICOAGULANT THERAPY: DELIVERY OF A NOTEBOOK FOR THE PATIENT

F. Blanchet¹, A. Castot², A. ROULEAU², D. Thomas³, C. Dreux¹,
¹CESPHEM - Ordre des pharmaciens, ²AFSSAPS, ³FFC,
France

A study implemented in 1998 by the French regional pharmacovigilance centres showed that each year, nearly 17000 hospitalizations linked to iatrogenic events were caused by an haemorrhage with oral anticoagulant therapy (Antivitamin K treatment - AVK). In order to improve the follow-up of patients treated by AVK, a working group was created by the French Health Products Safety Agency (AFSSAPS). This group gathered experts, the Health and social education committee for French pharmacy (CESPHEM) and the French Federation of Cardiology (FFC).

Information on AVK treatment was provided to all concerned health professionals through mail and Internet by the AFSSAPS in 2001 and 2004. Pharmacists were specifically informed through the Journal of the National Council of Pharmacists.

In January 2004, a special notebook was created for patients treated with AVK and sponsored by 4 pharmaceutical companies. It includes:

- general information on the proper use of AVK
- a table to collect laboratory data of International Normalized Ratio (INR)

The use of this notebook is recommended in the SPC of concerned drugs.

The notebook has been distributed free on request:

- to pharmacists and clinical biologists (specialists in laboratory medicine) by the CESPHEM

- to physicians and other health professionals by the FFC.

In 2004, 10 159 pharmacists asked the CESPHEM for AVK notebooks. More than 160 000 notebooks were sent to community pharmacists, hospital pharmacists, clinical biologists...

These data illustrate the strong mobilization of pharmacists in a multi-professional health care program intended to limit adverse events linked to AVK treatment.

CPS-P-074

FROM IDEA TO PROJECT - A HANDBOOK FOR PHARMACY PROJECTS

B.K. Klünke, J. Morgall Traulsen,
DFU,
Denmark

Aims

To develop a tool for pharmacy projects. The handbook is a short and easy to understand guide on project work from the first idea to the evaluation of the project. The target group is community pharmacists and pharmacy students seeking concrete advice on designing and managing minor projects and interventions.

Methods

A combination of knowledge of project design, management including a practical example drawn from the world of pharmacy. This example is used throughout the handbook to exemplify the different steps of project management.

Results

The result is 'From idea to project - a handbook for pharmacy projects'. The main message of the handbook is that in principle every project consists of three elements:

1. resources (including manpower)
2. content
3. a deadline for completion.

We emphasize that no single element can be changed without affecting at least one of the other elements. In other words, if you add some new data into the project (such as an extra questionnaire) the result is that extra manpower will be required and/or the deadline must be extended. Although this is easy to understand it is often ignored in project work.

Conclusion

Successful projects need project management to control the three elements. The handbook provides a set of tools and methods to do exactly that.

CPS-P-075

TOWARD A HARMONIZED EUROPEAN PROFESSIONAL'S CARD; WHAT EUROPEAN PHARMACISTS COULD EXPECT OF IT

P. Fortuit
French Council of Pharmacists,
France

The free movement of professional service providers within the European Union and the need to protect the recipients of their services require that these professionals' quality be firmly ascertained, as far as competent authorities, potential employers and clients/patients/consumers in host Member States are concerned.

In the professions which are subject to conduct rules and possible disciplinary sanctions (i.e. pharmacists), one must be able to identify a service provider suspended from his or her right to practice.

To this end, it is suggested that each professional should carry a professional identity document.

The most effective and convenient means for that would be to partly harmonise existing national professional cards, so that they would include some common basic information.

The 'European side' of this card would mention the professionals' identity and how to contact his or her competent authority:

- owner's profession;
- identity and possibly a photograph;
- details of the supervisory body in the Member state of establishment;
- a registration number for easier consultation of their register;
- the card expiry date.

Lastly, to facilitate the use of the card, the information should be supplied at least in two languages, one of which being commonly used at international level.

The National Council of French Pharmacists has led this project and is lobbying at the European level for its inclusion in the qualification directive proposal.

Such a card could, in the future, use information technology to give access to the relevant database. Moreover, if adopted, this card could pave the way for a World Professional Identity card.

CPS-P-076

USING A LAY PANEL TO VALIDATE A QUESTIONNAIRE EXPLORING DESIRES FOR INFORMATION AND PERCEPTIONS ABOUT MEDICINES AND ILLNESS

F. A. Costa¹, C. Duggan², J. Bates²,
¹ANF, Portugal ²Barts & The London NHS Trust, United Kingdom
²School of Pharmacy, Un. London, United Kingdom

Aims: To ensure that the language used in a questionnaire measuring patients' desires and perceptions about medicines and illness is understood by the target audience, items are relevant, and culturally suitable. **Methods:** A purposive sample of chronic patients was recruited through a rural community pharmacy. Informed patients agreeing to participate in the panel met to comment on scenarios of medicine-taking, each corresponding to an item needing refinement. A consensus was sought through a Nominal group technique. Notes and audio-taping were used for clarification. Results: Seven patients participated where 6 scenarios were discussed. The first focused on side-effects, referred to as 'they either cause you good or harm'. Three of the scenarios described situations where medicines-taking could negatively impact on the patient's life; a passive perception was shared: intentional non-compliance was seen as inappropriate and doctors' decisions as undiscussed. Discussing information seeking practices were in focus and the pharmacist was referred as the one to ask as the doctor might not like it'. In the debate mixed feelings when diagnosed with a chronic disease: there was a struggle between what is felt and what God allows; several words were classified as 'sinful', including blame, hate, etc; with different degrees of severity. Consensus was reached around the least punishable expressions. **Conclusion:** Using a lay panel provided useful insights into patients' interpretations of medical jargon and cultural barriers that may be encountered in the adaptation process.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-077

HOW TO ACHIEVE MORE SAFE USE OF DRUGS

C.N. Cater, L. Pavlovic,
Community Pharmacy Zalec,
Slovenia

The research on drug interactions was carried out at the Community Pharmacy Zalec in Slovenia. In our Pharmacy there are approximately 500 prescriptions per day. The majority of our patients have more than 3 prescriptions per person for the therapy which is chronic, acute or both. We know that interactions between prescribed drugs are doctor's and also pharmacist's concern.

Pharmacists working in our institution have developed the computer program for a detection of clinical important drug interactions among prescribed drugs per patient. Our computer base has been made from the Summary of product characteristics of drugs, where we have found data of interactions.

We have looked over 125,000 prescriptions (one drug per prescription) and about 400 clinical important interactions have been detected, which represent 0,3%. We have found out that 26,2% of interactions could cause clinical changes in patients' therapy (theoretically). In these cases the dosages of one or both drugs should be monitored and if necessary changed. Among patients having anticoagulant therapy with warfarin the majority of interactions have been detected, 6,9% of interactions have been between warfarin and amiodarone, 3,8% between warfarin and thyroid agents, 2,0% between warfarin and aspirin. Among all 8,1% interactions have been between bronchodilatory inhalation (fenoterol, ipratropium bromide) and β_1 blocking drug (atenolol).

Pharmacists have detected these cases but how to react? Avoiding interaction means better therapeutic results. We are aware that pharmacists and doctors should develop national protocols for solving the situations when clinical interactions occur.

CPS-P-078

PREVALENCE OF DRUG RELATED PROBLEMS (DRPs) AMONG PATIENTS WITH PRESCRIPTIONS ON NSAIDS USING REPRESENTATIVES TO FETCH THEIR MEDICINES AT THE PHARMACY.

C. Gunnarsson, F. Ax, T. Westerlund, J-O Brånstad, S. Gustafsson,
Apoteket AB,
Sweden

Prevention, detection and resolution of DRPs are important in pharmaceutical care. It is therefore of great importance to develop pharmaceutical care in Swedish community pharmacies, since DRPs cause unnecessary suffering for the patients and costs to society. The prevalence of DRPs among patients sending a representative to the pharmacy has however previously not been studied.

Aim:

The aim of this study was to measure the prevalence of DRPs among patients with prescriptions on NSAIDs using a representative to fetch their medicines.

Method:

Six pharmacies in the middle part of Sweden participated in the study. Representatives of patients with prescriptions on NSAIDs were asked if the patient was willing to take part in a telephone interview. A pharmacist conducted the interview using a counselling model.

The counselling model used was based upon previous models developed by our group to detect DRPs in a regular pharmacy setting among patients fetching their medicines themselves. These models all covered four parts: indication, effect, compliance and safety, aimed at assessing the patients drug related needs.

Data on the drug and DRPs were recorded along with the measures taken to correct the problem.

Results:

Preliminary results show that DRPs were identified in about 25 % of the patients using representatives. In a similar study, on NSAIDs, DRPs were identified in 9.2 % (range 0.7-18.8 %) of the patients fetching their medicines themselves.

Conclusion:

These findings imply that patients sending a representative to the pharmacy may have more problems than patients fetching their medicines themselves.

CPS-P-079

DRUG ADVERTISING - A CAUSE OF DRUG-RELATED PROBLEMS?

T. Westerlund¹, L. Eriksson², H. Larsson²,
¹Apoteket AB, ²Luleå University of Technology,
Sweden

There is a growing practice of self-medication, due to an increased access of both OTC drugs and drug information, including printed advertising, TV commercials and the internet. The public does however not always have the necessary knowledge to interpret the marketing correctly, which may lead to drug-related problems (DRPs).

Aims: To examine how drug advertising (1) is perceived by the public and (2) may result in DRPs, and how pharmacy staff (3) perceive drug advertising is affecting customers and (4) document and prevent DRPs.

Methods: Two questionnaires were used in northern Sweden in early 2005. Data were collected until 100 complete customer questionnaires had been received and another questionnaire was sent out to 125 pharmacy practitioners.

Results: Of the customers (n=100), 7-52% cited drug advertising as the primary reason for purchasing a specific drug, the proportion varying among different drugs. Up to 54% named the wrong indication for the drug they had selected for their ailment. Of the pharmacy practitioners (n=72), 94% felt that TV commercials influence the customer's choice of drug more than anything else. Forty-three percent had noted that customers select the wrong drug for their ailment, due to misunderstandings of drug advertising.

Close to one in five had observed more DRPs among the customers after such exposure. The most common DRP was uncertainty about the aim of the drug, while the most frequent way to both prevent and resolve DRPs was counselling.

Conclusion: The study has demonstrated that drug advertising plays an important role in customers' choice of drugs and sometimes is misunderstood, even causing drug-related problems.

CPS-P-080

APPLICATION OF COUNSELLING MODELS FOR THE DETECTION OF DRUG-RELATED PROBLEMS (DRPs) AND EVALUATION OF RESULTING INTERVENTIONS IN SWEDISH COMMUNITY PHARMACIES

F. Ax, T. Westerlund, J-O Brånstad, S. Gustafsson, M. Nordqvist, I. Sjölander, B. Åslund,
Apoteket AB,
Sweden

One of the pharmacists' most important objectives is to ensure that the patients understand how to use their drugs to gain the best therapeutic benefits. The identification of DRPs and the suggested measures to resolve DRPs do not necessarily imply that patients gain better therapeutic benefits. To be able to evaluate the effect of the pharmacy intervention, a patient follow-up is needed.

The aim of the present study was to show the benefit of pharmacists' work in identification and resolution of DRPs. As a means, patient counselling models and a model for follow-up were developed.

Fifty-one pharmacies in Sweden were recruited for the study. Each pharmacy selected patients belonging to one of five given therapeutic groups for the intervention. DRPs and other patient data were documented in the Swedish DRP database. A telephone follow-up of the intervention was conducted with the patient, given his/her consent.

DRPs were identified with the use of 8-14% of the drugs, varying among different therapy groups. For each therapy group 5 different types of DRP corresponded to more than 75% of all documented DRPs. Ninety-four percent of the 285 patients who took part in the follow-up said that they got suggestions on how to solve their problems and 63% experienced that their problems had been resolved. The DRP detection rate was statistically significantly higher in pharmacies using a counselling model than in the controls.

According to these findings a counselling model proved to be an important tool in increasing the identification and resolution of DRPs in Swedish community pharmacies and most patients experienced that their problems were resolved.

COMMUNITY PHARMACY SECTION - POSTER SESSION

CPS-P-081

AN ELECTRONIC PILL-CONTAINER (MEMS®) ADHERENCE INTERVENTION PROGRAM IN AN OUTPATIENT HYPERTENSION CLINIC IS EFFECTIVE IN LOWERING BLOOD PRESSURE

H.F. Figueiredo¹, O. Bugnon¹, M. Burnier², M. Favre¹, T. Avenati¹, M.P. Schneider¹

¹Faculty of Pharmacy, Geneva, ²Hypertension clinic, Switzerland

INTRODUCTION Therapy effectiveness in hypertension can be assessed through the measure of office blood pressure (OBP) and its correlation with the level of drug adherence. **AIM** Correlation of patient adherence with OBP. Characterization of the long-term use of an electronic pill container (MEMS®) in an ambulatory hypertension clinic. **METHODS** Retrospective data (1998-2004) of patients having been prescribed the MEMS® for at least 2 months, because of uncontrolled OBP, were analyzed. Clinical and pharmaceutical data were collected before, during and after the adherence monitoring period. **Setting:** University medical outpatient and hypertension clinics. **RESULTS** 89 patients (62% men, median age: 53, median BMI:30 kg/m², 70% Caucasians) were included. Most of the patients were taking 3 concomitant drugs, 88% of the patients took a renin-angiotensin system inhibitor, 73% a diuretic, 51% a Ca²⁺-channel blocker and 36% a β -blocker. Median follow-up with the MEMS® was 224 days (quartiles:126-300). The MEMS® was used for more than 6 months in 53 patients (60%), 12 months in 32 patients (36%), 18 months in 22 patients (25%) and more than 24 months in 11 patients (12%). Global adherence was >90% in 37% of the patients. Mean systolic OBP at the start and at the end of the monitoring period was 160 (SD=21,IC95:155-165) and 145 (SD=21,IC95:140-150) mmHg respectively ($p<0.01$). Mean diastolic OBP at the start and at the end of the monitoring period was 101 (SD=12,IC95:98-103) and 91 (SD=12,IC95:88-93) mmHg respectively ($p<0.01$). **CONCLUSION** Mean OBP decreased significantly during drug adherence monitoring. A correlation exists between adherence and OBPA multivariable and CE analysis is in process.

CPS-P-082

WASTE OF MEDICINES IN PORTUGAL

F. A. Costa¹, A.P. Martins¹, F. Batel-Marques², V. Rodrigues², Z. Mendes³, G. Ferreira³, S. Crisóstomo³,
¹ANF, ²Faculty of Pharmacy, ³Faculty of Medicine, Portugal

Aims: To quantify the extent of medicines wasted nationally; to quantify the proportion caused by inadequate dimensioning of packages for the treatment duration and the proportion caused by patients' own decision.

Methods: A descriptive prospective study is being used, where therapeutic data is collected at baseline in the pharmacy and left over data and its reasons assessed by phone after 10 or 30 days, for acute and chronic indications, respectively. Included patients were adults, acquiring the medication themselves, incident users (3-month time window) agreeing to participate once informed. Medicines considered were those when wasted resulting in risks for individual and public health, with high costs for the National Health Service and those most often used (based on sales data). Analysis comprised descriptive statistics, χ^2 and Wilcoxon tests ($\alpha=5\%$).

Results: Pilot data corresponds to 173 patients recruited in one region (Centre). The overall waste of medicines found was 49.7%, which was dichotomized in prescription-waste (36.1%) and use-waste (45.7%); some were included in both groups. NSAIDs waste was the highest (100.0%), whilst anti-infectives was the lowest, but worrying enough (19.6%). The two most frequent patient-reported reasons for abandoning therapy were getting better (57.7%) and experiencing adverse drug reactions (28.8%).

Conclusion: Available data point to a significant waste of medicines. This problem needs to be addressed given its potential consequences on individual and public health and its obvious implications on the country's expenditure.

CPS-P-083

HYPERTENSIVE PATIENTS' PERCEPTIONS ABOUT PRESCRIBED MEDICINES

F. A. Costa, S. Costa, A.P. Ferreira, V. Gouveia,
ANF,
Portugal

Aims: To test a questionnaire evaluating patients' perceptions about medicines, communication with doctors and stages of change. This project will focus on testing different approaches to compliance and to refine this tool.

Methods: A pilot study was used to test this first version of a self-administered questionnaire. Some of the variables analysed regarding patients' perception about medicines included feelings of side-effects, effectiveness and influence in daily life. Compliance was analysed in the context of patient/physician communication. Data was collected cross-sectionally through community pharmacies in the Lisbon region and analysed by means of descriptive statistics using SPSS v.12.0.

Results: 134 patients were recruited. Gender was similarly distributed (44.0%/56.0%). Mean age was 63 years old [31-87; dp=12.1]. Most common educational level was basic education (9 years) and 11.3% had no formal education. A quarter of patients stated their monthly payment was insufficient to purchase their medicines. Nearly all (97.6%) perceived medicines as beneficial, although 13.2% said taking them affected their daily life. More than half (50.4%) felt worried about side-effects. Most patients (51.1%) stated to feel uncomfortable telling doctors when forgetting to take medicines. However, 96.2% said they were taking it as prescribed; for as long as > 12 months (83.5%), 6-12 months (5.5%), 3-6 months (3.1%) and < 3 months (7.9%). **Conclusions:** The high proportion of patients reporting financial limitations, safety concerns and limited communication ease with doctors raises compliance issues. Also, the duration of therapy leads us to address persistence in the future.

CPS-P-084

THE LAY PUBLIC'S DEFINITIONS OF DRUGS IN ICELAND

I. Björnsdóttir¹, A.B. Almarsdóttir², J.M. Traulsen³,
¹The Pharmaceutical Society of Iceland, Iceland ²The University of Iceland, Faculty of Ph, Iceland ³The Danish University of Pharmaceutical, Denmark

Aims: The main aim of the research project Public Beliefs about Medicines, initiated in 2001, was to explore lay people's views, hopes, and fears with respect to drugs/medicines - now and in the future. A part of the project aimed at mapping the informants' definitions of drugs/medicines, in order to establish and understand their point of reference when using these terms.

Methods: Eight focus groups were conducted, with a total of 42 participants of both genders and varying age, in urban and rural Iceland. Four of the groups could be described as lay and four as educated people. The interviews were transcribed verbatim and excerpts translated into English.

Results: The informants generally agreed that drugs/medicines were used for distinct and/or symptoms. Some of them restricted the definition to prescription-only drugs, or something that a physician recommends. Many informants included painkillers, cough mixtures, nose-drops, and other over-the-counter products; others clearly stated that they did not, so there was not a consensus regarding that part of the definition. The informants discussed whether or not to include vitamins, food supplements, herbal remedies and functional foods, without reaching consensus. A few informants discussed whether or not illicit drugs or narcotics should be included and some informants wanted to define drugs on a chemical basis or as something that affects bodily functions or interferes in a positive or a negative way in the natural course of possible diseases/symptoms.

Conclusions: Professionals should be aware of the variety of definitions of the terms used by the lay public when discussing drugs/medicines.

POLICY MAKING IN COMMUNITY PHARMACY

I. Björnsdóttir
The Pharmaceutical Society of Iceland,
Iceland

Background: A deregulating legislation, opening up for a wider variety of ownership of pharmacies, was passed in Iceland in 1994, taking full effect in 1996. Following the deregulation, extensive chain formation took place, and the principles of the free market became more prominent than before. The Pharmaceutical Society of Iceland initiated work on the development of the Community Pharmacy Policy in 2001 in order to influence the field towards health care oriented professionalism to the extent possible.

Methods: The first steps were two brainstorming sessions, open to all members of the Pharmaceutical Society. These were moderated by a non-pharmacist who was an experienced brainstorming session leader. Over the next 4 years member meetings were held once or twice a year to develop the policy further, and on the General Assembly in 2005, held on the 31st of March, the policy was brought up for discussion and voting.

Results: The members did not feel need to discuss the policy and voted for it unanimously.

The adapted policy addresses 6 general fields:

1. General views, laws and regulations
2. Education
3. Service to outpatients/customers
4. Assessment in community pharmacies
5. Information for pharmacists
6. Communication with others

Conclusion: Now we have a generally accepted policy for community pharmacy. Our representatives will refer to it, when expressing our views in a committee on medicines policy making, established by the Ministry of Health. The process of making the policy was quite educating for the participants, who also enjoyed the work. The impact for influencing other stakeholders in the field and politicians remains to be seen.

COMMUNITY PHARMACY SECTION - SHORT ORAL PRESENTATIONS

CPS-O-001

ARE PATIENTS RECEIVING HEALTH-RELATED INFORMATION AND MEDICATION COUNSELLING FROM SOUTH AFRICAN COMMUNITY PHARMACISTS AND ARE THEY WILLING TO PAY FOR THESE SERVICES?

P.W. Hill, R. Dowse,
Rhodes University,
South Africa

Study Objective. To determine if insured patients in South Africa receive and value community pharmacy based patient education and counselling services.

Methods. A 39-item web-based survey instrument interrogated randomly selected insured patients to determine their use of prescription medicines; the provision of patient counselling and information; the frequency of pharmacy visits; the nature pharmacy purchases; the provision of clinical services; the incidence of chronic disease amongst respondents; their satisfaction with pharmacist services; their ranking of pharmacist accessibility, and if pharmacists should be reimbursed for providing professional services. Of the 703 randomly selected insured patients telephonically surveyed, responses from 628 were included in the study with 75 being excluded because of duplication.

Results. Sixty percent of respondents received medicines from pharmacists and of these, 79% reported receiving medication counselling and 77% received health-related information from pharmacists. This contrasts with those respondents who received medicines from doctors and where 98% reported being counselled on medicine use and 99% received health-related information. Almost two thirds (62%) of respondents considered doctors more accessible than pharmacists and 54% believe that pharmacists should not be paid for providing professional cognitive services.

Conclusion. Pharmacists compare unfavourably with doctors in terms of accessibility to patients and in providing patients with health-related information and medication counselling. Just over half the patients surveyed are unwilling to pay pharmacists for professional pharmacy services.

CPS-O-002

MANAGEMENT OF MALARIA IN TWO COMMUNITIES IN ASHANTI REGION, GHANA

K.O. Buebeng
KNUST,
Ghana

Malaria remains a leading cause of morbidity and mortality in sub-Saharan Africa accounting for between 250-300 million deaths per annum. In Ghana, malaria accounts for over 40% of daily outpatient attendance and more than 38000 deaths per annum. Home treatment of malaria is advocated rationally and most patients only report to health facilities after home treatment has failed. In this study, we assess the appropriateness of home-based management of malaria prior to hospital attendance. **Method:** Structured questionnaires were prospectively administered to 500 patients who were diagnosed clinically (37%) and/or parasitologically (63%) with malaria at two health facilities – the Agojo Presbyterian Hospital and the Sunyani polyclinic, both in the Ashanti Region of Ghana. 213 of the 500 patients had taken antimalarials in the two weeks preceding hospital attendance. The most commonly used antimalarials were chloroquine (76%), artemisinin (6%), sulfadoxine-pyrimethamine (9%) and herbal preparations (9%). The sources of these medicines were from licensed chemical stores (50%), pharmacy shops (17%) or 'other' sources which include left-over medicines at home (33%). 139 of the 213 patients used these medications inappropriately (wrong dosage, duration, frequency) indicating a rather high level of inappropriate use which may explain the treatment failure.

Conclusion: The prevalence of inappropriate use of anti-malarials in the community prior to hospital attendance is high. There is an apparent need for enhanced public health education on home management of malaria and training for workers in the drug shops to ensure effective use of anti-malaria drugs.

CPS-O-003

PHARMACY CARE IN A MULTIETHNIC POPULATION IN SWEDEN

A.J. Jallow, B.S. Sävneby Berit,
Apoteket AB,
Sweden

Introduction

The over 40 thousand inhabitants of multicultural North Botkyrka, a suburb to Stockholm, originate from about 100 countries. Language difficulty is common. The medication panorama is wide and Pharmacy staff may find it difficult to update their knowledge adequately.

Aim

The project aims to improve pharmacy care in a multiethnic population in Sweden.

Results

The multi-cultural and lingual Pharmacy staff were organised into therapy areas. Integrated staff education by each therapy group was initiated. For example each therapy group did, in line with campaigns by the National Pharmacy Cooperation, study and educate the rest of the staff about: disease mechanisms in their respective therapy area; pharmacological- and non-pharmacological management; physical activity for disease prevention; and suitable physical activity for customers receiving disease management.

Discussions

Patients receiving orphan drugs are common customer at the Pharmacies in multiethnic North Botkyrka. This project aimed to meet their needs for pharmacy service. We have organised the Pharmacy staff in therapy groups and also expose their language and cultural competence to customers.

Lessons learned

Organising Pharmacy staff into therapy areas will allow for highly qualified medication information for optimal medication use. The exposition of their language and cultural competence does enlighten pharmacy care in the multiethnic population in Sweden.

CPS-O-004

CHANGE AGENTS IN COMMUNITY PHARMACY – THE ROLE OF THE MOTIVATOR AND ENABLER FOR CHANGE

M.L.L. Kane
Pharmacy Guild of Australia,
Australia

Community pharmacy in Australia is undergoing a reorientation in practice, including more income from professional services and less from product sales. This change is being forced and facilitated by the contract that community pharmacy has with the Australian government for pharmaceutical services.

The Third Community Pharmacy Agreement, 2000-2005, introduced a number of major changes: quality assurance through the Quality Care Pharmacy Program (QCPP), provision of Consumer Medicines Information (CMI) information, and Home Medicines Review (HMR, medication review by a pharmacist usually in the consumer's home). The Third Community Pharmacy Agreement also included funds for research, including on barriers to pharmacy practice change, change management and associated models. This paper is based on a personal view of change in community pharmacy supported by literature and other opinions to highlight the role of a motivator or enabler in practice change.

The paper will discuss the role of the enabler-change agent, features of a successful enabler (including background in pharmacy or related area, empathetic personality, broad perspective of the issue, being problem solver), and aspects of their operational success, including in-pharmacy delivery of education and motivation, based on experience in the uptake of the following areas of practice change: health information leaflets to assist in the management of health issues (the Pharmacy Self Care program of the Pharmaceutical Society of Australia), QCPP, HMR, and observations on practice changes that have not been taken up in a major way in Australia.

COMMUNITY PHARMACY SECTION - SHORT ORAL PRESENTATIONS

CPS-O-005

ACCEPTANCE OF EGYPTIAN PATIENTS TO THE CLINICAL ROLE OF PHARMACISTS IN PATIENT CARE

O.H. Kamel Mohamed
Faculty of Pharmacy, Cairo University,
Egypt

Nowadays, pharmacists have new roles in patient care other than traditional drug compounding and dispensing. Drug interaction check, follow-up of drug therapy and patient counselling are of the important pharmacist's duties. Objective: to determine the acceptability of Egyptian patients to the clinical role of pharmacists in both community and hospital settings. Method: a questionnaire was designed to answer the question of interest and to obtain information about the impact of pharmacist active participation in patient care. The questionnaire was distributed on several community and hospital pharmacies customers in Cairo during patients' visits to the pharmacies.

Results: 42 patients answered the questionnaire out of 100 community pharmacies customers. 78% of the patients had a great acceptance to the clinical role of pharmacists. The percentage acceptance was higher education customer. About 93% of patients ensure the positive impact on good counseling on their current therapy. Drug interaction check got the highest acceptance between patients (98%). The lowest patient acceptance was for the pharmacist role in therapy follow-up due to lack of trust in pharmacists' medical information. Conclusion: There is a good acceptance to the clinical roles of pharmacists in the Egyptian market. However, there is underappreciation to the pharmacists' medical information that enables them to carry out the clinical roles.

CPS-O-006

HOME VISIT BY TAIWAN PHARMACISTS

D.J. Shian¹, Y.N. Lo¹, L. Huang², S.C. Sung¹,
¹Ching-Kang Foundation, ²Far Eastern Memorial Hospital,
China Taiwan

Goal:

By home visits, pharmacists can fully understand residents' compliance and help chronic patients better control their conditions. Medication waste can be reduced as well. In addition, the public can realize the extended role of pharmacist in the primary care via this project. The partnership between the patient and the pharmacist will be getting stronger.

Method:

This home visit pilot program was implemented in ten communities in Taiwan. Before visiting the patients, workshops of drug safety were held. Pharmacists made 2 to 3 visits to some households, selected according to the nature of the neighborhood. In Keelung, residents who may neglect pharmacists' or doctors' orders were chosen. Pharmacists, in company with local leaders, visited most household in a community of Fanchiao.

Results:

62 pharmacists conducted this pilot program within 3 months. 661 households were visited and counseling was provided. Indication of the medicine (47%) was the question which was most frequently asked, followed by directions of use, side effects, warnings, drug name, and storage. Of those residents who have problems with storage and compliance were visited twice or more, 70% have become more cooperative in taking and storing their medicine.

Conclusion:

This project is designed to build a mutual trust between pharmacists and patients. By walking into households, pharmacists can realize their role in primary care and at the same time the public can realize that pharmacists can do more than fill prescriptions. This pilot study suggests that home visit by pharmacists was worthy to extend and should be covered by National Health Insurance Program.

CPS-O-007

DEVELOPING A METHOD TO REPORT EACH STEP OF THE COMMUNITY PHARMACISTS INTERVENTIONS

J.M. Krühenbühl, V. Nicolet, O. Bugnon,
Policlinique Médicale Universitaire,
Switzerland

AIMS

To develop and to evaluate a method to report and analyze community pharmacists' interventions, which includes each step of the process.

METHODS

Use of a report system based on 5 parameters: A) Triggering effect; B) Domain; C) Emergency degree; D) Decision taken; E) Possible outcome.

12 community pharmacies documented each step of their interventions during 4 weeks. The intervention rate and the most frequent elements of each step of the process were reported.

RESULTS

1890 interventions out of 45559 patients have been reported (rate 3.27%, range 0.7 - 9.8%, median: 2.9%). The most frequent elements for each parameter are the following:

A) Triggers effect: Pharmaceutical data consulting (44%), discussion with the patient (37%)

B) Domain: OTC advice (43%), including symptoms evaluation 14% and demands for Rx medicines without prescription 13%; Prescription validation (39%), including generic substitution 19% and abuse 8%

C) Emergency degree: Problems directly solved at the pharmacy (52%)

D) Decision taken: Changes without asking prescriber's opinion (61%) and with his / her opinion (15%)

E) Possible outcome: May avoid a toxicity problem (24%), bring direct savings (19%)

A list of the 14 most frequent combinations represented 48% of all interventions.

CONCLUSIONS

It is a priority for community pharmacists to implant a simple and national system to report the added value of their interventions. The studied report system has the advantage of describing the whole management process of the intervention. It could be adapted to be easily implanted at a larger scale, integrated in the pharmaceutical management software and supported by an educational program.

CPS-O-008

THE PHARMACO-THERAPEUTIC FOLLOW-UP FILE, A TOOL FOR ENRICHING PROFESSIONAL PRACTICE

H. Lepage
French Council of Pharmacists,
France

In France, the dispensation process aims to patient's guaranty the safety and quality of pharmaceutical care. Based on the analysis of the request, the drug dispensation includes both the pharmacist's therapeutic expertise and his knowledge of the patient's needs.

The choice and the quality of the data he has access to impact his analyses not only as regards safety but also to make sure the prescribed drugs are used to the best possible effect.

The community pharmacist has managed his own data base for some decades, but his use of these data remains confidential.

By introducing the concept of « Opinion Pharmaceutique » in everyday pharmaceutical practice, the French Council of Pharmacists makes the dispensation visible, evaluable, communicable and opposable. Its systematic record enables the pharmacist to have a collection of data structured in a therapeutic file, according to specific needs, mainly for chronic disease patients.

This Pharmaco-Therapeutic Follow-up File (PTFF) highly improves the development of the pharmaceutical analysis and lead to a better use of healthcare products.

The Council has presented the PTFF specifications to software companies in order to have them develop a tool fulfilling the professional aims and also to enable them to add further functions to it.

The goal of this presentation is to share reflections on better practice of the community pharmacist, which could combine his scientific qualification, his role in public health and his participation in healthcare networks.

COMMUNITY PHARMACY SECTION - SHORT ORAL PRESENTATIONS

CPS-O-009

ARE DOCTORS WILLING TO PLAY IN THE COMMUNITY PHARMACY PRACTICE CHANGE?

E.I. Paulino¹, F. Costa², S.I. Benrimoj³

¹University of Lisbon, Portugal ²CEFAR, ANP, ³Faculty of Pharmacy, Australia

Aims

to identify physicians' perceptions of pharmacists' professional role; to understand the barriers and facilitators of collaboration between pharmacists and doctors;

to facilitate the development of a model that contributes to enhance collaboration between the two health professionals.

Methods

Data were collected through in-depth interviews with purposively sampled physicians, using an interview guide developed for this study. Participants were practising physicians from various settings and policy makers. Interviews were transcribed verbatim and its content analysed thematically using the program NVivo.

Results

Preliminary results indicate that three different roles were described by interviewed doctors, varying from doctor's checker, businessman, and health professional. Participant perceptions about extended services in community pharmacies brought about issues concerning role encroachment, sustainability and reliability, time availability, variability between different pharmacists, and lack of cocodization with other professionals. Several barriers for further collaboration were identified, such as an existing interprofessional gap, deficient communication systems and lack of financial incentives. Joint training and education, and increased personal and professional interactions were identified as facilitators.

Health professionals close collaboration can be seen as necessary for achieving greater patient benefit, but there is still a gap to overcome before there can be a true commitment of all stakeholders. It seems crucial that this gap is addressed when developing extended services in community pharmacies, most of which involve doctor's participation.

CPS-O-010

AN INSIGHT TO OVER THE COUNTER MEDICINES

M.S. Honrao, K.N. Gujar, S.D. Sawant, R.N. Kame,
Sinhgad Inst. of Pharma. Sciences,
India

This paper is an attempt to study the OTC product along with their need & risks involved. Also to compare OTC list in India with developed country like U.S.A. The list of OTC drugs in country like India is obviously shorter than any other developed country like USA owing to the fact of low literacy and so little general awareness of medicines amongst people.

The cost of seeing a physician is high, so in developed countries also a license price leads to self medicate. There is need of OTC drugs for management of common and not so severe ailments. Though only the well - proven and safe drugs are included in OTC category, the fact remains that if misused they can lead to toxic severe effects. Every OTC drug user must follow certain guidelines for safe use, which are discussed in the paper. In India this risk increases further as mostly all the labels of medicines are written in English which many users cannot read. So the authors think that role of retail pharmacist and concept of patient guidance and counselling is needed for better health care and safe use of OTC drugs & also for prescription drugs which is not yet practiced in India. A survey was carried out by the authors in this regard of 200 users & 50 retail pharmacies to know the awareness of the user & the retailer in this regard which emphasizes the above fact. The willingness of the retail pharmacists to bring about this change is a welcome step in the area of the healthcare system in India.

HOSPITAL PHARMACY SECTION - POSTER SESSION

HPS-P-001

PHARMACY PRACTICE AND IT: A CASE OF E-HOSPITAL

I.M. Labouta, N. Nabil,
Alsalama Hospital,
Egypt

Information technology (IT) continues to make considerable advances in all aspects of society. In health, there are a number of areas where these advances may impact on pharmacy practice. In 2003 Alsalama group for health care established an e-hospital in Alexandria implementing some of the recent digital hospital technologies such as CPOE (Computer Physician Order Entry) and eMAR (electronic Medication Administration Record). The objective of this study was to assess the impact of this technology on the role of pharmacists and the quality of pharmacy practice using various indicators over the period Jan. 2004 - Mar 2005. The study indicates that the pharmacists expanded their traditional role; medications dispensers, to include clinical pharmacy service in the hospital. The pharmacists are involved in activities such as clinical ward rounds, patient and community education, provision of drug information, drug history taking, medication errors, therapeutic drug monitoring, advices on drug and therapeutic committees. The impact of IT on quality of pharmacy practice in the two major areas, namely; managing drug supply and medication management process was assessed. Trend analysis of drug-drug interaction and medication errors indicate 7% and 17% reduction, respectively. A similar analysis indicates 40% increase of drug information requests. The study also indicates reduction in drug expiration (<0.02%), frequency of drug shortages (<2%), unnecessary drug expenditures and improvement in prescribers' and patients' knowledge of drugs. The high cost and reluctance of some health professionals to use the technology were the main constraints experienced during implementation.

HPS-P-002

PHARMACEUTICAL CARE NEEDS IN PREVENTION OF CORONARY HEART DISEASE IN TYPE 2 DIABETES MELLITUS

M. Aciu, D. Calina,
University of Medicine and Pharmacy,
Romania

AIMS: The objective of this descriptive and retrospective study is to assess the pharmaceutical needs of type 2 diabetes in relation to primary prevention of coronary heart disease (CHD), because type 2 diabetes is a strong risk factor for CHD and is associated with a 2-4 fold increased risk for coronary heart compared with non-diabetics.

METHODS: This study comprises of two parts; firstly to look at the adherence of prescribers to the recommended treatment guidelines and risk factors in the primary prevention of CHD in type 2 diabetes; and secondly, to identify pharmaceutical care issues and determine the pharmaceutical care needs in this particular group of subjects and subsequently a pharmaceutical care plan was prepared.

RESULTS: 38 patients were involved in this study. The level of adherence of prescribers to the treatment guidelines is low (16%) with 36% subjects on aspirin/antiplatelet therapy, 24% subjects on beta blockers, 34% subjects on ACE inhibitors and the highest 65% subjects on statin therapy. Out of 540 pharmaceutical care issues identified, 24% of subjects required monitoring of disease states or drugs followed by 20% of subjects had altered laboratory measurement, 12% of subjects on precaution and last but not least, noncompliance which account for 7% of the subjects.

CONCLUSIONS: The pharmaceutical care activities identified reflected that there was a need for clinical pharmacists to be on the wards. A treatment guideline for this group of patients need to be prepared for the benefit of new pharmacists in the public sector.

HPS-P-003

FAMOTIDINE UTILIZATION AS STRESS ULCER PROPHYLAXIS

M. Aciu, D. Calina, L. Bejenaru,
University of Medicine and Pharmacy,
Romania

AIMS: To evaluate the rational use of Famotidine as stress ulcer prophylaxis in General Intensive Care Unit, because critically ill patients have higher tendency to develop stress ulcer, and stress ulcer prophylaxis is recommended for this group of patients.

METHODS: The study was carried out prospectively, 18 patients who received Famotidine were included in this study. The data was analysed using Microsoft Excel 2000.

RESULTS: The result showed that 12 out of 18 patients (66,7%) complied with guidelines. When evaluated based on modified guidelines which was considered other risk factors identified by other researches incorporate, a total of 17 patients (94,4%) complied with this modified guidelines. There were 4 patients (22,2%) received Famotidine injection/tablet even when patients were taking oral food. Only 6 patients (33%) discontinued Famotidine when patients were allowed oral intake. While 9 patients have renal impairment, only 5 patient's Famotidine dose was adjusted (55,6%).

CONCLUSIONS: Majority of patients were rationally prescribed Famotidine as stress ulcer prophylaxis. However Famotidine dose adjustment in renal impairment function need further improvement.

HPS-P-004

PATIENT RELATED PHARMACEUTICAL CARE ISSUE

M. Aciu, D. Calina, L. Bejenaru,
University of Medicine and Pharmacy,
Romania

Aims: The increased number in morbidity and hospitalization costs are well recognized due to pharmaceutical care issues. It is important to identify the case early and intervention should be taken immediately.

Methods: This study was conducted in the Clinical Emergency Hospital, Craiova, Romania, where subjects were chosen using a convenience sampling method. Interview session was conducted to identify actual and potential pharmaceutical care issues. Sixty subjects within the age range of 17 to 80 years were selected.

Results: Most of the subjects has primary level of education (46,7%), and majority subjects have chronic diseases (66,7%). The most common actual adverse drug reactions documented was drug side effect (75%), which involves cardiovascular drugs. Potential adverse drug reaction was related to the sedation of the renal and liver function. 83% of the subjects have actual compliance issues. Non-compliance is expected in subjects with hearing problems and subjects who have difficulties to read and understand direction on the label. The study showed subjects' knowledge about disease and drug taken was not satisfied in 68% of subjects and 25% of the subjects were not interested to be counseled.

Conclusions: The percentage of pharmaceutical care issue related to patient are high therefore it is important to have an early intervention toward the issues.