

Community Pharmacy Section - Poster Session

CPS-P-005

THE NO COMPLIANCE OF THE THERAPEUTICAL FOR PATIENTS THAT PORTER DIABETIC MELLITUS

I. Valadares Freitas, G. Braga Pires
Univ. Estadual de Feira de Santana Brazil

ABSTRACT

The no compliance of the therapeutical for patients that porter Diabetic Mellitus, may intervene in the evaluation of the clinical response and causes the therapy failure. This study has as theme the compliance to the hipoglicemiante treatment, by diabetics patients, attended by the Health Center PSF-Feira VI in Feira de Santana city - Bahia. The objective is evaluate the compliance of the treatment with medicines. For empirical research it was used as instrument standardized forms, directed all population. Through a field research it was gotten a prevalence of the treatment compliance of 62% and no compliance 34%, and 4% dont applies. The main reason of the no compliance treatment was the non-interest in having the hipoglicemiante medicine prescribed. Starting with the prevalence knowledge of the compliance to the hipoglicemiante treatment, it is possible make interventions in basic assistance to the health.

Keyword: compliance of therapeutical, Diabetic Mellitus, hipogliceminate medicine,

CPS-P-006

STUDENT PHARMACISTS - INVIGORATING COMMUNITY HEALTH

M. Mohammed
Smt. Sarojini Ramulamma College of Pharm India

Community pharmacy is a branch of pharmacy profession held in giving pharmaceutical care to community. A line of work can be called profession when it rendered services to the community. Widespread sale of prescription drugs on over the counter (OTC) like chocolates despite of being illegal is practiced due to commercial aspect being more dominant over the professional one. Moreover the socioeconomic issues, high illiteracy and poverty among patients always backup. So the role of student pharmacist should identify the objectives for serving and creating awareness in community through community oriented practices. Student pharmacist should take part in health promotion campaign locally and nationally on a wide range of drug and health related topics. The need for understanding drug related information among the public is essential which student pharmacists can achieve.

In developing countries like India due to lack of information, there is continuous increase in number of HIV patients. Student pharmacist can play important role in preventing of AIDS and other diseases, in community by arranging different awareness programs during pharmacy week and also make opportunities to conduct different programs. The panic among people also increased due to recent outbreak of bird flu in India, this is also due to insufficient information in the public and this also needs awareness among people regarding the prevention, symptoms and control of the disease.

Our poster paper is based on the survey conducted in Mahboobnagar district, Andhra Pradesh state, India. Survey of people and 150 pharmacies clearly demonstrates that there is a great need of community pharmacy and student pharmacist can play an important role to build the health of the nation.

CPS-P-007

SMS SERVICE - IMPROVEMENT OF SERVICE TIME IN THE PHARMACY FOR THE BENEFIT OF BOTH COSTUMERS AND THE PHARMACY

H.L. Larsen, L.F.H. Feldborg Hansen
Holstebro Løveapotek Denmark

THE IDEA: We want to cope with the expectations and wishes of the modern costumers to among other things to bring down the waiting-time in the Pharmacy, but also to make the daily work easier in the Pharmacy.

From this we had the idea to use the tecnology of time, and ind this way to communicate with and to fulfil the costumers' expectations of a modern Pharmacy.

AIM: To bring down service-time for a selected group, and to match a modern and busy group of costumers. Using the possibilities of the Pharmacy and tecnology of time.

TARGET GROUP: People using mobile telephones and computers as a natural aid in every day life. User og birth control pills to begin with.

METHOD: We offer to keep the costumers' prescription and when the day of service has come we either send SMS or mail to the person in question.

After this the pills will be ready to collect, when it is convenient for the costumer to come to the Pharmacy.

The information about this offer will be either oral or ind the form of a folder free to take. And it will also be available on the Pharmacy's homepage.

The entry of the costumer can happen via the homepage or filling in a form from the folder.

RESULTS: The study will take place from the first og March 2006 and during the next year. After this we can present results.

CONCLUSION: The Pharmacy can benefit from these services by being able to manage its own time. We will keep a younger group of costumers and make it natural for them to come to the Pharmacy. It also gives us the possibility to foresee services and by this to adjust our stock. We anticipate expanding these services to other groups of costumers when we have evaluated our project.

CPS-P-008

EVALUATION OF PHARMACY FIRST SCHEME: PHARMACISTS' VIEWS

S. Puntong, C. Anderson, H. Boardman
University of Nottingham United Kingdom

Introduction

The Pharmacy First Minor Ailments scheme was introduced by Nottingham City Primary Care Trust in December 2003. It aims to reduce doctors' workload by enhancing the role of community pharmacists in the management of minor ailments.

Aim

To investigate pharmacists' perspectives of the scheme.

Methods

Semi-structured interviews were conducted with 26 community pharmacists between November 2004 and March 2005. The interviews were tape-recorded, transcribed verbatim and analysed for emerging themes using the principles of constant comparison and deviant case analysis.

Results

The attitudes of the pharmacists toward the scheme varied widely. While approximately half of them were positive about implementing the scheme, five were predominantly negative. A degree of indifference was apparent with at least eight pharmacists. Nearly all the pharmacists stated they thought the scheme benefited patients in terms of improving patient access to medicines and often being more convenient than visiting a doctor. Most pharmacists reported that the scheme also benefited health professionals, in reducing doctors' workload and enhancing the professional image of pharmacy with the public. However, around half of pharmacists felt that the formulary was too limited and suggested that there should be a larger range of products available and more indications that could be treated, for example, conjunctivitis and hay fever. The interviews highlighted a number of problems related to the operation of the scheme including the large amount of paperwork involved, poor publicity for the scheme, a lack of privacy in some pharmacies, and the difficulty in providing services for some ailments.

Conclusion

The findings demonstrated that most pharmacists were positive about benefits of the scheme to both patients and health professionals. However, several difficulties in providing the service were identified and these need to be overcome.

Community Pharmacy Section - Poster Session

CPS-P-009

EVALUATION OF PHARMACY FIRST SCHEME: PATIENTS' VIEWS

S. Pumtong, C. Anderson; H. Boardman
University of Nottingham United Kingdom

Introduction

The Pharmacy First Minor Ailments scheme was introduced by Nottingham City Primary Care Trust in December 2003. It aims to reduce doctors' workload by enhancing the role of community pharmacists in the management of minor ailments.

Aim

To measure patients' satisfaction with the scheme.

Methods

Questionnaires were sent to 900 patients (or parents) registered with the scheme. Additionally the researcher observed minor ailment consultations in pharmacies and asked 100 patients (or parents) who were using the service to complete a questionnaire. Data were collected between May and December 2005, and analysed using SPSS version 11.5.

Results

A total of 143 questionnaires were returned, 72 using the mailing method and 71 from the observations. Nearly 90% of the respondents were women. The mean age was 33 (range 17-62). Approximately 60% had annual household income below £10,000. Scores from 24 items were summed to give an overall satisfaction for each respondent (mean 99.7, SD 11.4, range 67-120, possible score 24-120). The highest satisfaction was reported for access/availability/convenience subscale and the lowest satisfaction with the physical environment subscale (the lack of privacy in pharmacies). Overall satisfaction score did not differ significantly with regard to gender, age, education, ethnicity, employment and frequency of using the service. However, higher overall satisfaction score was found among respondents with the lowest incomes ($p = 0.042$). Those who were recruited during the observations reported significantly higher overall satisfaction scores ($p < 0.001$). Most respondents were keen to see the scheme continued. However, they raised some issues such as the lack of privacy for consultations, and the small range of medicines available.

Conclusion

The findings demonstrate patient satisfaction with the scheme was quite high. Some of the problems raised needed to be addressed and these may increase patient satisfaction.

CPS-P-010

EVALUATION OF RISK OF OCCURRENCE OF INTERACTION BETWEEN PRESCRIPTION-ONLY DRUG AND NON-PRESCRIPTION DRUG

N. Otonicar, V. Bavcar
Community Pharmacy Ljubljana Slovenia

Background: The law that allows selling non-prescription drugs in specialized drugstores is under debate in Slovenia. Currently non-prescription drugs can be sold only in pharmacies. According to law, at least 1 pharmacist (master degree) must be employed in a pharmacy, while in a drugstore at least 1 pharmaceutical technician (secondary school) must be employed. A technician does not have knowledge of interaction between non-prescription drugs and prescription-only drugs.

Aim: To evaluate the probability that patient on prescription-only drug simultaneously uses non-prescription drug and that there is an interaction between them.

Methods: Following data were collected for 2 pharmacies in Community Pharmacy Ljubljana: number of prescriptions and number of purchases for period Jan.- Dec. 2005. One pharmacy dispenses approximately 620 prescriptions and has 320 purchases, the other dispenses 120 prescriptions and has 200 purchases per day. The probability that both occurrences happen together was calculated and presented as number of occurrences per year per number of prescriptions in Community pharmacy Ljubljana (approx. 2,250,000 in year 2005). Rarely prescribed drugs were chosen for statistics. Commonly prescribed drugs, for example antihypertensive drugs, anticoagulants, antidiabetics... were excluded.

Results: The highest probability of interaction was identified for acetylsalicylic acid (valproic acid, methotrexate)- approx. 250 occurrences, lower for dextromethorphan (fluoxetine, moclobemide, sibutramine) and NSAID- ibuprofen, naproxen (methotrexate, lithium carbonate, ciclosporin) - 60 occurrences, and the lowest probability for phenylephrine (sibutramine), pseudoephedrine (sibutramine), lactulose and lactitol (mesalazine) - approx. 5 occurrences per year in Community Pharmacy Ljubljana.

Conclusion: A pharmacist has an important role in recognizing interactions between non-prescription drugs and prescription-only drugs and has a great influence on the safe use of medicines.

CPS-P-011

RECYCLING OF KNOWLEDGE AT APOTEKET CUSTOMER CENTRE - ORGANIZATIONAL AND QUALITY IMPLICATIONS

A.M. Wendel
Apoteket AB Sweden

The national cooperation of Swedish pharmacies (Apoteket AB) has developed a national customer centre with the purpose to improve accessibility and freedom of choice for the customer, improve quality of given answers, relieve pressure on the local pharmacies regarding phone calls and reduce costs for Apoteket AB.

14 000 phone calls, faxes and e-mails from private, professional and internal customers are answered every day, 260 agents in first line answer 99.9% of these questions with the help of approved databases and internal information sources. Only 0.1% of all errands can not be handle in the first line and is sent to second line support to be investigated. The answer is sent back to first line that gives the answer to the customer.

The second line decides whether or not these new questions and answers should be integrated into the FAQ database and made accessible to the agents. New customer needs are in this way collected in one crucial point, evaluated, investigated and eventually integrated into the quality assured FAQ database. The FAQ database is complementary to other internal and external approved databases with the purpose to supply with new or additional information, not available in the other databases used by first line agents. Informational needs from the market are in this way analysed and processed in one place in the company.

The closeness to the market, the customers and their needs, the volume of calls and the fact that we document all errands, makes it possible for the Customer centre to give valuable input to other company processes in order to improve both efficiency and quality.

Today the FAQ-database is used by Apoteket Customer Centre but will soon be made accessible to the whole company, 900 pharmacies will be able to use existing FAQs and provide the database with new material to meet customer needs that appear at the local pharmacies.

Organizational and quality implications of four years experiences will be discussed.

CPS-P-012

US/HUNGARIAN PARTNERSHIP TO IMPLEMENT MEDICATION THERAPY MANAGEMENT AND PUBLIC HEALTH SERVICES IN HUNGARIAN COMMUNITY PHARMACIES

L.B. Brown¹, A.S. Samu², D.G. Gourley¹, G.H. Halmos³

¹University of Tennessee United States-of-America ²Hungarian Private Pharmacists Associatio Hungary ³Debrecen University Hungary

Purpose of Project: To decrease the prevalence of cardiovascular disease, cancer and obesity in Hungary through the use of Hungarian pharmacists providing health promotion services in the community pharmacy. **Project Plan:** Train 28 pharmacists from various geographical areas of Hungary so they can provide health promotion services in the community pharmacy. The pharmacists would complete three separate 3-day training sessions in pharmaceutical care/medication therapy management, smoking cessation & weight management, and cardiovascular disease. Professors from the University of Tennessee (UT) would train six Hungarian pharmacy professors, mainly from the School of Pharmacy, University of Debrecen (DU). These professors would train the initial 28 Hungarian pharmacists, and other pharmacists in the future who desire to be certified as Health Promotion Pharmacists. **Health Promotion Activities:** Health Promotion activities would include: distributing preventive health and health information brochures to their customers; displaying preventive health posters in the pharmacy; providing smoking cessation and weight management services to patients; providing diabetes and cholesterol screening services to patients; providing pharmaceutical care/medication therapy management services to patients with high cholesterol. **Project Outcomes:** Pharmacists will be provided with forms to document the services they provided, such as: the number of preventive health brochures provided to patients; the number of health screening fairs; the number of blood pressure, glucose, and cholesterol screenings; and the number of patients who completed a cholesterol management, weight-loss, or smoking cessation program. **Clinical outcomes measures** include blood pressure, LDL/HDL, and kilograms loss.

Community Pharmacy Section - Poster Session

CPS-P-013

HERBAL MEDICINAL PRODUCTS AT THE MARKET OF SERBIA AND MONTENEGRO

D. Djurovic¹, J. Milic², N. Kovacevic²

¹Medicines and Medical Devices Agency Serbia and Montenegro ²Faculty of Pharmacy Serbia and Montenegro

This article is aiming at presenting data about herbal medicinal products (herbal remedies) available at the Serbia and Montenegro (S&M) market.

From 1986. up to 2004. herbal remedies were classified in category of 'supporting medicines'. During that period, about 400 different remedies got marketing authorisation and half of them were botanicals (domestic or imported).

In S&M herbal remedies are used only thought self-medication. Mainly, they are distributed in the pharmacies. There are a lot of tea and tea mixtures. Only few of them pass registration as 'supporting medicines'. The other are marketed according to the presence of official herbs or they are labelled as non-medicinal teas. The most frequently used herbs are: peppermint, camomile, dog rose, hibiscus, marshmallow, linden, sage, wild thyme, tea, senna.

Like elsewhere, more popular are herbal remedies in dosage forms, especially those prepared with black cohosh, ginkgo, saw palmetto, ivy, St. John's Wort, echinacea, horse chestnut (more data will be given). Data from our pharmacies shows that 17 % of herbal remedies are indicated for cardiovascular disorders, 16 % for respiratory tract disorders and 15 % for digestive tract (more information will be given). At the market of S&M we have plenty of products (domestic and imported) which are distributed as dietary supplement inappropriate labelled.

According to new law, harmonised with EU, herbal medicinal products have to be divided in drugs and traditional drugs. Besides, quality of domestic products and documentation, especially in the part of pre-clinical and clinical confirmation of efficacy, has to be improved.

CPS-P-015

PHARMACY EDUCATION IN INDIA & ITS RELEVANCE TO PHARMACY PRACTICE - AN OVERVIEW & COMPARISON

M. Mohammed, M. Shetty, M. Hussaini, M. Vamshi
SSR College of Pharmacy India

Pharmacy education in India differing from that of developed countries and this probably affecting on the pharmacy practice procedures in India. The syllabus covered in the institutions is outdated which causing the students to be inadequately trained and hence lack the edge to stand up and propel through the competitive exams. This inturn providing themselves as less skilled and technologically challenged employees to the industry. The causes may be socioeconomic status of the country, pharmacy course designs, unawareness of the advancements in the field and lack of collaborations among universities in the country.

Indian Diploma Course(a 2 year pharmacy program) seems to be the course in India apart from 4 year bachelor course, giving the opportunity for an individual to become a registered pharmacist of India. The same in Australia or in any other developed country it is a 5 year Bachelor program or PharmD program to become a registered pharmacist of that nation. This education is highly affecting not only on the pharmacy practice of the nation but also on public awareness about the health, health system, diseases, their treatment etc.

In the present paper it has been reviewed the present status of pharmacy in India compared with developed countries, the problems are discussed with community research in respect of community health and respective suggestions have been made to uplift the pharmacy status in India.

CPS-P-014

DANISH PHARMACONOMISTS FORM NETWORK.

HOW MANY NETWORKS ARE THERE AMONG PHARMACONOMISTS EMPLOYED IN DANISH PHARMACIES AND WHY DO THE PHARMACONOMISTES NETWORK?

V. Olsen¹, L. Øding², A. Grønfeldt³, B. Jeppesen⁴, B. Peschardt⁵
¹Pharmacy Denmark ²Pharmakon a/s Denmark ³Frederiksborg Apotek Denmark ⁴Helsingør Stengades Apotek Denmark ⁵Nærum Apotek

Aims: We are a group of 5 pharmaconomists who have formed a network for 12 years. We have investigated the extension and want to promote the interest for networking among pharmaconomists in pharmacies.

Methods: We chose to use our own intranet for communication within the group and for processing and keeping documents. We worked out a questionnaire with 20 questions, and send them to all union representatives in every 290 Danish pharmacies. We asked them to distribute the questionnaire to all pharmaconomists in their pharmacy, and to collect and return the answers in a prepaid addressed envelope. We received 1237 answered questionnaires, which is a respond rate of 38%.

Results: 3195 pharmaconomistes received a schedule. 176 pharmaconomists are networking. 66 networks is now found and registered. 38 pharmaconomists have been in a network. 1023 pharmaconomists are not networking. 796 pharmaconomists would be interested in networking.

Conclusion: Many networks have existed for more than 6 years. Meetings take place after working hours- either at the pharmacy or in private. Members of most networks meet more than three times a year. The benefit form this meetings particularly consists of professional development, social contacts and personal development. Experience is exchanges within the networks, and the members support and inspire each other. All interviewed pharmaconomists expressed much pleasure with their network, both professionally and personally.

CPS-P-016

BARRIERS FOR PHARMACOTHERAPY FOLLOW-UP: A SURVEY TO PHARMACISTS IN ARGENTINA.

E.M. Vega, E.M. Vega, S.A.N. Uema, P.D. Armando, D. Fontana
National University of Cordoba Argentina

INTRODUCTION

On July 2005, the Resolution N 468/2005 of the Superintendence of Health Services (SHS) was published in Argentina. This was about enlisting pharmacists in the register of SHS at national level. One of the requirements is to certificate knowledge in the field of pharmaceutical care, including drug dispensing and pharmacotherapy follow-up.

A survey oriented to pharmacists to identify which are the perceived barriers for implementing pharmacotherapy follow-up was conducted. The aim of this study is to show the results obtained in the survey and it was motivated by the referred Resolution.

METHOD

A half-structured instrument was designed and those questionnaires were distributed in different pharmacists' events during November and December 2005. Professional meetings were the following: hospital pharmacy national congress, afterwards a conference organized by Pharmacist Association of the Province of Córdoba, and two pharmaceutical care related postgraduate courses delivered one in the Province of Mendoza and the other in Córdoba.

The results were processed using Microsoft Access and Microsoft Excel.

RESULTS

A total of 90 completed questionnaires were collected and their distribution was:
15 (16.7%) at the congress,
17 (18.9%) after the conference,
18 (20.0%) during the course in Mendoza,
40 (44.4%) during the course in Córdoba.

The 40,0% of the surveyed pharmacists read the Resolution SHS N°468/2005.

The pharmacists' work settings were: community pharmacy 76,7%, hospital/institutional pharmacy 20,0% and primary care centers 2,2%.

The most important barriers mentioned were the lack of time, the lack of specific training and the lack of communication skills.

CONCLUSIONS

The opinion of pharmacists from different places and professional practice settings was reflected in several events where the survey was carried out. From all work situations, the main barrier to overcome for implementing pharmacotherapy follow-up is the lack of time.

Community Pharmacy Section - Poster Session

CPS-P-017

3RD PLAN OF NUTRITIONAL EDUCATION BY THE PHARMACIST (PLENUFAR III): NUTRITIONAL EDUCATION OF THE ELDERLY

P. Capilla, C. Peña, J. Herradón, M. Fuentes, I. Linaza, J. Carbonell, L. Amaro

General Council of Pharmacists Spain

Objective: To advise the elderly in healthy dietary habits in accordance with their age, pathologies they suffer from and the medication they are receiving. To assess the nutritional state of people over the age of 65, with or without health problems, detecting possible nutritional deficiencies that they might be suffering from and the dietary errors that they are making.

To boost the figure of the pharmacist as a health professional in nutritional education and health promotion.

Material and Methods: The 3,500 pharmacists enrolled in the Plenufar III campaign have advised more than 40,000 elderly people in dietary habits. For this purpose, talks have been held aimed at the elderly which have taken place in the pharmacy stores or in those centres considered suitable.

The assessment of the nutritional state has been conducted on a total sample of 25,827 people over the age of 65 throughout the country, using certain internationally accepted questionnaires.

Results: 3.8% of the population over 65 in Spain are suffering from some degree of malnutrition and 22.1% are at risk of suffering from it. Also, and following a study of data on weight and height, it has been detected that 29.8% of elderly people who were interviewed display obesity, with a body mass index equal to or higher than 30. It is women who show the highest proportion both of malnutrition and of obesity.

Conclusions: The Plenufar III campaign has contributed towards improving the quality of life of this segment of the population by means of giving advice on correct feeding, detecting the main nutritional deficiencies that they are suffering from and the feeding errors that they are making.

CPS-P-018

THE IMPACT OF BIOLOGICAL EQUIVALENCE EXAMINATION ON PHYSICIAN'S DECISION TO PRESCRIBE ONE DRUG OVER OTHERS WITHIN A THERAPEUTIC DRUG CLASS

B. Yoo¹, M. Hong², M. Jang², S. Shanmugam¹, J. Cho¹, D. Rhee¹, B. Yoo¹
¹College of Pharmacy, Yeungnam University South-Korea ²Graduate School of Clinical Pharmacy, YU South-Korea

Korea Food and Drug Administration (KFDA) has been expediting the biological equivalence examination project to encourage generic substitution without expense of inappropriate therapeutic outcomes since 2001. One of the backgrounds for this movement is because the financial situation of the National Health Insurance Corporation (NHIC) of Korea has been under significant deficit since the implementation of new pharmacy law prohibiting physicians to dispense medication and pharmacists to dispense medication without physician's prescription. However, the decision to prescribe one drug among many alternative medications in a therapeutic class is considered an area for physicians' discretion.

The purpose of this study was to identify factors perceived by physicians when making decisions to prescribe a specific brand among many alternative medications which were officially approved to be biologically equivalent by KFDA. Specifically, authors were interested in whether or not the result of the biological equivalence examination of generic drugs had any impact on physician's prescribing practice. Glimepiride preparations was used in this study because the drug was one of the most widely used medications and, therefore, considered familiar to most physicians. Participating physicians were randomly selected for telephone survey from locally operating clinics.

Most influential factors for the physicians' decision were in the order of drug cost, pharmaceutical representatives, expected efficacy of drug, and reimbursement policies of NHIC. KFDA's biological equivalence and advertisement were perceived as minor factors for such decision by the physicians participated in this survey. This finding suggests that KFDA may have to consider education of physicians regarding the implication of the biological equivalence examination.

CPS-P-019

INFORMATION AND ADVICE ON LICE

P. Capilla, A. Aliaga
General Council of Pharmacists Spain

INTRODUCTION

Information and advice on lice is the title of a health campaign conducted by the National Committee for Dermopharmacy of the General Council of Official Associations of Pharmacists, with the collaboration of Laboratorios Esteve.

The campaign, which has been granted the status of Health Interest from the Ministry of Health and Consumption, has the aim of informing and advising pharmacists, and in turn parents, on treatments and hygiene measures to follow in the event of an infestation of lice. The infant population affected is between 4-15% of children of school age.

MATERIAL AND METHODS

Specific teaching material has been prepared for conducting this campaign, consisting of:

- Poster to help publicise the campaign
- Informative guide for pharmacists
- Informative guide for the general public
- Educational and practical video for members of the public attending the informative sessions
- Evaluation surveys

The campaign was presented to the Provincial Members of the Official Associations of Pharmacists in the headquarters of the General Council of Official Associations of Pharmacists and these members then presented it in their respective associations.

The campaign consists of two categories of participation:

1. All the community pharmacies of Spain.
2. Pharmacists who voluntarily participate for holding informative talk with parents of children aged between 3 and 12 years old.

RESULTS—Pharmacists from 39 provinces of Spain have participated in the campaign and have held informative sessions with more than 52,000 parents, from whom data has been obtained on their habits in the event of an infestation of lice.

CONCLUSIONS—The aim of this campaign is to:

- Inform and advise parents on the treatments and hygiene measures to follow in the event of an infestation of lice, via pharmacies and via talks held in schools.
- Learn the habits of parents in the event of an infestation of lice.
- Acknowledge the social work of the pharmacist outside his or her community pharmacies.

CPS-P-020

PHARMACY FACULTY CLASSROOM. THE SPACE FOR PHARMACY STUDENTS IN PORTALFARMA.COM

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

AIMS. The portal of the Spanish pharmaceutical associations www.portalfarma.com provides access to an exclusive section, of restricted scope, for students and teachers of the different Pharmacy Faculties, known as 'Pharmacy Faculty Classroom'.

METHODS. Pharmacy Faculty Classroom has been created as a result of the agreement signed between the Spanish National Conference of Deans and the General Spanish Council of Pharmacists. Pharmacy students can gain access to the restricted access contents provided by the General Spanish Council of Pharmacists and the provincial Official Associations of Pharmacists via portalfarma in addition to gaining access to those provided by Pharmacy Faculties taking part in the project.

Moreover, it also provides a webmail service.

This space includes: Database of medicines and parapharmacy, medicinal plants, dermatopharmacy, foreign medicines, pharmacological reports, health journals and campaigns, information on medicines: OTC, Generics and pharmacotherapeutic news, pharmaceutical advice: health advice, scientific journals, diary: training activities of interest, guideline legislative information, links of interest, directory.

With this space, the general council has brought together contents of interest for the student that can be found in PORTALFARMA and contents from the different Pharmacy Faculties. With it, the student can easily gain access to the contents and services that might be of most interest for them, and on the way get to know the role of the professional organisation that they are going to belong to.

RESULTS

Number of pharmacy faculties taking part in the project: 13

Number of pharmacy student users of portalfarma: 17,800

Community Pharmacy Section - Poster Session

CPS-P-021

THE USE OF PHYTOTHERAPY IN THE CHILDREN SERVED IN A HEALTH CENTER OF FEDERAL DISTRICT - BRAZIL

M.C Rodrigues
University of Brasilia Brazil

In the 10th National Conference of Health, it was recommended the incorporation complementary therapies such as phytotherapy to the health practices in the scope of Health Unic System (SUS). Considering these referential, it was investigated, in this study, if the users and the professionals of health of the pediatric attendance of the Health Center of Ceilândia - DF - Brazil, use the phytotherapy in the treatment of prevalent problems in infancy. It refers to an exploratory-descriptive research, where three professionals of health and 26 citizens had been interviewed, from the months of January to March, 2005. The results disclose that 73% of the citizens use medicinal plants gotten in their own yard (27%), mentioning a total of 25 species, with prominence for the mint (21,4%). They also informed that they use the leaves of these herbs (87%), preparing them by infusion (100%) and offering in the form of tea (78%). Confronting the information from the citizens to the purpose of the uses, parts used from the plants and ways of preparation, with the international literature, it was observed that these variables had coincided in its majority. In relation to the use by the professionals, as they do not have a specific formation on this therapeutical practice, they do not use it in the practical clinic. In conclusion, the necessary increment in scientific research in phytotherapy is reaffirmed, as well as the inclusion of the complementary therapies in the curriculum of graduation in health, legitimizing this practice in the primary attention to the infantile health.

CPS-P-023

THE RESULT OF LECTURE WITH 'THE MANUAL FOR PHARMACISTS TO LET SMOKERS QUIT SMOKING' PART 2

M.W. Watanabe
TEN Corporatio, Ltd. Japan

Japanese government made the plan, 'Health Japan 21', for smokers and the law, 'Health Promotion Law', was enacted against them. Each autonomy made the provision for the plan and the law and pharmacists took the part of the provision.

Here is the activities to make the provision. Nicotine is an addictive substance found in tobacco. Bad influence of tobacco upon medicine is well-known and nicotine replacement methods like nicotine patch and nicotine gum are used very often. Therefore we recommend that smokers quit smoking. There are many kinds of guidances and programs for the smokers who want to quit smoking in the world. Nagoya Pharmaceutical Association and Aichi Pharmaceutical Association made the manual book for pharmacists supporting the smokers. We had given pharmacists the lecture with this manual frequently in Aichi Prefecture, Japan. Then the pharmacists have recommended that the smokers quit smoking in their own pharmacies and they have reported the result. We're also launching a campaign against smoking on the street.

We'd like to give a particular account of the above in Brazil.

CPS-P-022

THE IMPACT OF SELF CARE COUNSELLING ON CUSTOMERS' AILMENTS BY PHARMACY PRACTITIONERS, SUPPORTED BY IT-BASED NATIONAL CLINICAL GUIDELINES

T. Westerlund¹, A. Fäldt¹, I.-L. Andersson¹, L.V. Eriksson¹, L. Nilsson¹, B. Marklund²
¹Apoteket AB Sweden ²Göteborg University Sweden

Introduction: Community pharmacists have a key responsibility in providing information to the public about non-prescription products and the circumstances under which a physician should be consulted. The quality of self care counselling has however sometimes been questioned.

Aims: to examine (1) compliance with pharmacy advice vs extent to which symptoms were relieved (2) resource which customers would have utilized for their ailments, had the pharmacy not been available (3) the quality of self care advice given.

Methods: Three large pharmacies in central Sweden took part in a study in 2005. The pharmacy practitioners intervened with customers, with whom a dialogue was created on advice or products for self care. The intervention consisted of counselling, based on an IT-system of national clinical guidelines on self care advice. The data collection consisted of (1) customer data, questions asked and advice given in the pharmacy (2) a follow-up telephone interview of intervened customers by a nurse (3) independent assessments by a physician and a pharmacist of all documentation.

Results: Among customers who claimed a complete compliance with received pharmacy advice, 74% had experienced a great relief of symptoms, as compared with only 29% among those who had just partly followed the advice ($p < 0.0005$). Fifty-seven percent of the customers responded that they would have turned to medical care in first hand, if the pharmacy had not been available. The independent physician regarded self care counselling to have been appropriate for 98% of the 250 customers, the independent pharmacist that good quality advice for the symptom had been given in 89% of the cases.

Conclusions: The study has demonstrated a favourable impact of self care counselling on customers' ailments by pharmacy practitioners, supported by IT-based national clinical guidelines. Furthermore, that pharmacies are greatly relieving the pressure on the health care system, resulting in cost savings to society.

CPS-P-024

READ-TRAIN-LEARN PROGRAMMES - FLEXIBLE COMPETENCE DEVELOPMENT AT THE PHARMACY

T.S. Hansen
Pharmakon Denmark

The Danish College of Pharmacy Practice has developed so called Read-train-learn programmes for pharmacists and pharmaconomists at the pharmacies, applied to the need for flexible maintenance of a high level of competence. About 70 % of the Danish pharmacies subscribe to the package of 39 programmes. The programmes are offered online.

The programmes are developed with the pharmacies daily events in mind and consists of

- PowerPoint presentations with presenters' notes.
- Quizzes with feedback
- Cases illustrating realistic situations at the pharmacy with feedback
- Literature and links.

The pharmacy can with a limited use of resources plan the use of the programs to ensure that the competence development benefits the drug user - for individual training or/and presentations for the pharmacy professions:

- The professions can put the programs in order of priority and alternately present the PowerPoints for their colleagues. Afterwards the professions work individually with the quizzes before a certain deadline.

- A PowerPoint presentation is printed out and circulates between the professions who have read it before a certain deadline. The professions then work individually with the cases, and the cases are discussed at a meeting.

- A PowerPoint presentation is given at a meeting, the cases are discussed, and after the meeting the quizzes are worked with individually.

- The professions have worked with the quizzes, and the results are used as documentation in the pharmacies quality assurance system.

The poster describes aim, objectives, subjects, content and different proposals for use. After studying the poster, you will be inspired to use Read-Train-Learn programmes.

Community Pharmacy Section - Poster Session

CPS-P-025

OPTIMISING HEALTH OUTCOMES THROUGH COLLABORATION WITH GENERAL PRACTITIONERS, USING COMPREHENSIVE PHARMACEUTICAL CARE® (CPC®) – THE GPPC STUDY

L. Bryant, R. McCormick, G. Coster
University of Auckland New Zealand

Background: Comprehensive Pharmaceutical Care® (CPC®) was introduced to New Zealand in 1996 based on the Hepler-Strand model of pharmaceutical care. Although there were similar programmes overseas, evidence of effectiveness in community pharmacy, particularly from randomised controlled trials, was sparse. As drug related morbidity and mortality is becoming an increasingly recognised problem, it is important to study the effect of CPC® on health outcomes in New Zealand.

Aim: To study the impact on health outcomes for patients when pharmacists and general practitioners work collaboratively, using CPC®.

Methods: A randomised controlled study with enrolment of 26 community pharmacists, 63 general practitioners and 402 patients older than 65 years. The study was six months, with a 6 month extension study for the original intervention patients, and a longitudinal study for the control patients after the initial 6 month randomised trial.

Results: The primary outcome measures were the SF36 quality of life survey and the appropriateness of prescribed medicines 6 months after a CPC® review.

Discussion: While significant results were obtained from the study, the issue of a high drop out rate of pharmacists provides discussion regarding the feasibility of undertaking CPC® in our current environment and how we can improve implementation of CPC®.

CPS-P-027

AN INVESTIGATION OF COMPLAINTS RECEIVED ON A DOSE DISPENSING PACKAGE UNIT

A. Thomsen, M. Larsen
Apoteket Bryggergården Denmark

Background: In 2001 a new pharmacy law came into force in Denmark, so that dose dispensed medicine were allowed to be packed by machines on a pharmacy with a license from The Danish Medicines Agency. Dose dispensed medicine are in Denmark mostly packed by TOSHO 400 machines made in Japan. Apoteket Bryggergården is one of ten dose dispensing package units in Denmark. In 2004 Apoteket Bryggergården was certified according to DS/EN ISO 9001:2000 on a voluntary basis with the following requirements related to errors:

Maximum 0,035% registrations of error dispensed dose units compared to number of produced units for the last 12 month

Maximum 0,02% error deliveries to receiving pharmacy compared to the total number of rolls delivered for the last 12 month

Aim: To quantify different kinds of errors on the dose rolls restricted by the consumers and to relate the results to the requirements of DS/EN ISO 9001:2000.

Methods: A systematically investigation of the total number of complaints received in 2004 and 2005.

Results: 44 errors reported from 11 pharmacies. The errors are categorised in three groups concerning errors in the production (P), by the consumer (C) and by the delivery (D).

Conclusions: Dose packed medicine for the single patient is a very safe way to distribute medicine and the errors related to the dose dispensing package unit is significantly below the demands in DS/EN ISO 9001:2000 about errors. Continuous quality improvements of work and current improvement of the software eliminates errors in the production and delivery. User errors must not be ignored because they represent 1/3 of the total amount of errors.

CPS-P-026

GENERAL PRACTITIONERS AND PHARMACISTS PERCEPTIONS OF THE ROLE OF COMMUNITY PHARMACISTS IN NEW ZEALAND

L. Bryant, R. McCormick, G. Coster
University of Auckland New Zealand

Background: With an increasing expectation of closer team work between health care providers internationally there needs to be a reasonable understanding of the perceived roles of the different healthcare providers in order for collaboration to be efficient. One area where an understanding of actual and potential roles will be important involves the role of community pharmacists.

Method: A survey was sent to 980 general practitioners (primary care physicians) and 900 community pharmacists eliciting the perceptions of the role of community pharmacists and the acceptance of a potential formalisation of a role for pharmacists in pharmaceutical care or medicines management.

Results: The response rate was approximately 60% from general practitioners and 70% from community pharmacists. There is a significant difference in perceptions between the groups of the role of community pharmacists. General practitioners perceive community pharmacists as having a primarily technical role rather than clinical role. However, community pharmacists themselves also had reservations about new clinical roles. They did not perceive a mandate to provide clinical services, were uncertain whether medicines management, when defined as a clinical medication review, was a legitimate role for pharmacists, and whether they had adequacy to provide medicines management, or whether this would be effective.

Conclusion: In the new health environment, with an expectation of increased collaboration to improve efficiency, there needs to be interdisciplinary discussion about the perceived roles of healthcare providers to help provide direction for services. We also need to work more closely with the community pharmacists to help them overcome their barriers as uncertainty of our roles from within our own profession is a strong inhibitor of progress towards the routine provision of pharmaceutical care.

CPS-P-028

ADHERENCE PROBLEMS AMONG USERS OF ANTIHYPERTENSIVES

L. Sorensen, D V Tomsen, C. Rossing, H. Herborg
Pharmakon Denmark

Aims:

To estimate the frequency of adherence problems among users of antihypertensives in a Danish community setting.

Methods:

From the Danish county of Funen, 12 pharmacies were included in the project. Potential project patients were identified from pharmacy records if the patients had reimbursed prescriptions of antihypertensives in the period 01.01.2005 to 30.09.2006. All together, 10,000 patients were informed by mail about the project. Patients were included in the project if they were ≥ 18 years, used their medicine for hypertension, administered their medication themselves, gave written consent to participation and returned a completed questionnaire on medication use, medication behaviour, blood pressure (BP) etc. Nine criteria were used to categorise patients as having adherence problems including elevated BP ($>140/90$ mmHg) concurrent to the doctors' dissatisfaction with the BP level, deviations in medication taking behaviour within the previous two weeks, and dissatisfaction with the effect of their medication.

Results:

In total, 1,426 patients were included in the study; mean age 63.7 years and 50.1% males. According to the criteria, 563 (39,5%) responders were categorised as having adherence problems, while 42,4 % of all responders had an elevated BP, and 52,2% of responders with adherence problems reported elevated BP. Reported elevated BP was associated with experienced side effects, uncertainty of the medication schedule and difficulty in reading the medication label or information leaflet.

Conclusions:

Nearly 40% of the users of antihypertensives had one or more adherence problems. Interventions aimed to improve adherence, e.g. at community pharmacies, should include focus on side effects and information on medication taking schedule, since these measures are associated with the adverse outcome of elevated blood pressure.

Community Pharmacy Section - Poster Session

CPS-P-029

HEALTH INFORMATION AS THE KEY

J.K. Kristiansen, B.P. Christensen
Glumsoe Pharmacy Denmark

The objective of the project is to make the prophylactic work of the pharmacy visible. We want to demonstrate that the pharmacy take responsibility in the healthcare sector e.g. by offering healthcare services. In this way our competences are made visible to customers as well as local doctors. With the project we want to enter into a cooperation with the local doctors where both parties are conscious of each other's strengths and competences; thus we will be able to give the patient/customer the best possible compliance.

Our preliminary results are positive. We see an increased interest in our healthcare services and at the same time the dialogue with the doctors has improved significantly.

By offering healthcare services the pharmacy can make their competences visible to both customers and local doctors and at the same time the cooperation with the local doctors is optimized.

CPS-P-030

THE IMPORTANCE OF CONTINUING PROFESSIONAL DEVELOPMENT FOR COMMUNITY PHARMACISTS IN TAIWAN

J. Wang
Prohealth pharmacy China Taiwan

Aim:

- 1) How have customers' shopping behaviors changed in the past decade?
- 2) What do customers expect from pharmacists after separation of dispensing from medical practice?
- 3) How can community pharmacists improve themselves to provide better quality of care?
- 4) Is there any continuing professional development program that pharmacists can attend regularly?

Method:--Interviews were conducted with community pharmacists and customers to gain insights to how customers' behaviors and expectations have changed in the past decade. A search was done to identify programs available to pharmacists in Taiwan for continuing professional development; various programs were analyzed.

Results:

- 1) Customers have more resources now days to research for the information they need. This information though could be accurate, is oftentimes incorrect. As a result, pharmacists have to be prepared to provide professional expertise to potentially challenging customers.
- 2) Customers expect community pharmacists to be professionals, pharmacies to be more comfortable to shop in, and quality of products to be more reliable.
- 3) Community pharmacists recognize the importance of continuing professional development, especially in the area of communication and counseling skills for improved customer service.
- 4) Many continuing professional development programs are available in Taiwan. However, most of them are developed for and are more geared towards pharmacists in the hospital settings.

Discussion:--In this knowledge booming society, pharmacists have to continuously develop their professional knowledge in order to provide optimal care. More continuing professional development programs should be made available for community pharmacists in Taiwan. Separation of dispensing from medical practice brought about many changes that Taiwanese pharmacists have been adapting. Knowing what customers want and need, keep improving and updating knowledge are all keys to being a good community pharmacist.

CPS-P-031

AN ELECTRONIC KEY TO THE FUTURE ELECTRONIC PATIENT RECORD IN FRANCE: THE HEALTH PROFESSIONAL CARD

P. Fortuit
Ordre national des Pharmaciens France

Two French national projects call for cooperation between physicians, pharmacists and other health professionals.

Since 1994, the French government, the National Health Insurance Fund and the statutory organisations which regulate health professionals (Ordres professionnels) have developed a project called the 'Health Professional Card' (CPS Card). This smartcard enables health professionals (pharmacists, physicians, nurses ...) to be identified by Health Insurance Funds, e.g., when a community pharmacist claims the reimbursement of medicines dispensed to his patients.

The CPS stakeholders are preparing to extend the use of this tool to meet the requirements of another national project called the Personal Medical Record (Dossier medical personnel, or DMP), which will collect and store information on the health and treatments of every person in France by 2007. This record will contribute to the quality and safety of healthcare, particularly through the prevention of iatrogenic events, as every pharmacist will be able to know what drugs other pharmacists have delivered to their patients. DMPs will be hosted by specific, very secure, servers authorized by government.

Health professionals will share access to certain parts of this DMP, using their CPS cards simultaneously with that of the patient, known as his Carte Vitale. The CPS card will have to allow the identification of the professional's rights to access the parts of the DMP that are relevant to his practice.

This project should produce instructive experience at European level, as e-Health has become a hot topic and several European countries are developing or have already developed such data bases.

CPS-P-032

ANALYSIS OF PHARMACY INTERVENTIONS ON DRUG-RELATED PROBLEMS IN PRESCRIPTION PATIENTS AND THE ROLE OF NATIONAL CLINICAL GUIDELINES

T. Westerlund¹, A.-M. Andersson², F. Ax¹, M. Nordqvist¹
¹Apoteket AB Sweden ²Göteborg University Sweden

Introduction: Many patients suffer daily from drug-related problems (DRPs), where pharmacy practitioners have a key responsibility in identifying and resolving the problems. Deeper knowledge is however needed about what interventions pharmacy practitioners undertake to respond to identified DRPs and to what extent national guidelines play a role.

Aims: To examine (1) types and contents of intervention given prescription patients by pharmacy practitioners to resolve identified DRPs (2) the degree of consistency of counselling to patients with similar problems (3) the extent to which national guidelines (a) provide support for counselling needed (b) are being followed.

Methods: A study using counselling models was conducted on patients with antibiotics, antidepressants, NSAIDs, opioids, drugs to treat eye diseases and/or obstructive pulmonary diseases in 51 pharmacies in Sweden in late 2004 and presented at the FIP in 2005. Since then, the documented pharmacy interventions including free text fields have been analyzed in great detail and compared with national clinical guidelines for counselling.

Results: The most common pharmacy interventions to resolve DRPs were different types of counselling or advice, except for patients with opioids, where referrals to the prescriber were most frequent, often due to therapy failure. The interventions differed sometimes for patients with similar problems. In only 44% of them, the national guidelines could provide support for counselling needed to resolve identified problems. Where the interventions were supported by guidelines, the pharmacy practitioners were however compliant with these in 88% of the cases.

Conclusions: Most DRPs were resolved in the pharmacy. Patients with similar problems sometimes received different advice. Pharmacy practitioners were compliant with existing national clinical guidelines on prescription patient counselling, but there is room for improvement of guidelines since they were of help for resolving less than half of identified DRPs.

Community Pharmacy Section - Poster Session

CPS-P-033

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

I. M. Stenseke
Apoteket Lejonet 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: Inquires were sent to 1500 randomly chosen inhabitants at 3 times, before the start and after 1 and 2 years of activities. 80% 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 cure 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-035

COMMUNICATION WITH ELDERLY OUTPATIENTS: A NEW CHALLENGE TO PHARMACEUTICAL PRACTICE FOR HEALTH PROMOTION IN BRAZIL

L.P. Lyra Jr.¹, J.P. Abriata², I.R. Pelá¹

¹University of São Paulo Brazil ²University of Ribeirão Preto Brazil

This study aimed at outlining the socio-demographic profile of an elderly outpatient group; evaluating the results of interventions based on the Pharmaceutical Care model for drug-related problems (DRP) and adherence in this group, and analyzing the influence of communication between patients and health care professionals (physicians, pharmacists and researcher) on health promotion. **Methods:** 30 elderly outpatients aged 60 to 75 years old were followed from August 2003 to July 2004 at a primary health care unit in Ribeirão Preto (SP), Brazil. **Results:** Patients showed high prevalence rates for chronic conditions (71%) and 3.0 ± 1.7 DRP; Pharmaceutical Care interventions solved 69% of the DRP, increasing adherence (72%) and improving health conditions (87%); 93% of the patients were 'always' oriented by the researcher about drug therapy. **Conclusion:** Health professionals with technician education presented difficulties to communicate with the patients, producing negative responses for drug therapy. In other cases, the Pharmaceutical Care model influenced patient outcomes and was found to be a relevant tool for health promotion. **Practice Implications:** After the study, the researcher trained pharmacists to implement the Pharmaceutical Care model in the Basic Health System. Nowadays, this practice is used as an example of pharmaceutical practice by the Brazilian Health Ministry.

CPS-P-034

COLLABORATIVE COACHING - A MANAGEMENT TOOL FOR SUSTAINABLE CHANGE IN COMMUNITY PHARMACIES?

B. Frydenlund¹, L. Stig Haugbølle²

¹Apoteket Godthåb Denmark ²The Danish University of pharmaceutical Denmark

AIM:

The aim has been to learn about collaborative coaching as a management tool, and to gain personal practical experience in order to use these skills as a manager in a Danish community pharmacy. The overall aim is to develop an organisation which generates problem solving and knowledge in itself.

METHOD:

Literature study and practical coaching in a network with 5 managers from different community pharmacies. Weekly registrations of own performances to follow the changes and registrations of the successes gained in relation to the staff members during the process.

RESULTS:

The literature study shows different directions of coaching as a management tool. When practicing collaborative coaching, the role of the manager is to release the potential of the client.

The network held six meetings during one year. During these meetings all managers practiced collaborative coaching in their own pharmacies. From weekly registrations in my pharmacy I followed a sustainable change in my own performances. Changes started to show in the way I as a manager handled stress and conflicts in the staff. My communication skills were improved significantly, which affected the way I communicated with the staff members. The collaborative coaching had an impact both on my own performances and on the rate of the successes gained with the staff. During the last year, the staff has gained personal and collective successes as never before, especially in relation to taking responsibility for own decisions. This has affected the pharmacy in a positive way. Thus the customer satisfaction level has increased significantly during 2005.

CONCLUSION:

Collaborative coaching is definitely a management tool for sustainable changes. I have seen growth in my personal performance as a manager which has reflected positively on the staff who has shown positive changes in their behaviour and personal responsibility. Collaborative coaching is thus a management tool feasible in community pharmacies.

CPS-P-036

WHY DO SOME DANISH CUSTOMERS PREFER THE ORIGINAL DRUGS INSTEAD OF CHEAPER DRUG OPTIONS?

L. Landsgrav¹, B.E.C. Carlsen²

¹Vordingborg Apotek Denmark ²Nykøbing F. Svane Apotek Denmark

The purpose of the investigation was to clarify why some customers (103) exclude the cheaper drug options offered.

The conclusion was, more women than men; more elderly than younger customers exclude the cheaper drug option with no or little concern as to the price difference. More customers exclude the cheaper option when it is a generic drug as oppose to a parallel imported drug. The main criterias for not choosing the cheaper option was; insecurity, effect, sideeffects and disease. The information given by doctors or pharmacies had little or no effect on the choice made.

Mainly hormones, but CNS and cardiac drugs were also represented.

Community Pharmacy Section - Poster Session

CPS-P-037

THE 'PHARMACEUTICAL RECORD', A THERAPEUTIC SECTION OF THE 'PERSONAL MEDICAL RECORD', BY FREE INTERNET ACCESS, FOR QUALITY PRACTICE BY FRENCH COMMUNITY PHARMACISTS.

I. Adenot

Ordre National des Pharmaciens France

Enabling pharmacists to access relevant patient information is one of the most promising ways to achieve better patient safety.

Almost all French community pharmacies manage their patients' data by IT. Most of them send their medicine reimbursement claims on line to the Health Insurance Scheme. In order to do so, they share a common coding system for the identification of prescribers, patients, dispensed medicines, etc. At present, however, they have no way to know what has been dispensed to a given patient by any other pharmacy.

This should change in the near future: following a law passed in August 2005, each person in France should have an electronic 'Personal Medical Record' by July 2007. The purposes of this record include avoiding redundant treatments and iatrogenic diseases, and achieving better coordination of healthcare.

The PMR will be accessible by the patient and health professionals, including pharmacists, who contribute to his/her care. These will log into the record all the relevant information on the patient's condition and their own actions, including any medicines dispensed. Pharmacists support the PMR project. The Ordre national des pharmaciens is developing a 'pharmaceutical record' (PR) as the major therapeutic section of the PMR. This PR will contain the details of all medicines (either prescribed or not) dispensed to a patient by any of the 23,000 community pharmacies in France.

Apart from making the dispensing process more secure, the PR should allow medicine traceability right to the patient, help disseminate emergency notices from Health Authorities and highlight the pharmacist's role as a health professional.

CPS-P-039

DOSE DISPENSING BY COOPERATION

I.M.K. Kjær
Denmark

The project focuses on the implementation of dose dispensing of medicine for elderly and on how people involved experience dose dispensing in normal everyday life.

The project evaluates the experience of the pharmacy in connection with the implementation and the daily routines of dose dispensing, including communication and cooperation between pharmacy staff, health care professionals and the users. The project describes the attitude of the health care professions to dose dispensing before implementation and the experiences obtained after a period with dose dispensing. The aim of this project is to contribute to a continued implementation/development of dose dispensing in other pharmacies.

The project is based on interviews with professions in the health care sector like doctors, home care, packaging pharmacy, distributing pharmacy and the users.

The professions of the health care sector and the users were positive and find that dose dispensing is functioning well. Some of the advantages stressed were: time saving, greater flexibility, better compliance, more time for nursing care, new jobs although cutbacks had been feared, better safety for the users in relation to having the right medicine, easy to survey and the medicine does not change name so often.

Dose dispensing helps developing the role of the pharmacy in the health care sector and a good cooperation between everybody involved is essential for success.

The results of the project will be presented as a catalogue of experiences.

CPS-P-038

A COMPUTERISED SYSTEM FOR COLLECTING AND ANALYSING PRODUCT COMPLAINTS FROM PHARMACIES IN SWEDEN

B. Sundström-Nilsson
Apoteket AB Sweden

Background

The pharmacies in Sweden all belong to one company, the state-owned Apoteket AB (the National Corporation of Swedish Pharmacies). Product quality is thereby easily controlled and deviations promptly discovered. Customer complaints might be an indicator of product quality and deserves a serious approach.

Registration of complaints

Apoteket AB has an agreement with the Medical Product Agency, the wholesalers and the pharmaceutical companies represented on the Swedish market to collect and report product complaints from customers. Since 1999 all complaints concerning pharmaceuticals and para pharmaceuticals are registered in a computerised quality system for recording complaints in the local pharmacies. The reports are assembled and classified on a daily basis.

Feed back to the manufacturers

The manufacturers receive reports of complaints irrespective of the reason for complaint. Complaints classified as serious are sent both to the manufacturer and to the MPA. These serious complaints might be confirmed tablet mix ups for instance. Serious complaints might also be a risk of product recall.

This cooperation between the pharmacies, the authorities and drug industry is believed to be unique.

Statistics

Comprehensive statistics is compiled and distributed to the pharmaceutical industry and to the MPA once a month. Not only the number of complaints is important but also the frequency of defects compared to sold units.

CPS-P-040

THIRD PARTY PAID CLINICAL PHARMACY SERVICES TO NURSING HOMES. A NEW PROFESSIONAL CHALLENGE FOR PHARMACIES IN DENMARK.

H. Jensen, M. Krydsfeldt
Lyngby Svane Apotek Denmark

Introduction: In 2005 the pharmacy Lyngby Svane Apotek negotiated an innovative 2 year agreement with the municipality of Lyngby-Taarbæk between the pharmacy and 8 nursing homes. The purpose of the agreement is to strengthen the quality of drug handling in the nursing homes, and to improve residents' drug therapy outcomes by preventing errors, hospitalisations, side effects and drug-drug interactions related to therapy. The agreement defines a list of 3 pharmaceutical consulting services that covers: 1) Quality assurance of the drug handling in each nursing home. 2) Pharmaceutical drug regimen review of residents' drugs. 3) Teaching of the nursing staff in different medical topic as psychopharmacology, heart diseases, respiratory diseases, pain management etc. **Methods:** Seven pharmacists located on 3 pharmacies in the municipal have been involved in the project. Before initiating the project different activities were carried out to ensure excellent and homogeneity pharmaceutical quality, and to agree on common project goals. **Results:** 1) Complete quality assurance services of the drug handling have been provided to the 8 nursing homes. 2) During the first 12 months of the project period 140 residents have received a pharmaceutical drug regimen review. This has led to identification of 639 potential drug related problems. 380 of these were verified by the responsible nurse and afterwards presented to the residents' GP. Finally, this resulted in 234 implemented drug interventions. 3) 3 different teaching lessons have been carried out with 62 attendees in average. Completed evaluation forms have shown great professional satisfaction with this service. **Conclusion:** This project has demonstrated that the model of 'Clinical pharmacy services to nursing homes' is performable and should be encouraged throughout the country. The nursing home needs pharmacist services. Pharmacists can have significant benefit to the professional standard of the nursing staff as the outcome of residents' drug therapy.

Community Pharmacy Section - Poster Session

CPS-P-041

THE RESULT REPORT EXECUTED BY TAINAN PHARMACIST ASSOCIATION: 2005 LET'S DO BLOOD PRESSURE CHECK-UP ACTIVITY FOR ALL CITIZENS' HEALTH

K.Y. Yu, Y-H. Su, J-T. Tsai
Tainan Pharmacist Association China Taiwan

Aim: 1.Let people over 35 understand the importance of blood pressure monitoring and how to take care of themselves. 2.Through this event,pharmacists can have their impact on community residents, and also build up pharmacists' professional images,and evaluate the social contribution of pharmacist.

Method: Check-up period:11/20/2005~1/20/2006.Channels:80 Community pharmacies of Tainan Pharmacist Association

-All people participated in this event must fill their personal information . Result:6,199 people participated in this event and left their personal information
-For each community pharmacy, there were average 76 people participating in this event:Highest: 264 persons ; Lowest :1 person
-Analysis of these participants: Average age: 26.02% people are between 41-50 years old , 25.38% people are between 51-60 years old
-Average blood pressure of these participants Male's is higher than female's Male 84 vs. Female 80
-Classification blood pressure: Participants who have hypertension:42%, Participants with pre-hypertension:39%, Participants with normal blood pressure:18%.
Self awareness of hypertension patients: 35% participants answer they have hypertension, 42% participants actually have hypertension.Self awareness of hypertension vs.Classification of blood pressure:Although some participants understand they have hypertension, 67% of these patients do not control their blood pressure very well (still over 140/90). It's necessary having extra efforts to control hypertension.Frequency of blood pressure monitoring:Only 10% participants monitor their blood pressure daily.

Conclusion: Analysis of pharmacist questionnaire: People's willingness to participate in this event :67%people are willing to participate in similar events In the future 95% of Pharmacists are willing to cooperate in similar events 94%participants would also like to ask hypertension related questions while they participated in this event 86%participants would also ask their pharmacists about hypertension medicine.

CPS-P-043

RESULTS OF THE 2ND ACTION OF THE STRATEGIC PLAN FOR DEVELOPMENT OF PHARMACEUTICAL CARE: PHARMACEUTICAL INDICATION IN GIVING UP SMOKING

P. Capilla
General Council of Pharmacists Spain

The Strategic Plan is a professional project with specific actions for facilitating the introduction of Pharmaceutical Care among pharmacists, via Associations and the General Council.

Objective: To commence the practice of Pharmaceutical Indication in pharmacies, and to increase the number of people giving up smoking, thus reducing the number of illnesses associated with tobacco addiction.

Material and Method: Development of the action from April to June 2005. Delivery of a work systematic in a material specific for the pharmacist, and with Bot Plus as structural support. The protocol includes knowledge and registering of parameters obtained in the interview with whoever asks for help in giving up smoking: who is the patient; the motive for the consultancy; the values obtained in the Richmond and Fargerström test, the amount of nicotine consumed per day; pregnancy/breast-feeding; other illnesses and additional treatments. The pharmacist will intervene with the checking of alarms.

Results: 4.000 pharmacists enrolled in the whole of Spain. More than 1.200 registrations have been received. It is the patient him/herself (86,68%) who asks for help. The most motivated are adult males aged between 35 and 65 (56,67%) and young women aged 18-35 (39,29%). 93,76% of the motives refer to addiction to smoking, and 6,24% to medicines. The patients are characterised by a low level of motivation 57,42%, moderate dependence 41,81% and by smoking less than 20 cigarettes a day. The intervention of the pharmacist: advice without dispensing (36,43%), provision of an EFP treatment with information (30,16%), and referral to a doctor 14,50%.

Conclusions: The importance of the action lies in checking the profile of the patient asking for help in order to give up their addiction to nicotine. The indication is effective for proposing the necessary professional intervention though these patients need to be monitored in order to obtain the desired objective.

CPS-P-042

UPDATED RESULTS OF THE 1ST ACTION OF THE STRATEGIC PLAN FOR DEVELOPMENT OF PHARMACEUTICAL CARE - ACTIVE DISPENSING OF STATINS

P. Capilla
General Council of Pharmacists Spain

The Strategic Plan is a project consisting of a set of actions aimed at facilitating the dissemination, integration and introduction of Pharmaceutical Care among pharmacists via the Pharmacists' Associations and in coordination with the General Council.

Objective: To promote active professional action in the Dispensing of Statins with the aim of reducing the problems related to these medicines.

Material and Method: Development of the action from September to November 2004. Delivery of a work systematic in a material specific for the pharmacist, and with Bot Plus as structural support. The protocol includes knowledge and registering of parameters obtained at the moment of the dispensing: who is the patient; the medicines requested; whether this is a starting or continuation treatment; the patient's knowledge of the medicine (what it is for and how it is used); pregnancy testing, other medicines or other illnesses. The pharmacist will intervene with the checking of alarms.
Results: 4.500 pharmacists enrolled from almost all provinces of Spain. More than 8.500 registrations have been received.

It is the patient him/herself (73,7%) who asks for the dispensing. The request for dispensing is similar in terms of sex: women 53,41% / men

46,59%. 72% of the total of Statins dispensed has been Atorvastatin and Simvastatin. 30% of patients do not know the indication and manner of use. 13% are starting treatments, and 87% are for continuation. The majority professional intervention 87% concerns dispensing with information on the Statin.

Conclusions: The importance of the action lies in checking that the professional systematic of dispensing permits quantification and improvement of the knowledge on the Statins used by the dyslipemic patient, in order to achieve a safe use and reduce the pathology. There is a high participation of pharmacists who actively work in Pharmaceutical Care actions.

CPS-P-044

THE PROFESSIONAL WORK CONTROL AS A FACTOR OF THE PHARMACEUTICAL HEALTH ACTIVITIES QUALITY ENHANCEMENT

Lj. Djukic¹, T. Solarovic¹, N. Jednak Jovanovic¹, Lj. Djukic¹, M. Popovic², Z. Novovic²

¹Medicines and Medical Devices Agency Serbia and Montenegro ²Ministry of Health of the Rep. of Serbia Serbia and Montenegro

The purpose of this study is to analyze the experiences and results of organizing the external auditing of pharmaceutical services, and to propose measures for its improvement.

Having conducted the two questionnaires, one for the members of the Board of Commissioners for external auditing and the other one for pharmacies, the data were gathered, on the basis of the above mentioned ones' opinion, about the effect of the previous external auditing. A unique attitude was not assumed either on the experts profile needed for auditing, or on the one referring to the external auditing impact on the work quality in this field. It was concluded that the precise methodological instruction is necessary to support this activity.

Insisting on both external and internal auditing is of great importance, especially concerning the drugs quality and the purity of raw materials used in pharmacies. This aspect has been in use so far.

Establishing the principle of good pharmaceutical practice is going to make the quality system affairs and the control of expert activities in pharmaceutical health care much more successful.

Community Pharmacy Section - Poster Session

CPS-P-045

JOINT ACTIVITIES BETWEEN DANISH PHARMACIES AND THE MINISTRY OF HEALTH CONCERNING SMOKING CESSATION

H. Jacobsgaard, L.K. Kaarill, K.P. Pedersen, M.R. Riise, L.S.C. Schmöjler
Danish Pharmaceutical Association Denmark

Introduction

In the period 2005 to 2008 Danish pharmacies have been allocated 3 mio. Danish Kron-ers a year through the budget for joint activities between pharmacies and the state concerning smoking cessation.

Method

The money will primarily be spent within 4 areas:

Securing smoking cessation offers to citizens all over the country

Information campaigns towards selected groups

Information campaigns towards general practitioners about the pharmacies' offer

Development of a new service: a short conversation with smokers with a view to motivating them to quit smoking

Result

The results of activities for the period 2005-2006 will be presented.

Conclusion

Through 20 years' work with smoking cessation in pharmacies we have succeeded in having the pharmacy established as a central player within smoking cessation in Denmark.

CPS-P-047

E-PHARMACY IN SERBIA AND MONTENEGRO: PROFITABILITY, PROFESSIONALISM AND ETHICS

D. Parojcic¹, D. Parojcic², D. Stupar², M. Stupar², K. Milosevic-Kostadinovic³, Lj. Tasic²

¹Belgrade University School of Pharmacy Serbia and Montenegro ²Belgrade University School of Pharmacy Serbia and Montenegro ³Medicor Pharmacy Serbia and Montenegro

This paper will present a brief review of the situation concerning the e-pharmacy (EP) in Serbia and Montenegro (SM), aiming to explore the professional and ethical implications of internet pharmacy practice. The EP means that pharmacists can provide products and services virtually 24 hours a day, 7 days a week, to anyone who has an Internet connection. EP is becoming more common in the world, because the internet is practical tool for communication and information retrieval. Besides being very profitable, it also provides new opportunities to expand pharmacy-based patient care services while reducing time spent on prescriptions. It is estimated that online drug- and health-related information can improve patient safety, but on the other hand, many consumers are unable to comprehend most information they find online. This places a new professional obligation for pharmacists to guide patients in safe and reasonable use of drug information. Although the number of internet users in SM has rapidly increased over the last decade, EP is being practiced on a small scale basis. Some independent pharmacies and drug chains are adopting e-mail communications with patients, very few are offering online prescription ordering services for OTCs, while electronic prescribing is not legitimate in SM. Analyzing the internet pharmacy practice in SM it has been noted that EP poses some social challenges and ethical considerations. These challenges face both professionals and patients. One of the concerns is the potential risks that follow from patients' direct access to information concerning prescription-only medicines, that some drug manufacturers' sites provide in SM.

CPS-P-046

PREVENTIVE STEPS IN REDUCING DISPENSING ERRORS IN COMMUNITY PHARMACIES

A. Nordén-Hagg
Apoteket AB Sweden

Background

Dispensing errors occur in the process of dispensing a prescription medicine to a patient at the pharmacy. Since 1978 it has been mandatory to keep records of dispensing errors at Swedish pharmacies. A computerized quality system for recording and systematically analyzing errors was introduced in 2004.

Statistics

In Sweden, dispensing errors occur with a frequency of 0.2 per thousand dispensed prescription items. The types of errors occurring include selection errors, i.e. wrongly chosen drugs, forms of drugs, sizes or number of tablets or strengths. Wrong label instructions are also reported as a frequent type of error. Reasons for dispensing errors are to a great extent depending on the computerized registration process a prescription undergoes in a pharmacy. An incorrect interpretation of what is written on the prescription also attributes to errors. Picking the wrong drug might depend on similarities in the appearance of packages and drug names.

Preventive measures

Interpreting the statistics generated through the computerized reporting system, enable the introduction of preventive measurements within the Swedish pharmacy system.

Measures introduced are:

- Improving awareness of the impact of attitude: The tendency to conclude that errors emerge due to individual incompetence is gradually being replaced by a 'systems approach'
- A systematic analysis of the event – what is the cause of the dispensing error?
- Introducing awareness of dispensing errors; frequency, types and reason, through publishing reports on the nationwide intranet within the National corporation of pharmacies in Sweden
- Adaptation of rules and directions in order to minimize the amount of errors
- Introducing warnings in the computer system in pharmacies
- Practical changes: Introducing a new element in the handling of prescriptions within pharmacies – the strength you chose for your drug in the computer is to be verified through a special procedure

CPS-P-048

BELGRADE PHARMACISTS CONTRIBUTE TO IMPROVING HEALTH

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

Introduction: Legislative changes in Serbian health system have created conditions for pharmacists to be carriers of activities in promotion of health/prevention of ill-health.

Aim: To present the way that activities in community pharmacy can contribute to health promotion with basic motive-improvement of health and patient's welfare.

Method: Active involvement means pharmacists' involvement in health campaigns (e.g. against smoking), marking important dates/weeks dedicated to chronically/infectious diseases (e.g. Diabetes mellitus, HIV/AIDS) or counseling improvement (providing additional oral/written advice on specific topic in pharmacy).

Results: In all 103 community pharmacies of Pharmacy Institution 'Belgrade' there has been established separated place on the counter for patients to use as counseling point regarding any information on medicines. In some pharmacies there have been opened several Counseling: Obesity; Diabetes prevention; Prevention of STD. There is provision of educational leaflets containing advice on health related topics in all pharmacies. The leaflets created and distributed so far are: Cold or flu?; Bird flu; precaution yes - panic no; Summer/winter handy pharmacy during vacation; Sun protection; Public class about healthy life; Measure blood glucose level - it's useful yet painless; Smoking and COPD; Ask your pharmacists about your therapy; Proper use of different dosage forms.

Conclusion: Development of pharmacy profession and good response from patients imply that pharmacists should implement activities of health promotion in every day practice which results in influencing public consciousness on risks of unhealthy life and has positive affect on health improvement.

CPS-P-049

THE DANGER OF COUNTERFEIT MEDICINES; DISTRIBUTION TO PLAY THE ROLE OF THE FILTER.

J.-L. Delmas

Ordre national des pharmaciens S°C France

Scope of danger: Considering that 6 to 10% of medicines now on the world market are counterfeits, it is obvious that uncontrolled producers make enormous profit and that the danger will continue to increase quickly and significantly. These producers are mainly located in Asia but disseminate their products in nearly every country. The pharmaceutical market is characterised by thousands of producers (whether legal or illegal) as well as millions of dispensation points and consumers. A member of the pharmaceutical chain has to play the role of a filter.

What does distribution mean and what players are involved in it? Distribution is a logistic activity; it means organising the movements of medicines from the production sites up to the dispensation points: community pharmacies and hospital pharmacies. Several successive storage and transport operations are part of the process. Wholesalers and prewholesalers are the main players, but in some cases, manufacturing groups deliver their medicines directly to the dispensation points.

How could distribution provide real protection against counterfeit medicines? Firstly, distribution has to be under the responsibility of pharmacists and/or 'qualified persons'. Secondly, a full track and trace process of medicines and of every operation has to be implemented, which means that any flow of medicines is prohibited as soon as one of the partners has not made a formalized commitment and signed the appropriate contracts. Distribution has to be a chain of clearly identified and compliant players. Direct access of consumers to medicines whatever the way, including Internet, should therefore be prohibited too, for their own safety.

CPS-P-051

PSYCHOMETRIC PROPERTIES AND FACTORIAL VALIDITY OF AN EXPERIMENTAL PORTUGUESE VERSION OF BECK ANXIETY INVENTORY (BAI) IN HYPERTENSIVE PATIENTS

M. Caramona¹, E. Silva¹, R. Figueirinha², E. Ponciano²

¹Faculty of Pharmacy Portugal ²Faculty of Medicine Coimbra University Portugal

Aims: This study is concerned with translation, psychometric properties and factorial validity of the Beck Anxiety Inventory (BAI) in hypertensive patients. In constructing the BAI, Beck addressed the problem that most scales designed to measure anxiety, have been developed on student populations.

Methods: It was used a Portuguese (Europe) version of the Beck Anxiety Inventory, the Beck Depression Inventory (2nd ed.)- BDI II, Hypertension Health Status Inventory - HYPER 29 and salient data recorded as: systolic/diastolic blood pressure, age, gender, marital status, duration of hypertension and BMI. These questionnaires were filled by 635 hypertensive patients, with an age ranging 22 to 94 years old (mean 60.7 years), at home or in the Portuguese community pharmacies depending on the literacy or the need for explanations given by the pharmacist.

The psychometric properties of BAI, namely internal consistency (Cronbach alpha, corrected item total correlation), convergent validity and construct validity (confirmatory factorial analysis) were performed.

Results: All the results of the psychometric properties are similar to those obtained in a sample of healthy Portuguese university students. Confirmatory factor analysis shows a 4 factors solution as the better solution with some fit indexes with values above .93.

Conclusions: The good psychometric properties of BAI showed that this rating scale is a very promissory scale to evaluate anxiety symptoms in hypertensive patients. It enables the evaluation of one of the facets of quality of life in those patients.

CPS-P-050

SKILLFUL FORMULAS FOR EMAGECIMENTO. USE AND ABUSE

I.V.F Valadares Freitas

Universidade Estadual de Feira de Santana Brazil

ABSTRACT

It has been having, at the present time, a increase world of the obesity, leaving the same being an aesthetic problem to become important risk factor. There is a lot of controversy on the treatment of the obesity. When the person doesn't get to lose weight to the costs of changes in the lifestyle and of the alimentary control, the use of medicines no associates can be recommended. Were collected 86 medical prescriptions of magisterial formulations for weigh loss manipulated at a drugstore of Vitória da Conquista, received from 01 on 31 of December of 2004. The formulas were classified in agreement with number of components, therapeutic classes and present pharmacos, aiming to confirm the presence of associations. Were analyzed 75 medical prescriptions composed by 27 components, of these, about 50% presented just a component. Among the found associations, can be mentioned the of anorexigen with diuretic. It was also found associations with fitoterápicos and antidepressants. The ANVISA, however, it is totally contrary to associations of this type, prohibiting her expressly.

Key-Words: obesity, magisterial formulations, associations.

CPS-P-052

MOTIVATIONAL INTERVIEWING (MI) AT THE PHARMACY ON LIFE STYLE CHANGES

B. Sahlin Olofsson¹, L. Lindhe-Söderlund², M. Norelius¹, E. Vegfors¹, C. Özdemir¹

¹Apoteket AB Sweden ²Centre for Public Health Sciences Sweden

The aim: The aim of the project is to test, develop and evaluate MI at the pharmacy as a counselling method, with work on lifestyle changes.

Background: Apoteket AB is an important partner in providing independent and impartial health information to the Swedish people. Information about life-style issues is given to both medicine consuming patients, often with lifestyle related diseases, as well as to self-caring and respectively healthy patients. From a viewpoint of primary prevention, information via the pharmacies can be one of many ways to reach groups which seldom or never visit primary care. This place demands on the pharmacy to develop methods of communication which originate from the customer and from his/her needs. One such method is MI, which is a counselling method to change lifestyle or behaviour. This method has been successfully used in lifestyle changes, for example, in changing alcohol habits, physical activity and diet modification.

Method: The work is carried out into three steps. Step one is to develop the communication tool through adapting MI for the pharmacy. Step two focus is the implementation process and step three focus is on the outcome for the customers.

Result: The developed communication tool works in the pharmacy environment. The staff regards MI as a method for communication about lifestyle. Their conclusion is that it takes time to learn and that they want an own choice when to use the method. The change in the pharmacist professional role can be experienced both in negative and positive ways. Nearly all customers in the study made a change of lifestyle and it is possible to communicate in the open pharmacy area.

Conclusion: MI is an evidence based method. In this study, for which MI was developed for the pharmacy practise, we have reached good results. Questions for the future are how to implement the MI during normal pharmacy conditions and how to adapt MI technique as a basic skill for the pharmacy staff.

Community Pharmacy Section - Poster Session

CPS-P-053

DEVELOPING COMPETENCES.

S. Nielsen, G. Sørensen
Skibby pharmacy Denmark

Project objective: To obtain better knowledge of which pharmaceuticals that belong together in the different therapeutic groups, so that we hereby obtain a higher outcome from the education we receive regarding pharmaceuticals.

Working methods: The education regarding pharmaceuticals conducted in the pharmacy is based on ATC codes. We go through one therapeutic group at a time and decide upon which information we should offer to the customer/patient.

To support this method, our RX medicine is stocked according to the ATC codes. This way we visualize which pharmaceuticals belong to the same ATC group and hereby it is easier for the personnel to remember.

Results: We have conducted a survey among our colleagues:

92,3 % answer that they have acquired better knowledge of the pharmaceuticals.

76,9 % answer that the improved knowledge is due to the pharmacy education regarding pharmaceuticals - as well as the stocking of pharmaceuticals according to ATC codes.

69,2 % answer that it has become easier to keep track of which pharmaceuticals that belong to the same therapeutic groups.

Conclusion: We have acquired better knowledge of which pharmaceuticals that belong together in the different therapeutic groups, however we cannot do without the education locally in the pharmacy regarding pharmaceuticals. In addition to this, it has become easier to remember the therapeutic effect of new pharmaceuticals, when these are placed together with already known pharmaceuticals.

CPS-P-055

A FRAMEWORK FOR PRIMARY CARE PHARMACY IN NEW ZEALAND

J. Dunlop, L. Bryant
CPSL New Zealand

Background: The New Zealand government is striving to move pharmacists towards increased cognitive services such as Comprehensive Pharmaceutical Care® (CPC®) medication reviews. The Primary Health Care Strategy (2000) fosters the principles of collaboration, interdisciplinary teams and maximising resource utilisation, particularly of health care providers. A continuing problem is how to maximise the pharmacist resource in community pharmacy. Within the Primary Health Care Strategy there has been the development of 83 Primary Health Organisations (PHOs), caring for between 5,000 to 360,000 patients. These are predominantly general practitioner (primary care physicians) and nurse organisations. However some PHOs are formed as Trusts and employ general practitioners. A number of PHOs also employ or contract Clinical Advisory Pharmacists.

The inclusion of community pharmacists in the health care team is otherwise very limited.

Aim: To develop a structured, defined framework for primary care pharmacists providing a range of services that operates in a collaborative environment.

Method: An evaluation of all evidence-based community pharmacist services, a review of international strategies plus gathering information from focus groups and key informant interviews of stakeholders, which included consumers, was undertaken for a lead District Health Board. A structured model of pharmacist provided services was developed.

Results: The model has been considered and is undergoing further consultation and modification. Meanwhile the proposed provision of CPC® medication reviews, are being instigated as a collaborative model within the PHOs. The involves Clinical Advisory Pharmacists working with the PHOs undertaking CPC® reviews. The evidence indicates that these types of clinical reviews are less likely to occur in a community pharmacy.

Conclusion: An evaluation of the CPC® interventions undertaken by the PHO Clinical Advisory Pharmacists has demonstrated an increasing utilisation of this service...

CPS-P-054

IMPACT OF PHYSICIANS-PHARMACISTS QUALITY CIRCLES ON THE PENETRATION OF GENERICS

M. Ruggli¹, A. Decollogny², A. Niquille³, M. Buchmann⁴, O. BUGNON³
¹Swiss Association of Pharmacists Switzerland ²Institute of Health Economics and Management Switzerland ³Community Pharmacy of the University of Medicine Switzerland ⁴Pharmacy Tête Noire Switzerland

In 2001 the Swiss government introduced the substitution right for the pharmacist to increase generics use: in 2003 generics represented 28,9% of the possible substitutable packages of drugs compared with less than 20,0 % in 2001 .

Pioneer physicians-pharmacists quality circles started in Fribourg as pilot project in 1997 with 24 physicians and 6 pharmacists. The circles discuss prescribing patterns and try to agree on treatment options based on two objectives: improving quality and efficiency of care. The assessments showed that the physicians working with pharmacists change their prescription attitude in a lasting way. If we consider the efficiency of quality circles on the prescription of generics, we can notice a far better penetration of the generics in many therapeutic groups:

- 53,9% of all the packages of antibiotics prescribed by the physicians of the pioneer quality circles were generics compared with only 36,8% of those prescribed by the physicians of the control group (320 comparable physicians not working in quality circles)

- Antidepressants: 37,6% versus 14,1% in the control group
- Oral antidiabetics: 30,2% compared with 12,3%
- NSAIDs: 53,8 % versus 29,0%
- Antihypertensive agents: 23,1% versus 11, 3%.

In 2006 the Swiss authorities introduced a 10% co-pay for generics and not substitutable drugs and a 20% co-pay for originals that could have been substituted. It is not known yet, if this measure will reinforce the place of generics or push the physicians to prescribe more recent drugs that can't be substituted. Since promoting the use of evaluated generics is well implemented in quality circles, this measure will certainly reinforce the same trend.

CPS-P-056

CO-OPERATIVE COMMUNITY PHARMACY- A POSSIBLE SOLUTION FOR IMPROVING PHARMACY SERVICES IN DEVELOPING COUNTRIES

M. Naidu
St.Peter's Institute India

If there is one industry that has the potential to replicate the Indian software success story globally, it is pharmaceutical industry. Community Pharmacy, one of the important facets of the profession of pharmacy is all about people from helping people with aches and pains to educating patients about specific drug therapies and helping the sick patients cope up with their acute or chronic health problems, Pharmacists forge relationships with their patients.

The status of pharmaceutical care in India is in a paradoxical environment with her huge population and a vast rural base. Unfortunately pharmacy practice in India has not been recognized as an integral part of the health care system. In most of the developed countries the system clearly defines the role of physicians prescribing and the pharmacists not only dispensing but also playing a key role in providing professional care. While in India the functions are overlapping more particularly in rural areas. The necessity to improve the pharmacy practices on professional scale cannot be ignored nor delayed in the context of emerging changes, when India is becoming a fast developing nation in the world. The scenario could change, for it is hoped that in future years the pendulum will swing back to encourage the establishment of a network of well equipped hospitals and organized Community Pharmacies. It will then be possible for pharmaceutical care to become a part of an integral practice throughout the Community Pharmacies, which are presently functioning as 'medical shops'.

In view of the above facts, an attempt is made in this paper to focus on the emerging role of Community Pharmacy and Community Pharmacist in a fast developing country like India and the need for a setting where it is possible to evolve a strategy called 'Co operative Community Pharmacy' where resources and professional competencies are pooled, services are strengthened and profits are shared.

CPS-P-057

HEALTH COMPUTERS

M. Norelius¹, J. Söderberg², M. Hagman¹
¹Apoteket AB Sweden ²UM AB Sweden

Background

Apoteket AB has during the past five years worked with local health care centres (so called 'health squares') built in association with pharmacies in different areas of Sweden. 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 unsuitable material on the computers et cetera.

Methods

It was therefore decided to develop a special solution especially made for the pharmaceutical environment which led to today's version. There are now 150 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 customers 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 indata, the health computer is a excellent platform for public health questionnaires, customer enquiries et cetera

Results

The information and the services in today's version of the health computer are demonstrated and we will report the results and what we have learned from the first two years with a fully functioning concept (approximately 30 000 hours of customer usage). A new function for the health computer as an 'electronic pharmacist' is also pointed out.

CPS-P-059

IMPROVEMENT OF BLOOD GLUCOSE SELF-MONITORING IN INDIVIDUALS WITH TYPE 2 DIABETES IN COMMUNITY PHARMACIES (EDGAR)

M. Schulz¹, U. Mueller¹, A. Haemmerlein¹, A. Casper²
¹ABDA Germany ²Bayer Healthcare Germany

Objective: The ROSSO study has shown that self-monitoring of blood glucose (SMBG) is clearly correlated with improved life expectancy and reduced long-term complications in people with type 2 diabetes. SMBG not only lead to appropriate adjustments in insulin therapy but also enables patients to assess how certain behaviors influence their blood glucose levels. However, blood glucose measurements need to be performed error-free to provide accurate readings. The aim of the present study was to evaluate the quality of the testing skills in patients with type 2 diabetes and to determine the effect of a single standardized intervention in community pharmacies (CP).

Method: Evaluation of SMBG was done in 462 patients with type 2 diabetes randomly selected by 32 CP specialized in diabetes care. At baseline, a structured patient interview was conducted. Patients were then asked to perform blood testing with their own blood glucose meter. Self-testing was monitored using an observation grid and any error during the performance was recorded. If necessary, patients were instructed in the accurate operation of their meter and the use of the necessary equipment. Additionally, patients obtained written instructions. 6 weeks later, assessment of the quality of patient's SMBG was repeated.

Results: At baseline, 383 patients (83%) made at least one mistake. During the second observation, this frequency fell to 189 (41%) ($p < 0.0001$). The average number of mistakes fell from 3.1 to 0.8 per patient. Mistakes that may potentially have led to inaccurate readings were initially recorded for 283 (61%) and at study end for 110 (24%) patients ($p < 0.0001$).

Conclusion: It is important to periodically assess diabetic patients' SMBG technique in order to correct the mistakes. In this study it was shown that CP specialized in diabetes care can provide this service effectively. Implementation of this service in daily CP practice is highly recommended.

CPS-P-058

DEVELOPMENT AND ASSESSMENT OF A EDUCATIONAL PROGRAM ON ASTHMA FOR PHARMACISTS OF A MINAS GERAIS PHARMACY CHAIN

J. Frade¹, F Fernandez-Llimos², VT Schall¹
¹René Rachou/Fiocruz Brazil ²Universidade de Granada Spain

GENERAL AIM: To develop and assess an asthma educational program, for a group pharmacists working in a pharmacy chain in Belo Horizonte, Brazil.

METHODS: The educational intervention (AEP), was designed following the steps proposed by Bedworth (1992): diagnosis, planning, implantation and evaluation (structure, process and results, according to Donabedian's paradigm). The adopted strategies consisted in a training program and in the joint construction of educational materials. To describe the implementation and the effects of the AEP, a case study of exploratory character, took place. Data were collected through questionnaires, interviews and focus group, at the beginning and at the end of the research. The qualitative analysis of the data was guided by Bardin (1977).

RESULTS: 25 pharmacists participated in this study, being mainly women (84%), with an average age of 37 years and the time of degree was 9 years. They stayed more than 4 years in the chain. Besides of professional activities, 88% of the studied group assumed pharmacy manager functions. Their main information source in asthma was the package insert. A low level previous knowledge and skills were associated to the lack of continuous training in asthma. Also, being the products sealing waxed, they could not experiment their use instructions. At the end of the research a high satisfaction with the process was observed. Among the educational materials, the more valued were the book of inhalation devices techniques and the kit of placebos to simulation with the users. The analysis demonstrated a knowledge increase on asthma and skills development in the management of inhalation devices. Results evidenced a trend to new attitudes and the larger professionals' perception on their role in the asthma control.

FINAL CONSIDERATIONS: Pharmacists participation in an asthma educational program allowed in a short period of time, a large empowerment for the asthma management as it contributed to reduce the gaps among the knowing and doing.

CPS-P-060

COOPERATION BETWEEN PHARMACISTS AND DOCTORS REGARDING GER DISEASE IN CROATIA

M. Ladavac¹, B. Splavski Kandic², J. Blekic³, Lj. Majstorovic⁴, M. Julic⁵
¹Ljekarna Pazin Croatia ²Dom zdravlja Croatia ³Ljekarna Blekic Croatia
⁴Ljekarna Osijek Croatia ⁵Ljekarna Split

Heartburn is the main symptom of GER disease. According to European data, only 34 % of patients with GER disease symptoms see the doctor after several months of unsuccessful self-medication.

In Croatia, antacids and cimetidine-based drugs are available over the counter, so the patients self-medicate instead of consulting their physicians. Similarly, pharmacists are not obliged to keep record of individual consumption of OTC drugs. The result of these circumstances is that such patients are mostly excluded from pharmacist or medical care in the initial stages of the disease.

The aim of this research was to provide better health care to patients with GER disease through cooperation of doctors and pharmacists. First, 300 patients were surveyed in pharmacies to establish the scope of the problem in Croatia. The results indicate that the population suffering from GER disease is mostly middle-aged, frequently smokers, mostly sitting at work, with months-long discomfort. They often do not take their symptoms seriously enough to address the problem.

We educated the patients through information leaflets in order to decrease the length of treatment and to prevent possible grave consequences.

Community Pharmacy Section - Poster Session

CPS-P-061

HEALTH AND SOCIAL EDUCATION COMMITTEE FOR FRENCH PHARMACY:

A COMMITTEE TO INVOLVE FRENCH PHARMACISTS IN PREVENTION AND HEALTH EDUCATION

A Blanc, F Blanchet, C Dreux
Cespharm, Ordre national des pharmaciens France

The Health and Social Education Committee for French Pharmacy (Cespharm) is a special unit of the French Council of Pharmacists. The purpose of the Committee is to help the pharmacists to fully play their role in health education and prevention.

The Committee is composed of members from the various organisations representative of French pharmacy: French Chamber of Pharmacists, pharmacy owners' unions, universities...

The Cespharm targets all the pharmacists: community pharmacists, clinical biologists, hospital pharmacists.

The main activity of the Committee is to provide pharmacists a selection of information tools to display validated scientific data and general public information relating to public health and to the proper use of drugs:

-Technical fact sheets contribute to update pharmacists' knowledge and give practical information on prevention, disease early detection and patient education

-Posters and leaflets intended to support communication between pharmacists and the public

At the same time, the Cespharm regularly informs pharmacists of national and worldwide health campaigns and provides them with the needed tools.

The Cespharm also elaborates actions to be promoted by pharmacists on health care. It works out on training programs in partnership with pharmacists' continuing education organisations and experts.

In 2005, Cespharm received 24,050 requests for documentation from 11,755 pharmacists.

In France, public health is becoming a national priority. In this context, the Cespharm will work on new actions related to prevention and health education and expand its activities in order to better answer the increasing requests from the pharmacists.

CPS-P-063

STRONGER CLINICAL LEADERSHIP IN PATIENT SAFETY – A PROGRAMME DIRECTED TOWARDS LEADERS WITHIN HEALTH CARE AND PHARMACY

C M Svensson¹, B IM Franzén²

¹Apoteket AB Sweden ²Jönköping County Council Sweden

Introduction

There is a growing interest in patient safety in health care in Sweden as well as internationally. In 1999 the Institute of Medicine (IOM) published the report 'To Err is Human'. This report states that 50,000 – 100,000 Americans die every year because of mistakes in health care. Many of these mistakes are believed to be preventable. The corresponding number in Sweden is probably at least 3000 patients each year.

There are studies showing that drug-related mistakes are the most common causes of injuries within health care. It is important to involve pharmacists in health care teams. Teamwork between patient – medical doctor – registered nurse and pharmacist etc. is a requirement when producing a safer health care. To make this possible there is a need for stronger clinical leadership in health care and pharmacy.

Method

Inspired by the programme 'Patient Safety Officer Executive Development Program', arranged by the Institute for Healthcare Improvement, Boston, Jönköping County Council organized in joint venture with The Regions Patient Injury Insurance and Pharmacy Culture a Swedish leadership programme concerning strategic patient safety issues. The six day programme is directed towards leaders with an overall responsibility within health care and pharmacy.

The programme includes the following topics: strategy and leadership, reliability science, human factors, building a just culture, interpersonal communication and teamwork, improvement methods, safety measures and simulation. National and international experts in the area contribute.

Result

In the first programme, that took place in the spring 2006, about 50 people participated from ten different County Councils and pharmacies in Sweden. The programme will be repeated in the autumn 2006.

Conclusion

Dedicated leaders are necessary to improve patient safety in health care. A programme concerning these issues can support the leaders in the strategic safety work.

CPS-P-062

EVALUATION OF PHARMACEUTICAL CARE PRACTICE IN COMPOUNDING PHARMACIES AT SALVADOR, BAHIA

M. P. Pacheco¹, L. A. C. NOBLAT²

¹Faculdade de Ciência e Tecnologia Brazil ²Universidade Federal da Bahia - UFBA Brazil

INTRODUCTION: Drug Therapy Problems (DTP) have been identified as contributing factor to increase morbidity and mortality among individuals. On the other hand, Pharmaceutical Care (PC) practice was introduced with the objective to solve and prevent DTP. Compounded medicines are drugs tailored for an individual and have no legal exigency to be clinically tested prior of their use, therefore presenting higher risk for developing DTP and consequently mandating patient follow-up through PC practice.

AIMS: Evaluate PC practice, identifying practical activities developed by pharmacists in compounding pharmacies at Salvador, Bahia, Brazil. **METHODS:** Descriptive observational study taken place between July 26th and August 6th, 2004. Data collection was done by interview using a structured formulary adapted from Odedina's Behavioral Pharmaceutical Care Scale, and after that inputted at Microsoft Excel@ 97. Formulary was composed by 3 Dimensions and 14 Domains, and its items were scored. **RESULTS:** 47 pharmacists met this study criteria. From 13 (28%) that refused to participate, 12 (26%) belonged to a chain pharmacy. Another 3 (6%) pharmacists were contacted at least 3 times with no success. A total of 31 (66%) pharmacists were interviewed, 25 (81%) were women and 19 (61%) were 30 years old or less. Ten (32%) said to practice PC, but only 5 (50%) of these said to have documented their patient information. No pharmacist achieved the maximum score, but formulary scoring was significantly higher for those who affirmed practicing PC compared to those who did not affirm, within the following Domains: 'Documentation' and 'Implementation of Therapeutic Goals and Follow-up'.

CONCLUSION: Although this study identified that pharmacists who declared to provide PC are more inclined to implement therapeutic goals and document their activities than those who declared not to provide PC, this professional practice is still not a reality at compounding pharmacies at Salvador.

CPS-P-064

THE ROLE OF TAIPEI COMMUNITY PHARMACY IN THE RECENT PROGRESS OF TAIPEI COMMUNITY CARE

H.Y. Hsu, J.M. Lien, M.C. Hsieh

Taipei Pharmacists' Association China Taiwan

Introduction: As in the other countries, Taiwan now is facing the compacts and the social problems caused by the aging society, especially the chronic diseases management and patient care. In order to solve this issue, Taipei city was conducting a cooperation model between Taipei Union Hospitals and Taipei community pharmacies. **Methods:** For improving the community care system, we 1. built up refill prescription consulting centers in City Union Hospitals for educating and informing patients to get their prescriptions in the nearby community pharmacies 2. Increased the service of home-care and medicine-to-home by community pharmacies 3. added a hospital-pharmacy computer union system that allows patients to register in community pharmacies 4. assisted the training course of PGY1 for young doctors to know the operations and services of community pharmacy. **Results:** By the recent community pharmacy satisfaction survey held by the government, nearly 80% of the interviewers gave their positive feedback to this cooperation program. And in between 2004 to 2006, Taipei community pharmacies increased from 139 to 362, medicine-to-home service number increased from 89 per month to 865 per month, refill prescriptions received by community pharmacies were also increased from 4711 per month to 23287 per month. **Conclusion:** This new cooperation model is successfully improve the quality of community care. Community pharmacies are playing as the crucial role in the future development.

Community Pharmacy Section - Poster Session

CPS-P-065

APODOS: TO ACHIEVE QUALITY AND EFFICIENCY BY AUTOMATION FOR RIGHT DRUG @ RIGHT TIME

E Åkerlund, P. Skarin
Apoteket AB Sweden

Aim

To achieve a safe and cost-effective product by receiving the prescription order electronically and process the order in an optimized automation from start to end with a high level of quality and efficiency

Method

Apoteket has together with customers developed a web application, e-dos, which make prescription and administration of the order ('Doxrecept') a lot safer and easier. The Doxrecept is a prescription form for patients with ApoDos, which also works as a compiled drug list. Apoteket can also offer an interface for integration with the GP management systems.

The contents of all packed pouches are checked manually in the end of the production process. Approximately 147 million pouches are checked manually! A project to automate the checking was started in 2001 together with an engineer company. Today, Apoteket can present an automatic vision system that is able to check and judge content in each pouch in production.

Results

- By using e-order and vision technology, Increased Quality Assurance of total process
- By using e-order and vision technology Increased efficiency of production
- By using e-order, Automated prescription administration
- Surveillance and excellent traceability by automated vision systems

Conclusion

The technology for the administration of the ApoDos creates a high level of quality and efficiency. ApoDos makes seamless care possible for the individual user. It contributes to strengthening the co-operation between the professions and is appreciated by both the users and the healthcare. Financial profits such as reduced drug costs, increased compliance and time-saving for nurses balance the cost of ApoDos.

CPS-P-067

MANAGEMENT OF COMMUNITY PHARMACY PRACTICE IN SERBIA - FIVE YEAR FOLLOUP OF DEVELOPMENT PROCESS

Lj. Tasic¹, Lj. Tasic¹, V. Kocic Pesic², S. Stojanovic²

¹Faculty of Pharmacy Serbia and Montenegro ²Pharmacy Institution Belgrade Serbia and Montenegro

The success and improvement in management of pharmaceutical sector can be evaluated by measuring achievement of objectives and monitoring of some National Drug Policy indicators.

The aim of this paper is to evaluate development process of community pharmacy practice management in Serbia during last five years.

Method:Analyses has been done using methods of desk research and selected set of indicators according to WHO recommendations for monitoring NDP (structural indicators and indicators of development process).

Results:There has been evidence of improvement regarding structural indicators (3 new health related laws:Health care,Insurance and Chambers).Instructions for the design and implementation of QMS in community pharmacy practice were developed and established during period of three years (2001-2004).In the 2004 only one Pharmacy Institution (PI) introduced ISO 9001:2000.The process has developed further by successful certification of 3 other PIs at the end of 2005 and 5 more PIs being just in process.Parallel activities were conducted to establish and implement national professional standards of GPP and to integrate it with existing QMS.Indicators of quality of pharmaceutical services have been established and monitored at national level (data from 4 local PIs).Furthermore,the patients/customers satisfaction measurement (P/CSM) was carried out on these pharmacy settings and results show substantial P/CS - 89.39%.

Conclusion:Progress has been made in management of pharmaceutical practice especially in the field of legislation/regulation correlated with EU and in the field of quality improvement of pharmacy system management with patient orientation at the local and national level.

CPS-P-066

QUIT USING AND INHALING TOBACCO (QUIT): A SMOKING CESSATION TRAINING PROGRAM FOR PHARMACISTS.

W. Meek, J. Cooper, K. Weir, B. Power
Canadian Pharmacists Association Canada

Aim

The Canadian Pharmacists Association is designing a tobacco cessation training program for pharmacists called QUIT: Quit Using and Inhaling Tobacco. The aim of the program is to offer live workshops in provinces that do not have provincially available tobacco cessation training specifically for pharmacists. An online version of the program will be available for all pharmacists.

Method

The program is being designed in three phases. The first phase, completed in April 2005, was an environmental scan of Canadian tobacco cessation training programs for health care professionals. Phase Two, completed in April 2006, was the development of the content and the delivery process of the program. Pending further funding from the Tobacco Control Programme at Health Canada, Phase Three will be evaluation and roll out of the program.

Results

The training consists of six modules. The first four modules cover tobacco cessation training: Why They Should Quit and How You Should Help, Addiction and Its Implications, Pharmacotherapy and Behaviour, and Counselling Process: Putting it all Together. The last two modules cover the business aspects of how to implement a smoking cessation program in a pharmacy. Pharmacists will be provided with training, tools and ideas on how to provide the level of service they are confident to deliver and have time for.

Conclusion

After taking the training, pharmacists will be able to provide a well-rounded approach to help patients that are willing to quit tobacco.

CPS-P-068

COMMUNITY PHARMACISTS TRAINING COURSE: FACING CHALLENGES TOWARDS PHARMACEUTICAL CARE

C. Vidotti, E Silva

Federal Council of Pharmacy Brazil

Introduction:

In Brazil, community pharmacists are not required to do continuing education. In spite of that, as new knowledge come up in an ever increase rate, they need to update themselves. Another requirement is the changing face of the Brazilian community pharmacies, from trade to health. Additionally, most of Colleges of Pharmacy do not have community pharmacy approach in their programmes, so professionals do not know this practice and the importance of community pharmacy in the health system and in the promotion of health.

Objective:

To describe the training courses organized for community pharmacists.

Results:

Three training courses were held in 2005, each one with 133 hours. 136 community pharmacists did these courses. The programme was built to provide up dating of their knowledge in pharmaceutical care, 74% out of the students believe that the course up dated them completely, and 23% partially. 33% out the students believe that they are totally able to apply knowledge acquired and 64% told that they are partially able to apply.

Conclusion:

According to the students' opinion, the training courses achieve its objectives. However, setting up of pharmaceutical care programs by these pharmacists need to be follow up, which is need to verify changes in professional practices towards health promotion.

Community Pharmacy Section - Poster Session

CPS-P-069

PERSONAL ELECTRONIC MEDICINE PROFILE (PEM) AT THE PHARMACIES IN AARHUS

L. Kristoffersen¹, K. Dela²

¹Aarhus Loeve Pharmacy Denmark ²Aarhus Aabyhoej Pharmacy Denmark

The Danish Medicines Agency has provided Personal Electronic Medicine Profile, PEM (medicinprofilen.dk) to the Danish citizens as a secure Internet based information package about your personal medicine consumption. However, by January 2005 only 4.593 citizens had utilized this possibility.

Year 2005 was nominated as Patient Safety Year by the pharmacies in Denmark. The pharmacies in Aarhus decided to use this to leverage the knowledge about PEM. With the PEM project these pharmacies wanted to demonstrate their role as crucial in making its customers more content and informed consumers of medicine, making it obvious and apparent that pharmacies play an integrated part of the Danish primary health sector.

With a small and intense introduction to PEM using as little as 10 minutes per patient the introduction was well received and 27% of the patients have later visited the PEM site on the Internet. We have with this project demonstrated an efficient yet unusual way to involve patients themselves to improve patient safety.

We have learned, that PEM seem more relevant to poly pharmacy patients and many of these patients already use the Internet extensively and could find immediate use. With this feature young people tend to consume less medicine and see less need for PEM with the information that are accessible today. Another important observation was, that PEM is more relevant to doctors and hospitals and could become a vital tool to exchange information between practitioners and hospitals.

CPS-P-071

EVALUATION OF PHARMACEUTICAL INTERVENTIONS IN THE REDUCTION OF DRUG-RELATED PROBLEMS (DRP) AND IMPROVEMENT OF HEALTH-RELATED QUALITY OF LIFE IN A GROUP OF OUTPATIENTS IN RIBEIRÃO PRETO (SP), BRAZIL

DP Lyra Jr.¹, NR Lambertini¹, TC Marques², JP Abriata³, IR Pelá¹

¹FCFRP, USP Brazil ²EERP, USP Brazil ³UNAERP Brazil

Objective: To evaluate the effect of pharmaceutical interventions in the reduction of drug-related problems (DRP) and improvement of health-related quality of life (HRQOL) in a group of chronic patients. **Study design:** A prospective, randomized study that evaluated the effect of pharmaceutical interventions to improve patients' pharmacotherapy. **Setting:** A primary-care clinic in Ribeirão Preto (SP), Brazil. Thirty outpatients with chronic diseases assigned to the intervention group. **Intervention:** Patients in the intervention group were followed up monthly for twelve months by a pharmacist researcher who identified, solved and prevented drug-related problems (DRP) in order to improve HRQOL. The generic Quality of Life instrument used was the SF-36. **Results:** The mean age in the study group was 67 ± 5.5 with a predominance of females (67%) in relation to males (33%). The mean number of chronic diseases identified was 4.0 ± 2.0 and DRP was 3.0 ± 2.0 per outpatient. Upon completion of the study, the pharmaceutical interventions solved an average of 2.0 ± 1.5 DRP per patient. It was observed that 93% of the patients presented quality of life improvement with DRP resolution or prevention. The interventions led to improvement in the domains of physical aspects, pain, general conditions, vitality, social and mental aspects. **Conclusions:** The results suggest that the pharmaceutical interventions may have reduced patients' DRP and consequently improved their HRQOL.

CPS-P-070

IMPROVING THE CLINICAL RESULTS OF HYPERTENSIVE OUTPATIENTS THROUGH PHARMACEUTICAL INTERVENTIONS IN RIBEIRÃO PRETO (SP), BRAZIL

DP Lyra Jr.¹, TC Marques², JP Abriata³, NR Lambertini¹, IR Pelá¹

¹FCFRP, USP Brazil ²EERP, USP Brazil ³UNAERP Brazil

Objective: To evaluate the influence of pharmaceutical interventions on the clinical results of hypertensive outpatients. **Study design:** A prospective, randomized study which evaluated pharmaceutical interventions in the control of blood pressure (BP) and body mass index (BMI) of outpatients. **Setting:** A primary-care clinic in Ribeirão Preto (SP), Brazil. **Patients:** Thirty outpatients (i.e. 60 years old or older) with essential hypertension randomly assigned to the intervention group. **Intervention:** For twelve months, a pharmacist provided patient education concerning pharmacotherapy and lifestyle change in order to achieve BP goals. The measurements of BP, weight and BMI were performed monthly. **Results:** In 100% of the situations, the pharmacist made the recommendation directly to the patient. During follow-up, 69% of the drug-related problems (DRP) identified were solved, controlled, or improved. During the study, 86% of the interventions were accepted by physicians. The group showed a reduction of 27% in weight, but did not observe a significant difference in BMI results. Systolic BP showed a significant reduction of 18±2.5 mm Hg (p<0.05) while diastolic BP exhibited a reduction of 12±3 mm Hg (p<0.05). At the beginning of the study, only 17% of the outpatients showed BP control, and there was an improvement of 43.5% after the pharmaceutical intervention. It was also observed that 43.5% of the patients achieved improvement without the control, 6.5% remained stable and only 6.5% worsened. **Conclusions:** It became apparent how pharmaceutical interventions can help patients improve BP control and achieve BP goals and thus reduce cardiovascular morbidity and mortality.

CPS-P-072

PHARMACEUTICAL CARE PRACTICE OUTCOMES IN COMMUNITY PHARMACY AT SALVADOR, BAHIA, BRAZIL

P.S. Araújo¹, M. P. Pacheco², A. P. P. Queiroz³

¹FTC/UNIME Brazil ²FTC-Pharmacist and Professor Brazil ³Farmácias Magalhães - Pharmacist Brazil

Aim: Evaluate Pharmaceutical Care (PC) practice impact on Drug Therapy Problems (DTP) resolution and therapeutic goals achievement. **METHODS:** Retrospective observational study considering interventions accomplished within PC provision in 3 community pharmacies at Salvador, from January to December 2005. SOAP method was used to identify, solve and prevent DTP and these were classified according to the Pharmacotherapy Work-up® taxonomy. Patients' inclusion criteria was having at least 1 initial and 1 follow-up pharmaceutical interview. **RESULTS:** From 216 patients included in this study, 175 (81.0%) were 41 years old or more, and 171 (79.2%) were women. At initial interview presented with 369 health problems using 460 drugs. One hundred and twenty seven (58.8%) patients had at least 1 DTP identified and solved at initial interview. During the studied period 433 DTP were identified, 158 (36.5%) of them categorized as 'Noncompliance', 101 (23.3%) as 'Needs Additional Drug Therapy' and 66 (15.2%) as 'Adverse Drug Reaction'. From 69 letters sent to other health care professionals, 54 (78.3%) had interventions partially or totally accepted, 364 (84.1%) DTP were solved and in 309 (84.9%) patient and pharmacist only were involved. Regarding health problems initially presented, in 295 (79.9%) it was feasible to reevaluate at the last interview and 204 (69.2%) conditions were improved, 34 (11.5%) were maintained stable, 37 (12.5%) were unaltered, and 20 (6.8%) were worsened. **CONCLUSION:** Since pharmacist's clinical redirection, this professional can effectively contribute to patient care with the specific objective to identify, solve and prevent DTP, which can impede him/her to achieve therapeutic goals. Throughout PC provision pharmacists encounter opportunities to positively impact on populations' health problems and quality of life.

Community Pharmacy Section - Poster Session

CPS-P-073

TO ESTABLISH A MEDICAL AND PHARMACEUTICAL INFORMATION PLATFORM FOR COMMUNITY TO INCREASE EFFICIENCY AND QUALITY OF MEDICAL SERVICES

T Yang, W Hue wu, C Agnes LF
Chimei Fondation Hospital China Taiwan

Background:

The aim of this study was to establish a medical and pharmaceutical information platform and evaluate its accessibility and quality of the available informations on the websites.

METHODS:

To establish drug information center and set up a server for providing a stable and fast platform to the community pharmacy and general public. Additionally, a disabled web-based medical and pharmaceutical information system, digital e-learning system, patients' personal drug profile as well as web-based patient survey system were also established. After the establishment of the easy accessible platform, an online satisfaction questionnaire was administered to all user including community pharmacists and pharmacists working at primary clinics, hospital pharmacists and the general public.

RESULTS:

Integrated Web-based medical and pharmaceutical information platform were established, including hot news, search directory (drug information and appearance, drug-drug interaction, education booklets), communication interaction section, e-bulletin, pharmacists individual information management. A total of 430 satisfaction questionnaires were administered to the community pharmacists and patients to evaluate the accessibility and quality of the informations provided on the websites. The results showed that about 95.58% of the users were satisfied with the design and construction of the homepage. The general appraisal for the website was 87%. About 96.27% of the publics and 96% community pharmacists agree that the informations posted on the webs sites were complied with their requirement.

Conclusions:

The use of internet platform would help to improve the interactive activity between community pharmacists, pharmacists of primary clinics and clinical pharmacists of hospitals. Encourage them to work cooperatively to promote the knowledge of health-care and prevention of diseases widespreadly to the community.

CPS-P-075

INITIATING A SERIES OF ACTIVITIES FOR WORLD HEALTH DAY IN TAIWAN

F. Hsiao¹, YC Chen², AT Hsu², YR Tsai²

¹National Yang-Ming University China Taiwan ²Taiwan Young Pharmacists' Group China Taiwan

World Health Day is celebrated annually to address important issues on 7th April, which is the date of establishing World Health Organization. In 2006, the theme focused on 'Human Resources for Health'. Therefore, it is a valuable opportunity for pharmacists in Taiwan to promote their perception in the public and emphasize key issues regarding pharmacy practice in the community.

In order to (1) promote the image of the pharmacist to the public, media and international health community through activities and campaign (2) strengthen the awareness of the role of pharmacist and workforce issues in Taiwan (3) identify pharmacists' contribution to their own communities, multiple strategies will be initiated on 2006 World Health Day in Taiwan. The objectives and strategies used are presented as follows.

1. To find out the public perception of community pharmacist in Taiwan. Since people may have limited understanding of the role that pharmacists can play in communities, it would be important to hold a series of activities in demonstrating how pharmacists can contribute to patients. Such as the workshop of pharmacists' value in national health insurance

2. To decide the target audience for the activity—the public, the Bureau of National Health Insurance (funding agencies) and policy makers (Department of Health)

3. To find methods to involve the media—announcing a series of World Health Day Campaign on the Pharmacists' Weekly and local journals.

4. To document the results of the World Health Day activities, and form the future strategy for the pharmacists. Examine the current status of the profession which is related to its competency, roles, services, remuneration, numbers, education and training, and regulation. The most important strategy is to identify how the pharmacist could be advanced in Taiwan.

CPS-P-074

TRANSFORMATION OF COMMUNITY PHARMACIES IN THE PAST 40 YEARS AND THE IMPORTANCE OF GOOD PHARMACEUTICAL PRACTICE IN TAIWAN AFTER SEPARATION OF DISPENSING FROM MEDICAL PRACTICE IN TAIWAN

F. Hsiao¹, M.H. Liu², J.C Wang³, AT Hsu⁴, YR Tsai⁴, WF Wang²

¹National Yang-Ming University China Taiwan ²National Union of Pharmacist's Associat. China Taiwan ³China Taiwan Society of Health System Pharmacy China Taiwan ⁴Taiwan Young Pharmacists' Group China Taiwan

Aim:

- 1) To understand the development and transformation of community pharmacies in the past 40 years.
- 2) To appreciate the important roles of community pharmacists in public health after separation of dispensing from medical practice in Taiwan.
- 3) To recognize the significance of good pharmaceutical practice guidelines for community pharmacies in improving quality of service.

Method: Interviews were conducted with pharmacists and drugstore owners of different age groups. Development and transformation of community pharmacies, changing roles of community pharmacists and changes in customers' behaviors in the past four decades were noted. Interviews were also carried out with young and/or new community and hospital pharmacists to gain insights to recent trends after separation of dispensing in Taiwan.

Results:

- 1) Before separation of dispensing from medical practice in Taiwan (i.e., prior to 1997), drugstore owners are not required by law to be licensed pharmacists. A non-pharmacist store owner could 'rent' a pharmacist's license at a fairly low price.
 - 2) After separation of dispensing from medical practice in Taiwan, pharmacists play a much more important role in healthcare. Patients are more willing to consult pharmacists for their health problems, especially in the community settings.
 - 3) Mastering professional knowledge is inadequate for a community pharmacist. Management, marketing, and communication skills are also extremely important.
 - 4) Pharmacists' duties are beyond selling, but also patients' safety in regards to medication accessibility, proper administration and identification of potential drug-drug interactions.
- Discussion:—Community pharmacy is a very competitive retail business in Taiwan. Pharmacists not only have to continuously update their professional knowledge, but also develop counseling skills in order to provide quality care to the communities.

CPS-P-076

PHARMACISTS IN ELDERLY CARE - MEDICATION REVIEWS IN NURSING HOMES

E Rekman¹, L-K Lütz², H Lundahl¹

¹Client Services Development, Apoteket AB Sweden ²Hospital Pharmacy Sweden

Summary

Background: Medication-related problems (MRP) account for a considerable number of hospital visits and patient suffering. Elderly patients in nursing homes are often prescribed many medicines and are at risk of developing MRPs.

Aims: To identify, prevent and correct medication-related problems in elderly people by including pharmacists in the medical care team in nursing homes.

Methods: Six pharmacists visited 52 nursing homes in eight communities in southern Sweden during 2005 to identify medication-related problems. Medication reviews were carried out for patients 75 years or older who were taking at least five drugs on a regular basis. The problems that were identified were discussed with the patient's physician, who decided whether any action should be taken. The medication lists were analysed by the pharmacists for potentially inappropriate medications for elderly.

Results: Medication reviews were performed for 1059 elderly patients. Of these, 943 were included in the study report. Individual patients received an average of 9 regular medications each. Long-acting benzodiazepines were used by 15% of the elderly and 20% had anticholinergics. In total, the pharmacists identified 2170 potential MRPs (2.3 per patient). The most common MRP was medication use where the indication was lacking or the indication was questioned. Sixty percent of the MRPs where intervened upon by the physician. After the medication review, the proportion of elderly residents using long-acting benzodiazepines and anticholinergics were reduced by 18% and 24% respectively.

The medication costs were reduced by approximately \$300 per patient per year.

Conclusions: With a multi-professional team including pharmacists in nursing homes MRPs can be prevented or identified and corrected. This results in reduced inappropriate medication in elderly and less expenditure for medications. Patient safety and reduced costs for unnecessary medical care can also be achieved.

Community Pharmacy Section - Poster Session

CPS-P-077

THE EFFECTIVENESS OF HOME CARE MEDICATION EDUCATION PROGRAM FOR KAOHSIUNG COMMUNITY IN TAIWAN

A. Y. Shen¹, M. C. Lai², C. S. Tang², T. H. Lan², Z. K. Huang², S. P. Lee²
¹Fooyin University China Taiwan ²Kaohsiung Pharmacists' Association China Taiwan

The aim of this study was to examine the effectiveness of home care medication education program for residents in Kaohsiung community. Twenty-nine community pharmacies located in six districts of Kaohsiung city participated in this program. A structured questionnaire was used for data collection. Information about health status, home care medication knowledge and medication-taking behavior were included. Data were collected twice by way of a face-to face- interview survey through 750 residents with an average age of 60, and were analyzed using SPSS computer software. The initial data set was collected prior to the first course and second after the second course in three months. The results of the first visit prior to the course revealed information on the following home care medication; forgetting to take medicine, misusing medicines, using multi-medicines, ignoring the adverse action of the medicines, improper storage of the medicines and combining Western medicines with Chinese traditional therapies. Compared with the first visit, people have better understanding on proper medication usage during the second visit. This demonstrated that community pharmacists can effectively increase the awareness of proper medication usage

CPS-P-078

PHARMACEUTICAL CARE SERVICES IN RURAL AREAS IN SWEDEN

K Digné¹, E Nylander², E Enare², E Svensson²
¹Apoteket AB Sweden ²Apoteket AB Region Nord Sweden

Aim: To offer pharmaceutical care services in rural areas in northern Sweden.
Background: Patient Medication Profiles is a service available in approximately 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 results of medication. Pharmacists working in the service have undergone specialist training.

Method: The four most northern counties in Sweden account for almost half of the total area of Sweden and approximately 10 % of the total population. Inhabitants typically live along the coastline, but there are also a few towns inland. Distances between communities, and therefore pharmacies can be considerable.

To achieve a good coverage throughout the region some of the more than 100 pharmacies now have pharmacists trained to work with Patient Medication Profiles. Although the service is primarily available at only a few pharmacies we are able to offer the special service at other pharmacies. The specially trained pharmacist is able to spend one day a week visiting other pharmacies, or an appointment can be made at the pharmacist's usual work-place.

In between meetings with the specially trained pharmacist, patients can get prescriptions filled in by the regular pharmacist at their local pharmacy. The specially trained pharmacist will then be informed, enter the information on the database, and follow up either by telephone or at the next appointment.

Results: The service with Patient Medication Profiles in rural areas in northern Sweden is being extended. By march 2006 there were 58 pharmacies offering this service, 22 of those without their own specially trained pharmacist. And the number is continuously rising.

Conclusion: Co-operation between pharmacies makes it possible to deliver high quality services. Apoteket AB, Region Nord, Sweden. K.Digné, E.Nylander, E.Enare, E.Svensson

CPS-P-079

FIND YOUR MOTIVATION AND RECIVE FOLLOW-UP CARE FOR BETTER HEALTH. THE HEALTH SQUARE OFFERED BY THE APOTEKET GRIPEN PHARMACY LEADS TO A HEALTHIER SWEDEN THROUGH ITS COMPLEMENTARY SERVICES.

M Åberg, E Edler, M Seimerson
Apoteket AB Sweden

Purpose:

To show that offered method with a health-coach and patient medication profiles, through the health square project, leads to a better health and improved work attendance for a company's employees.

Method:-----Apoteket offers a lifestyle package that includes motivational help and follow up care, for better health. The costs are based on the number of participants.

The offer includes both a group education in which the company receives evident based information and follow up program in which the individual employee receives guidance by a health-coach. The latter step consists of five personal follow-ups regarding changes in life style. The employee can also receive a professional review of the medicines used by him or her, a so-called personal medication profile.

The life-style package is aimed at companies who want to help its employees prevent illness through a change in lifestyle. The healthcoach inspires and motivates the company's employees to a lifestyle change. Personal goals are set after a consultation with the healthcoach, which continuously support and motivate the employee.

The service from Apoteket is also directed towards employees with a medical condition such as diabetes and cardiovascular disease. Through experience we know that personal guidance by a healthcoach leads to a better health status. We also know that proper use of medicines leads to a better health, which is why Apoteket offers a personal medication profile.

Conclusion:---Companies can expect the following benefits from the lifestyle package:

- * Better health for the individual employee
- * Improved work attendance
- * Decreased costs for sick leave and health care
- * Better results for the company

Summary:

The future results of this project hopefully shows the importance of motivation to successfully change ones lifestyle and that the risk of returning to old habits is significant without someone that supports you throughout the process.

CPS-P-080

PHARMACISTS' ATTITUDES TO ADVERSE DRUG REACTION REPORTING

AM Horn, AG Granaas
Institute for Pharmacy Practice Research Norway

Background

In Scandinavian countries, pharmacists have only to a small extent reported adverse drug reactions (ADRs). By contrast, in the Netherlands 40% of the reports on ADRs are submitted by pharmacists. From 1st January 2005, the Norwegian Medicines Agency has encouraged pharmacists to report adverse drug reactions.

Aim

To explore Norwegian pharmacists' attitudes to and experiences with ADR reporting, evaluate the effect of an educational programme, and compare the results to the attitudes in a control group.

Method

In September 2004, 39 pharmacies in Norway were recruited to participate in a three month ADR reporting project. Pharmacists involved answered a questionnaire regarding their attitudes to ADR reporting (active group). A control group of pharmacists from other pharmacies answered the same questionnaire. After the study period the active group evaluated the project.

Results

In the active group the response rate was 97 % compared to 74 % in the control group.

Before the project started, pharmacists in the active group had more positive attitudes to ADR reporting than the control group ($p < 0.05$). Afterwards pharmacists in the active group said that half of them had reported an ADR during the project. The educational programme made them feel more confident of the reporting process, but they stated that lack of time could in the future prevent them from reporting ADRs as opposite to what they believed before having the experience of reporting.

Conclusion

The pharmacists had positive attitudes reporting ADRs. They felt the educational programme had clarified their role on how and why to report.

Community Pharmacy Section - Poster Session

CPS-P-081

MODEL OF INDIVIDUALLY LED COUNSELLING AT QUITTING SMOKING IN THE COMMUNITY PHARMACY

S Rupret
Community Pharmacy Celje Slovenia

Introduction:

We meet patients who have different health problems every day. They usually have a very unhealthy life style. All of the above represents additional risk factors for worsening one's health state and additional health problems. Pharmacist can, with their knowledge and qualifications actively cooperate in promoting a healthy way of living. When they recognize smoking addiction in a patient, they can try to find out the patient's willingness to quit smoking, advise one of the models of quitting, support the patient, accompany patient through the whole process of quitting smoking and also later, when the patient has managed to stop. In the Pharmacies of Celjske lekarnice public institution different activities for stopping smoking have been performed in the recent years.

Method:

The model of individually led counselling at quitting smoking is prepared by EuroPharm Forum and National Institute of cancer of USA directives. It is carried out by a qualified pharmacist and based on a 6-step approach to the smoker: at mutual communication in pharmacy, with a greater emphasis on the smoker's motivation, giving information about addiction, curing and pharmacotherapy, healthy life style. They get to know the procedure of curing and together we also prepare a skeleton plan of consultations. All important facts, findings and mutual answers at individual counselling are kept records of in the smoker's File Card.

Results and discussion:

In the year 2004 six patients, aged between 20-56, decided to quit smoking with the help of a pharmacist through an individually led counselling in the pharmacy Radeče. Four of them were very addicted to nicotine. Half of all the candidates quit smoking.

The model demands extra time and occupation of the pharmacist during, finances for preparation and purchase of informative materials, communication abilities and a lot of perseverance and will. But it has proven to be a new, successful possibility at cooperation with patients and optimisation of their quality of life.

CPS-P-083

SELF-ADMINISTRATED QUESTIONNAIRE WITHIN A POPULATION STUDY ABOUT A MULTIDISCIPLINARY COORDINATED CARDIOVASCULAR PREVENTION PROGRAM

A. Niquille, M.-P. Schneider, J.-M. Krähenbühl, O. Bugnon
University Medical Outpatient Clinic Switzerland

AIMS

To develop a specific self-administrated questionnaire for assessing needs and opinions about a multidisciplinary coordinated cardiovascular (CV) prevention program within a population of 56 to 75 years old patients pharmacologically treated for at least 1 CV risk factor.

FRAMEWORK

Implementation of such programs often shows discrepancy between care needs and patients willingness to take part in. The questionnaire is being developed within a study exploring patients barriers, facilitators and needs in order to propose a useful and targeted community-based health education program.

METHOD

A specific questionnaire has been developed following our experience and questionnaire methodology. A pre-test allowed to adapt sentences and vocabulary to patients understanding.

RESULTS

The 55-item questionnaire has been structured in 4 parts:

- knowledge about CV disease and risk factors (26 items)
- opinion about coordinated care and patient education (14 items)
- willingness to take part in a multidisciplinary coordinated CV prevention program and willingness to pay for it (9 items)
- sociodemographic profile (6 items)

Most questions are closed and linked to a Likert scale. Some opened questions explore preventive measures and coordinated care more in details.

The questionnaire is being self-administrated to 160 voluntary patients from 5 community pharmacies.

CONCLUSION

This questionnaire is essential to assess patients perception and needs about CV preventive measures. Clinical, health insurance and medication review data are being collected as well. The conceptualisation of the final multidisciplinary coordinated CV prevention program will be based on the links between all this data.

CPS-P-082

OPERATIONAL CONDITIONS OF THE RETAIL TRADE DRUG PRODUCTS IN THE MUNICIPAL DISTRICT OF BARRA MANSA

M. Monteiro Alvim
CVS/SES/RJ Brazil

The aim of that paper was to verify the operational conditions of the retail trade drug products in the municipal district of Barra Mansa – RJ/Brazil, face to licensing, the operation authorization, the existence of the professional pharmacist and its presence in the establishment, and the sufficiency of the functional broad of the local sanitary Surveillance to exercise the inspectional actions and of control on the regulated field.

The obtained results appear for the existence of establishments working without the local licensing and/or operation authorization, unassuming with the attendance of the head pharmacist or of his/her deputy and the great majority of those that exercise responsible pharmacist don't have the same during the operational shifts. The functional broad of Sanitary Authority doesn't have pharmacist as part of its team, as a requirement of the legislation including that disposes on the Municipal Regulation of the actions of sanitary surveillance. There are strong evidences of the deficiency of the System of Sanitary Surveillance in the control of the retail trade and the services offered by them.

CPS-P-084

TREATMENT SAFETY IN ELDERLY PATIENTS WITH BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA (BPSD): A RETROSPECTIVE ANALYSIS IN NURSING HOME

J.F. Locca¹, M Favre¹, S Du Pasquier¹, S Zumbach², O Bugnon¹
¹Policlinique Medicale Universitaire Switzerland ²Cantonal Psychiatric Hospital Switzerland

AIMS

While international safety alert warns against an increased risk of ischaemic stroke associated with atypical antipsychotics (AA), these drugs are widely used. The objective of this study was to categorize psychotropic drugs prescribed to nursing home (NH) residents and more specifically antipsychotics drugs prescribed to patients with BPSD in these institutions.

METHODS

A retrospective analysis over 4 years (2002 to 2005) reviewed 944 yearly medical records in 4 NH benefiting from pharmaceutical assistance service in the Swiss canton of Fribourg. Medications in the records of patients receiving psychotropic treatment were categorized; patients with BPSD were identified and their treatments in depth analyzed.

RESULTS

Out of the 944 patients medication records reviewed over 4 years, 80% included psychotropic drugs treatments; 40% were identified with NL (52% AA), 45% with AD (80% SSRJ) and 47% with benzodiazepines. In 2005 (244 patients), 23% of the patients (n=57) had a dementia. Among these patients, 25% (n=15) were treated with anti-dementia drugs and 95% (n=54) with NL. 32% (n=18) were under AA (23% olanzapine, 23% quetiapine, 54% risperidone).

CONCLUSIONS

In 2005, elderly patients with BPSD are still treated with AA despite safety alert. Pharmacists' increased involvement in pharmaceutical assistance to NH is an opportunity to assist identification and monitoring of safety psychotropic drug treatments. Good clinical practice recommendations are now in development with pharmacists in a multidisciplinary approach and will be implemented to care management of dementia patients in NH.

Community Pharmacy Section - Poster Session

CPS-P-085

ANALYSES OF THE PROCEDURES RELATED TO THE DANISH PHARMACIES SALE OF DOSE-DISPENSED MEDICINE

K Riis, C Bangert

The Danish Pharmaceutical Association Denmark

Introduction

In 2002 the Danish pharmacies was chosen by the authorities to offer dose-dispensed medicine to the Danish citizens. With the increase in the number of persons receiving dose-dispensed medicine (more than 25,000 individuals in 2005) the Danish Pharmaceutical Association has register a need within the Danish pharmacies of describing best practice for the procedures related to the dose-dispensing.

Methods

- An questionnaire involving all proprietor pharmacists in Denmark.
- Workshops involving staff from selected Danish pharmacies.
- Time registration regarding the procedures involved in handling dose-dispensed medicine at selected Danish pharmacies.

The methods and preparation of a report have been in cooperation with the managements firm Capacent A/S

Results

The results from the analyses of the procedures related to sale of dose-dispensed medicine will be presented at the FIP conference.

Conclusion

The report documents that implementing best practice procedures related to the sale of dose-dispensed medicine can result in halving the resources (time) used in handling dose-dispensed medicine at the pharmacy.

CPS-P-087

WORLDWIDE SURVEY ON EMPLOYED PHARMACISTS WORKING IN COMMUNITY PHARMACIES

J. Paresys-Barbier¹, S. Caillier¹, D. Lefevre¹, P. Fortuit², F. Mahieddine¹, M. Chauve², I. Baron²

¹Ordre national des pharmaciens S^oD France ²Ordre national des pharmaciens France

All pharmacists working in France are registered with the French Council of Pharmacists (Ordre National des Pharmaciens), which ensures that professional requirements are met. It is organized in sections according to the pharmacists' place of work and status. Section D in particular groups together 26,000 employed pharmacists working in community pharmacies.

In order to anticipate the future of the pharmaceutical profession in a global perspective, section D of the Council has decided to undertake a descriptive and prospective survey of the profession of community pharmacists, based on the status of employed pharmacists, or similar status, throughout the world, investigating to the following items:

- Type of business (independent outlet, chain pharmacy...).
- Status of employed pharmacists working in community pharmacy, and legal requirements for working there.
- Responsibilities and responsibility-sharing among employed pharmacists and pharmacy owners.
- Possible 'reporting and learning' procedures on pharmacists' errors.
- Whether or not quality assurance systems exist in community pharmacies.
- Organization and conditions of continuing education or continuing professional development specially designed for employed pharmacists.

This worldwide survey was conducted via a questionnaire covering the above items, mailed in March 2006 to professional pharmaceutical organizations in each country.

By June 2006, the processing of the answers collected should give an overview of the profession around the world.

CPS-P-086

PURSUIT OF INTERACTIONS IN FARMACOTERAPEUTICAL GROUPS

N Cater, L Pavlovic

Community Pharmacy Zalec Slovenia

The research on drug interactions was carried out at the Community Pharmacy Zalec in Slovenia. 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.

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 have analyzed 131.713 prescriptions (one drug per prescription) in a one year research and 392 (0,3%) clinical interactions have been detected. By patients with cardiovascular diseases 176 clinical important interactions have been detected, which represent 44,9% among all interactions. Patients with asthma have suffered from 50 clinical important interactions, that is 12,7% among all interactions and by patients with epileptic therapy 20 clinical important interactions have been detected, which is 5,1% among all interactions. We have found out that most of interactions were made by family doctors. Approximately 30 interactions have occurred by each doctor in three cases during the research. It is necessary that pharmacists communicate with doctors to solve those interactions.

Clinical important interactions could cause clinical changes in patients' therapy (theoretically). In these cases the dosages of one or both drugs should be monitored and changed if necessary. We are aware that both pharmacists and doctors together should develop national protocols for solving the situations when clinical interactions occur.

CPS-P-088

ADVERTISING AND INFORMATION ON MEDICINES NOT REQUIRE THE MEDICAL PRESCRIPTION IN THE COMMUNITY PHARMACY - AN EXPERIENCE IN PORTUGAL

M.M. Caramona¹, G. Santos Jr², J.M. Rodrigues², M.L. Rodrigues²

¹Coimbra University Portugal ²Farmácia Dos Olivais Portugal

The medicines promotion must be in each country compatible with the politics of national health and be in accordance with the existing regulations. As all the advertising has to be trusty, informative, account the evidence and accessible to the patients. The informative folders of medicines must be clear and understandable for the patients without loss of its rigour and content. In Portugal, currently, an increase of the consumption of medicines not requires the medical prescription (OTC drugs) and to its liberalization of its commercialization is attended to it. This study, was carried in a community pharmacy between February and March of 2006, and is analyze the influence of the advertising on OTC drugs and of the informative folders of medicines to the public who uses them. It was applied a questionnaire to our pharmacy patients. The pharmacy is located in a residential area, in an University town and useful for medium economic level populations. Some results: 81 % was of the feminine, 37% had ages between 20 and 30 years old, with scholarship to the level of secondary education (56%). With the collected data we notice also that the advertising isn't determinative in the choice, since more than 68 % inform that never bought a medicines after an advertising campaign, 56 % of the patients said that the message advertising does not give credibility to these products, even so inform. The informative folders of medicines, 87 % of the inquired ones pay attention to this information and 56 % read it with strict attention. The side effect (25%), the dosage (32%) and the therapeutics use (32%) of medicines are the points considered with more interest to them of its composition, where 50 % less find of interest. We can conclude that our population have conscience knowledge about the use of medicines. They also have realize the importance of the rational use of the drugs and the message about the correct use absorb by them. The medium level of the population inquired could justify our results.

*caramona@ci.uc.pt

CPS-P-089

CASE REPORT: PHARMACEUTICAL CARE – CONTRIBUTING TO CHANGE PATIENT SELF-CARE

P.S. Araújo¹, A. S. C. Brasil², R. D. C. Fernandes³, A. Oliveira³, H. Chastinet⁴, A. Nazário⁴

¹FTC/UNIME Brazil ²FTC-Pharmacist and Professor Brazil ³Pharmacist - Hospital Manoel Vitorino Brazil ⁴FTC - Students of Practice V of College Brazil

AIMS: Describe self-care behavioral change promoted by Pharmaceutical Care (PC) practice. **METHODS:** Patient care process consisted of the following steps: 1) assess drug-related needs, in order to assure an indicated, effective, safe and convenient drug therapy; 2) identify and categorize DTP; 3) develop care plan with the necessary interventions to achieve therapeutic outcomes and solve DTP; 4) follow-up evaluation. The DTP categorization followed the Pharmacotherapy Work-up® format. **CASE DESCRIPTION:** Woman, 56 year old, BMI 23,0 kg/height², using irregularly insulin for Diabetes type 1 (DM-1) with neuropathy; using regularly Peginterferon alpha and Ribavirin for Hepatitis C genotype 1 (HCV-1); with no treatment for osteoporosis, Hiatal Hernia and Pangastritis. The patient holds in her speech a negative experience lived within the health-system, which reflects on her self-care behavior. **RESULTS AND DISCUSSION:** the following DTP were identified: a) indication – needs additional drug therapy – medical conditions requiring initiation of drug therapy – osteoporosis and pangastritis; b) noncompliance – doesn't understand instructions regarding to DM-1 and importance of insulin use. With the therapeutic goals of: maintaining glycaemia between 70-100 mg/dL; Hb A1C < 7%; inhibiting HCV-1 replication; normalizing AST and ALT; recovering bone mass; and solving Pangastritis, the complaints were co-rellationated with patient's diseases, possible complications alerted, possible drug therapy to treat osteoporosis evaluated, risk conditions for DM-1 decompensation identified and patient was sent to refereed doctors, along with letter. **CONCLUSION:** the hegemonic health-system model does not allow a patient-focused perspective, remaining patient's care needs not wholly satisfied. PC's philosophy prescribes that the professional must meet all drug related needs, assuming therefore, an holistic view of the patient.

CPS-P-091

EFFECTIVENESS OF A PHYSICIANS-PHARMACISTS ADHERENCE INTERVENTION PROGRAMME; PREDICTIVE MODEL OF THE RELATION BETWEEN COMPLIANCE AND SYSTOLIC BLOOD PRESSURE

H. F. Figueiredo¹, E. Toussiet², B. Vrijens², O. Bugnon¹, M.P. Schneider¹
¹University Medical Outpatient Clinic Switzerland ²Pharmionic Systems Ltd, Belgium

Introduction

Having already demonstrated[1] the effectiveness of a drug adherence monitoring programme to decrease the systolic blood pressure (SBP), the question of the predictability of this effect remains.

Aim—To develop statistical models describing the relation between compliance and SBP over time.

Method—The study involved clinical and pharmaceutical data (1998-2004) concerning a cohort of 89 uncontrolled hypertensive patients[1] who participated in a physician-pharmacist collaborative adherence programme. Adherence to antihypertensive drugs was compiled electronically by medication event monitors (MEMS®).

Daily adherence was defined as correct if patient took at least one of the drugs as prescribed.

Nonlinear mixed effect models were used to analyse the impact of compliance on systolic blood pressure (SBP) collected over time.

Results—The monitored average compliance (87%, CI95: 83-91) remains stable over time.

The model of SBP was adjusted for baseline blood pressures ($p < 0.0001$) and compliance ($p < 0.0001$). It shows that a treated hypertensive patient, with a baseline SBP of 140 mmHg is expected to present a SBP of 156 mmHg [CI95: 149-164] with a 10% compliance and of 136 mmHg [CI: 132-140] with a 90% compliance. The maximal estimated SBP decrease for 100% compliance is 24 mmHg [CI95: 11-37].

The study shows that a minimal compliance level of about 80% should be reached.

Conclusion

This analysis describes for the first time a statistically and clinically significant relation between SBP and compliance. The defined prospective statistical model was able to quantify this relation.

Reference: 1) Figueiredo, H. F. et al., Poster CPS-P-081, FIP Congress Cairo 2005

CPS-P-090

G-STANDAARD: MEDICATION SURVEILLANCE BEFORE DRUG DELIVERY

R. Lelie-van der Zande, L. Grandia
KNMP Netherlands

The G-Standaard is a Dutch database containing information on drugs and other products delivered by the pharmacy. The data support the following processes in healthcare: prescription of drugs by physicians, placing orders for drugs, financial process, monitoring medication and delivery of the right drug.

Data for medication surveillance are provided for by the KNMP, the organisation of pharmacists. The data are being made available for the local pharmacist, the hospital pharmacist and the physician by softwarehouses. Before delivery of the drug to the patient a number of checks is being processed by the pharmacy information system: a check on the dosage, on counter-indications (diseases, non active substances like gluten and aspartaam, pregnancy and lactation), interacting drugs, allergies and a check on drugs with the same active substance of with a comparable pharmacologic profile. A warning appears on the screen with relevant background information and an advice on how to deal with it.

Basic principle for the generating of a signal is that it has to be clinically significant. This is being decided by expertpanels. The literature used and the results of the discussions are made available to the user.

For interactions an evidence-based procedure for structured assessment of drug-drug interactions has been developed and published in Drug Safety 2005;28(12): 1131-9.

New modules are being developed for the advice on adjustment of dosage in case of impaired renal function and in case of pharmacokinetic or pharmacodynamic polymorphism.

CPS-P-092

CHARACTERIZATION OF BENZODIAZEPINE USE IN THE COMMUNITY PHARMACY - A PROSPECTIVE STUDY IN PORTUGAL

M.M. Caramona¹, V. Gertrudes¹, I.V. Figueiredo¹, M. Leal², G.L. Alves¹
¹Coimbra University Portugal ²Farmácia Serrano Portugal

Aim: To assess the use of anxiolytic and hypnotic benzodiazepine (BZD) drugs among patients that commonly frequent the community pharmacy. The introduction of BZD in the psychiatric clinical practice has meant a great advance in the treatment of numerous pathologies, such as anxiety, sleep, bipolar and convulsive disorders, due to their therapeutic effectiveness and safety. Recent studies indicate a widespread consumption of these drugs and sometimes without medical recommendations. Nowadays, it is widely accepted that BZD have many risks, including tolerance and dependence, as well as BZD-induced depression, cognitive and psychomotor impairment and falls resulting in fractures. **Methods:** In a community pharmacy, a group of ninety-two patients who had been taking at least one BZD were invited to fill a simple questionnaire. **Results:** Of the 92 participants in the study, the ratio male/female was 0.32/0.68, and the patient's age ranged from 20 to 61 years. There was a wider BZD use in groups with a lower educational level. The class of BZD less prescribed were the long-acting (14%), followed by the short-acting (42%) and intermediate-acting (44%) BZD. The drugs mostly used were alprazolam and lorazepam. This individuals did not report any side effects associated with the use of BZD, inclusively 95% reported an improve of their quality of life. The patients stated that they first took BZD with medical indication. Almost 50% took these compounds over a 5 year period, namely the elderly, which many times have present chronic co morbidities and polytherapies. **Conclusion:** The use of BZD in Portugal, as in other countries, is a serious public health problem and it is urgent to establish new strategies in the restriction of their use. This class of drugs is greatly used in the treatment of insomnia and anxiety, particularly in older individuals, who are clinically vulnerable population groups, with higher susceptibility to fractures, hepatic and kidney diseases.

Community Pharmacy Section - Poster Session

CPS-P-093

APPLICATION OF GOOD PHARMACY PRACTICE IN MEDICINE ISSUING AND OVER THE COUNTER PRODUCTS IN PUBLIC PHARMACIES IN BELGRADE

T. Sipetic¹, SS Sipetic²

¹Hospital dr Dragisa Misovic Serbia and Montenegro ²Institute of Epidemiology, School of Med Serbia and Montenegro

The aim of this pharmaceutical-epidemiological study is, that after five years of introducing the suggestion of professional aims of DAP, which was composed by state expert board on the basis of original document FIP and WHO, to estimate if there is a difference in its application between state and private pharmacies on the territory of Belgrade (Serbia).

There are 69 pharmacists from 15 state pharmacies and 24 pharmacists from 15 private pharmacies included in this study, chosen by the method of accidental pattern. χ^2 test is used in processing statistical data.

The results of the study show that 17,9% pharmacists from state pharmacies and 12,5% in private pharmacies own an adequate special room where confidential discussion with the patient can be led. Mr pharmacists in state pharmacies statistically significant ($p=0,0160$) more often issue prescribed medicines (97%, in relation to 79%) and also, statistically significant ($p=0,0001$) more often issue medicines with selling regime without prescription and OTC preparations (50%, in relation to 10%) than their colleagues in private pharmacies. Pharmacists in state pharmacies significantly more often check if the prescription is correctly filled ($p=0,0001$), they have contacts with doctor more often if the prescription is irregular ($p=0,001$) and they write dosage on the medicine box more often ($p=0,0044$) in relation to pharmacists in private pharmacies. There is no statistically significant difference between the pharmacists who work in state and private pharmacies in relation to: checking if there is an interaction between bought and prescribed medicines, giving information about possible side effects of bought medicines, or if the form and dosage of the medicine are suitable for the patient before the issuing.

We recommend compulsory introduction of the standard procedure in countries in transition for every activity which is held in pharmacy that will enable every pharmacist to check if they act by DAP principles.

CPS-P-094

HELP AT QUITTING SMOKING IN THE COMMUNITY PHARMACIES OF PUBLIC INSTITUTION CELJSKE LEKARNE

L. Grosek, B. Pangercic, S. Rupret, M. Urbanc Mokotar
Community Pharmacy Celje Slovenia

Smoking represents a big health and social problem in Slovenia as well. Following data of the researches from 2004, 25.3% of population are smokers, older than 18 (20.6% are women, 30.6% are men). The most smokers can be found in the age group between 30-40 years, there are many women in their fertile period. The number of young smokers is increasing every year but population of smokers has decreased by 10% in the last two decades because of different measures for smoking reduction:

The method of individual counselling, which is not planned in advance is very appropriate for work in the community pharmacy. The essence of algorithm of this method is adaptability of use on different health system levels.

Six steps from a smoker to a non-smoker

Advertise- pharmacists advertise and inform pharmacy visitors

Ask - at counselling a pharmacist can ask the patient if he/she is a smoker and warn him/her about the negative effects of smoking

Advise-advice should be simple, clear and determined

Assess -at this stage we evaluate the smoker's wish to quit smoking and willingness to change habits with the help of different questionnaires..

Aid, Assist- patients should be helped with instructions about pharmacotherapy and intensive behavioural support

Arrange- we arrange short meetings-dialogues, on telephone or via e-mail. We take records of important conclusions

Our work with smokers in the community pharmacy is mostly executed in relation with the first three steps of the model. We support all our recommendations with leaflets, booklets and other similar material for self-help, mainly made by pharmacists.

The disadvantage of activities up-to-now is in the fact that they are not performed systematically. Especially deficient are evaluation (Step 4) and taking records of activities and accompanying results (Step 6), which we intend to improve in the future, especially with better qualification of pharmacists, better planning and more consistent execution of activities.

CPS-P-095

DEVELOPING COMMUNITY PHARMACY BY DETECTING DRUG RELATED PROBLEMS

H. Agerholm¹, E Westh Sørensen²

¹Dyveke Apotek Denmark ²The Danish University of Pharmaceutical Denmark

The aim of the project was to make the staff at Dyveke Apotek (a community pharmacy in Copenhagen) able to identify and record drug related problems (DRP). Including the staff to become aware of the DRP they identified and how they solved them.

The project took place in the presenter's own workplace, Dyveke Apotek. The presenter was the leader of the project and also employed as a pharmacist. Participants were the staff, in all ten pharmacists and pharmaconomists. The project is an example of how to develop a community pharmacy using action research.

Methods used were: keeping a logbook of the whole process; interviews with the staff at the beginning and end of the project; and registration of DRP. At ordinary morning meetings with the whole staff, experiences with patient dialogue and registration of DRP were discussed. The DRP were coded after PCNE basic classification on problem and cause level.

The project went through an action research cycle with the following phases: Diagnosing-Planning-Action and Evaluation. This cycle was run twice. The first cycle was a pilot project run over a period of 10 weeks, where it was learned that a detailed plan is essential to keep the project going. The second cycle was run over 11 weeks. In both periods the patients' DRP and the staff's questions used in the dialogue were recorded.

Results

56 cases with drug related problems were recorded; all cases were significant for the patients. 24 of the DRP were detected only because the staff wanted to secure that the patients did not have any problems with their drugs. The most frequent problem was drug choice problem, and the most frequent cause was drug/dose choice problem.

The participants evaluated; they had improved their communication skills, the project had motivated them to become more active with detecting DRP, and they approved the way they had been working with the project.

This project was performed as the final project of the Master of Drug Management, The Danish University of Pharmaceutical Sciences.

CPS-P-096

THE PRELIMINARY RESULTS OF COMMUNITY SMOKING CESSATION BY TAIPEI COMMUNITY PHARMACY

H.Y. Hsu¹, J.M. Lien¹, Y.L. Qiu², Y.M. Jiang²

¹Taipei Pharmacists' Association China Taiwan ²Department of Health, Taipei City China Taiwan

Introduction: Lung cancer now is the 2nd leading cancer of death in Taiwan, and the commonly known risk factor is smoking. So, in order to offer better leaving environment for the citizen, Taipei food and drug management department of health institution in collaboration with Taipei community pharmacies set up smoking cessation consultation stations for educating smokers to quit smoking effectively. Method: Fifty community pharmacies were chosen as the seeding smoking cessation stations. All the chosen pharmacists must received the smoking cessation training courses held by both Taipei Union City Hospitals and Taipei food and drug management department of health institution. Later, patients will be transferred from hospital OPD to the chosen community pharmacies for closely follow up and nicotine replacement therapy education if necessary. Results:

From September 2005 to now, 243 nicotine fit patients were transferred from city hospitals to community pharmacies. Among them, 18.5% were females and 81.5% were males. Until now, 37 patients (15.2%) were successfully stop smoking. The most commonly seen withdrawn symptoms were fatigue, anxiety and distraction. Conclusion: This preliminary result showed that community pharmacies can play as an important role for the success of public smoking cessation.

CPS-P-097

CUSTOMER OFFERING IN 75 PHARMACIES IN SWEDEN - TO ADAPT COUNSELLING AND DISTRIBUTION ACCORDING TO DEMANDS OF EACH CUSTOMER

S Malmqvist, K Odin-Liljedahl
Apoteket AB Sweden

Introduction

To be able to fulfil 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-099

PROPOSAL OF A MODEL FOR PHARMACEUTICAL CARE PRACTICE

O. Sociro¹, P. Murbach², A.A.O Bricola¹
¹PUC-Campinas Brazil ²FAM Brazil

In the last decades, there has been a great concern in developed and developing countries to provide drug access to the population through a wide range of diversified strategies such as price control, generic drugs policy, inclusion of drugs in health assistance, system of reimbursement, free distribution by the State, among others, since these practices are considered essential for the development of health actions and to improve the quality of life of the population. The access to drugs, for its importance, is a preponderant factor in the Drug Policy and Pharmaceutical Assistance in many countries, including Brazil. However, the correct use of drugs has been neglected throughout the years. Literature shows an increase of problems related to drugs (PRD's) caused by inadequate and/or abusive use as a result of the lack of orientation and absence of monitoring, which may lead to poisoning, hospitalizations, etc., creating new needs in an essential logic for the market. In this work we present a model of pharmaceutical care to be developed in the practice of Pharmaceutical Attention, which is called 'Cycle of cares in the Pharmaceutical Attention', presented in five defined, articulated and synchronized stages. We focus on the professional actions when caring for patients, defining the role of the pharmaceutical professionals and their attributions and responsibilities. This proposal aims at the participation of pharmaceutical professionals in an updating course to expand their social visibility and to contribute effectively to improve the quality of attention to the population's health care.

CPS-P-098

PHARMACY INFORMATION PRACTICES IN SWEDISH COMMUNITY PHARMACIES

A. Beckman¹, A. Beckman¹, C. Bernsten¹, M. Tully², A. Gruvmalm¹, E. Thorsell¹
¹Apoteket AB Sweden ²Uppsala University Sweden

Aims

The aim of this study was twofold. First, the aim was to develop a method that can be used routinely by Apoteket AB for the purpose of quality development within the company. Secondly, to investigate community pharmacy counselling practices, for prescribed medicines in Sweden.

Methods

The simulated patient technique was used to collect data on counselling practices. Each community pharmacy was visited during a period of two months by three different 'patients', each patient presenting a prescription for one of three medications. Three prescription drugs were chosen, one antidepressant, one NSAID and one oral antidiabetic medication. One hundred pharmacies were randomly selected from all Swedish pharmacies. The counselling that was given to the 'patient' was classified according to strict criteria immediately after the visit to the pharmacy. These criteria were developed by prof. Bonnie Svarstad at University of Wisconsin and are based on organizational and communication theories. They were translated to Swedish and adjusted to a Swedish setting adding some items such as counselling on generic substitution. Within a couple of weeks after the visit, additional information was collected from the pharmacy over the phone about pharmacy staffing; formal education, age and gender of the counselling person; location, busyness and productivity of the pharmacy. Before the main study the method was tested in a pilot study at six pharmacies, with three different patients.

Results

In the pilot study we tested the method of using the simulated patient technique and the protocols. The results show that the protocols were appropriate for studying counselling practices and that the method worked well. The results from the main study are still being collected at this point, and will be presented at the conference. Conclusion so far is that using the simulated patient technique is an appropriate method for collecting information on counselling practices in community pharmacies.

CPS-P-100

IMPLEMENTING MEDICATION SAFETY PRACTICE STRATEGIES IN BRAZILIAN PRIMARY CARE SETTINGS

JU Ueta¹, DB Silva Júnior¹, AK Sankarankutty², FDMatos³, LL Santos²
¹FCFRP-USP Brazil ²FMRP-USP Brazil ³pref Mun São Joaquim Da Barra Brazil

Risks may overcome benefits when it comes to medications use by healthcare team and patient. A clinical-oriented pharmaceutical practice favors benefits. The aim of this study was to apply along with pharmaceutical care, recommendations for medication errors reduction and prevention to increase patient safety.

Methods: computerized prescribing, patient's medication spreadsheets reconciliation, daily-divided unit doses dispensing processes or systems were implemented in primary care healthcare units with the Brazilian Family Healthcare Program.

Results: Every patient in need of continuous use of medications had their prescription introduced in Word ® document saved by date, as a data bank that could be used to patient pharmacotherapeutic follow-up. At anytime, prescriptions can be revised and checked for errors and medications availability. Relevant information for patients about precautions and care could be added to prescriptions. Spreadsheets with medications list added to medical register make them easily available for the healthcare team, and allow the pharmacist to review them, to do reconciliation and add recommendations and warnings on interactions or risk of drug related problems (DRP) and errors. For patients presenting compliance problems, vision impairment, functional illiteracy or other difficulties the distribution of unit doses dispensing systems have solved DRP due to misuse or non-use.

Conclusions: Associated to pharmaceutical care, safety strategies are important tools to be implemented at health care services. The computerized prescribing system adopted has reduced not only illegibility or errors. It has caused impact on patients' understanding and satisfaction. Medications spreadsheets make patient medication follow-up easier avoiding double prescribing, errors among other problems. The dispensing systems delivered at home by pharmacy students that educates the patient have improved compliance and reduced misuse.

CPS-P-101

PROFILE OF THE PATIENTS IN TREATMENT OF ACNE CONGLOBATA IN THE SUS - BAHIA.

R.M. Martinez C. de Cerqueira¹, G. Santana², R. Fernandes², M. Silva³
¹SESAB/FTC Brazil ²SESAB Brazil ³FTC Brazil

Aims: To describe profile of the patients who use isotretinoin for treatment of acne conglobata in a unit of the public system of health and to characterize the adverse drug reactions observed more frequently. **Methods:** One analyzed the drug-therapy record of 80 patients taken care of in Pharmacy of General Hospital Manoel Victorino - HGMV, in the period of 10/2005 to 01/2006 and 61% of the patients were interviewed who had appeared to the pharmacy in this period, about the reasons that had taken them to initiate the treatment. **Results:** The biggest number of patients, 54%, meets in the age group of 14 the 20 years old, followed of 31% in the age group of 21 to 27 years old. In relation to the sex, it was found 59% of masculine sex and 79% of the patients declared that they had already used other types of medicines. The adverse reactions more related with the use of isotretinoin had been dryness of the lips, nose and eyes, muscular pain, chronic headache e aggravation of the acne in the beginning of the treatment. Between the main reasons that made them look for the treatment, we found pains of the injuries in the face, difficulties in the interpersonal relations, obtaining work and trend to isolation. **Conclusions:** The predominance of the age group of 14 to 20 years old between the patients is in accordance with the biggest incidence of the acne in the adolescence. The answer to the adverse reactions are foreseen in papal brief, and occur in almost totality of the patients leading many times to the abandonment of the treatment. The pharmaceutical care guarantees the adhesion and the security of the treatment. As acne reaches the adolescents in its majority, the acne conglobata for its aggressive aspect aesthetic affects the auto one - esteem and the capacity of relationship of the young, being able to lead to the discrimination, the social depression and misalignments.

CPS-P-103

OTC DRUGS FOR COLD INDICATIONS AT COMMUNITY PHARMACIES IN CÓRDOBA (ARGENTINA).

E.M. Vega, E.M. Vega, S.A.N. Uema, VA Correa-Salde, MG Paraje
 National University of Cordoba Argentina

Introduction:

OTC medicines have been used to treat self-limited minor ailments. The legal framework in Argentina is similar to USA for OTC drugs. The potential benefits of OTC medicines to the healthcare system include more efficient use of physician capacity, to transfer consultations to pharmacists, and to increase patient responsibility and empowerment in minor ailments. On the other hand, the evidence base about the effectiveness of OTC drugs is not readily accessible. Some of the most controversial treatments are products for coughs and colds with little formal evidence. The clinical protocols for minor ailments are helpful in practice.

Aim:---To show the profile of OTC drug indications for cold at community pharmacies in Córdoba (Argentina).

Method:---Setting: community pharmacies in Córdoba (Argentina). A clinical protocol for cold with a documentation system was utilized. Pharmacy students registered OTC drug indications from April to November during 2003 and 2004. Microsoft Access and Excel were used to process data.

Results:---From all collected data 5,07% of cases were excluded.

DRUGS	576 cases 2003		735 cases 2004		Total
	Subtotal	Total	Subtotal	Total	
Paracetamol	21,88%	50,35%	17,41%	48,30%	
Paracetamol, combinations	28,47%			30,89%	
Bromhexine	18,40%	18,75%	14,97%	14,97%	
Bromhexine, combinations	0,35%			0,00%	
Acetylsalicylic acid	2,08%	10,94%	2,04%	10,88%	
Acetylsalicylic acid, combinations	8,85%			8,84%	
Ibuprofen	3,13%	3,82%	4,49%	8,30%	
Ibuprofen, combinations	0,69%			3,81%	
Ambroxol	1,74%	1,74%	0,27%	0,27%	
Naproxen	1,22%	1,22%	0,27%	0,27%	
Guaifenesin	0,52%	0,52%	0,41%	0,68%	

Conclusion:---Registering advice for treatment when patient consults about cold symptoms including OTC indications is facilitated by the use of a documentation system and a clinical protocol specifically adapted. In 83,52% of the included cases only one OTC medicine was indicated.

49,20% of dispensed drugs contained paracetamol.

Analgesic and antipyretic drugs totalized 67,12%.

CPS-P-102

PROMOTION OF THE ROLE OF PHARMACIST IN PHARMACOVIGILANCE - PATIENT LEAFLET

A. Grundler¹, A. Mcštrovic², R. Bušelic²
¹Phoenix Farmacija Croatia ²Farmapharm' Pharmacy Croatia

Every year Croatian national Center for monitoring of ADR report on number of informed ADR sorted by health professionals, and pharmacists usually reported the least. Considering a situation, the aim of our work was to encourage costumers of our pharmacy to discuss their medication with our pharmacists, especially about their possible problems with taking drugs, herbal drugs and medical products. First of all, it is important to educate our consumers about side-effect and adverse drug reaction, so we made a patient-friendly leaflet. On leaflet we have explained in very gentle and simple way what is side-effect and adverse drug reaction and that most of them are well-known and expected, usually mention in drug package reference, emphasis importance of keeping to pharmacist's instruction on proper way of taking drug (dose, time, dietary advices) to avoid possible side-effect. Also on leaflet we have advice our costumer to inform pharmacist or doctor in case of every reaction of their body observed during taking drug (as skin reaction, headache, sleeplessness, dietary problems and similar). We distributed 300 leaflets to elderly patients, and to those who take two or more drugs at the same time.

CPS-P-104

PROFILE OF PHARMACIST IN COMMUNITY PHARMACIES OF THE CITY OF SALVADOR - BA.

R.M. Martinez C. de Cerqueira¹, F. Pacheco², N. Vieira², C. Pereira²
¹SESAB/FTC Brazil ²FTC Brazil

Aims: To trace the profile of the pharmacist who act in community pharmacies of Salvador and the activities that they developed. **Methods:** Through of listing of addresses of pharmacies of Salvador, registered in the Conselho Regional de Farmácia - CRF - Ba, it was selected the ones that would be visited by pupils of the pharmacy course of the College FTC, in semesters 2003.1, 2003.2 and 2004.1 for application of a questionnaire to the pharmacists present in the establishment, as schedule supplied to the CRF. **Results:** More than half of the pharmacists were absent at the pharmacies in the schedule registered in the CRF and less than 10% justified their absences. A predominance of feminine sex was met, with more than 60% of the interviewed possessing formation in pharmacy biochemist and less than 30% with some type of after-graduation. We found a predominance of management and administrative activities, although, separately, the activity with greater percentile is to give information to the costumers about the medicines. The majority of pharmacies commercialized natural products, perfume and diet products, and more than 50% sell ices cream, bullets e cooling. **Conclusions:** The absence of great part of the pharmacist responsible for community pharmacies in Salvador is a point that worries the society, for its function passes to be exerted by people without the necessary technique formation, characterizing the pharmacy as a simple business. We found, however, the awareness between the interviewed ones of necessity to modernize themselves, to give information on medicines to the community, looking for to fulfill their paper as professional of the health.

CPS-P-105

GEOGRAPHIC DISTRIBUTION OF COMMUNITY PHARMACIES IN THE CITY OF SALVADOR - BAHIA - BRASIL

R.M. Martinez C. de Cerqueira¹, F. Pacheco², N. Vieira², C. Pereira²

¹SESAB/FTC Brazil ²FTC Brazil

Aims: To identify characteristics of the geographic distribution of pharmacies in the city of Salvador. **Methods:** It was selected in the listing of 581 pharmacies registered in the Conselho Regional de Farmácia - CRF - Ba, the sequence of addresses to be visited and using the map of the city of Salvador was identified the localization of pharmacies according to data supplied for the IBGE. For effect of census, the IBGE divided the city of Salvador in 88 areas that can contain one or more 'quarters'. It was also verified, the results of the sample of the Census Demographic 2000, referring to the population, number of domiciles and income medium to per catches, for each area. **Results:** In relation to the pharmacy number for area, the biggest concentration of establishments was of 30 pharmacies in one determined area. The average of inhab/pharm. in the different areas varied of 923 inhab /pharm up to 34352 inhab /pharm. It was verified that the areas with average income to per catch above of R\$1000,00 had average concentration of 1690 inhab /pharm., while in the ones of lesser average income to per catches, R\$ 78,96 the concentration was of 17438 inhab /pharm. **Conclusions:** A possible relation was presented enters the pharmacy number for area and income of its inhabitants, as well as evidenced a bigger concentration of establishments in streets with strong movement of deals, it arriving 22 pharmacies in an only street of the area that possesses 30 pharmacies, configuring the situation of these establishments as a simple business and not an establishment of health for the population. Salvador is characterized as a city where the geographic distribution of pharmacies for the diverse areas of the city is configured unequal and it does not contemplate the necessities of the minor population mainly purchasing power, although it keep an adequate pharmacy relation for inhabitant.

CPS-P-106

PALLIATIVE PHARMACEUTICAL CARE

K Milosevic Kostadinovic¹, M Stupar¹, D Parojcic¹, D Milosevic², N Dragicevic Curic¹, J Vukelja¹

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

Aim of our research was to recognize, describe and improve the pharmacist's role in palliative care.

Palliative care is part of Health care system important for terminally ill patients, their families and whole community. Palliative care is interdisciplinary field not yet well recognized from professionals as well from whole society. Every day more professionals become aware of the importance of developing palliative care as human imperative of every person involved in Health care system.

Usually patients and their families are left to themselves. Pharmacists as well have passive role of person who dispenses medicines, nevertheless in every day practice they are in most frequent contact and demanding position considering the terminally ill and his or her family.

The pharmacist is obliged to give exact and prompt information about posology, adverse effects and importance of medical documentation of specific, usually narcotic drugs. He or she has to provide right information on very wide field of nutrition supplements, aiding equipment and all of other items which can make every day routine of the patient as comfortable as possible.

And last but not least psychological support and understanding, kind word as we say sometimes makes the real benefit to all.

CPS-P-107

EVALUATION OF THE DEGREE OF INFORMATION OF THE PATIENTS ON MEDICINES PRESCRIBED IN THREE UNITS OF HEALTH OF THE SUS

R.M. Martinez C. de Cerqueira¹, A Brasil², T. Santos², F. Pacheco², C. Pereira²

¹SESAB/FTC Brazil ²FTC Brazil

Aims: To investigate degree of information on medicines prescribed to the users of the services of dispensing of medicines in three units of health of the city of Lauro de Freitas in the state of the Bahia. **Methods:** It was used the pointers considered for the WHO for evaluation of pharmacist's services. The collection of the data occurred in the Hospital Nelson Barros, Hospital Jorge Novis and the Center of Health of the Woman. It was made 06 visits to the units in September 2005, where the students of FTC pharmacy's course made the collection of data, with the supervision of the professors. **Results:** The greater identified problem is in the legibility of the prescription with only 21,7 % writing in form letter or typed, one of the biggest factors of risk in the use irrational of medicines. It was also identified, a low prescription index with register of the duration of the treatment, only 49.5% had presented this information. About 40% of the patients unaware for how long time they will make the treatment, confirming the necessity of the information to consist in the prescription. About the unfamiliarity of the medicines name, only 53.9% of the patients had informed to know the name of the received medicine, that associated to the illegibility of the prescription, it can be a factor of not adhesion or use of inadequate way. **Conclusions:** Despite findings about the degree of the information of the patients demonstrate the necessity of a bigger investment in the communication capacity and interaction with the users of medicines, the services of the pharmacy evaluated qualitatively for the users as satisfactory. The three units had reached a note 7,7 in a scale of 0 to 10 in relation to the satisfaction with the received services. The data here presented can help as reference for future evaluations and comparisons about the evolution of the quality pharmaceutical services given to the population.

CPS-P-108

ESTABLISHMENT OF A LINE OPERATION MANAGER GROUP AT BALLERUP PHARMACY.

M Kallensen
Ballerup Pharmacy Denmark

The aim of this project is to optimise the daily operation and job satisfaction at Ballerup Pharmacy by establishment of a line operation manager group.

Background

Ballerup Pharmacy is a big Pharmacy consisting of 5 units, which makes big demands on the internal communication. The Pharmacy usually holds 2 staff meetings and 3 pharmacists meetings a year. A forum consisting of both pharmacists and pharmacy assistants across fields of responsibility and with focus on the daily operation was apparently for want. Furthermore the management attach importance to delegating responsibility and qualifications based on the philosophy, that it gives higher job satisfaction and better results, if the individual responsible commits herself to relevant objectives within her own field of responsibility.

Method

The line operation manager group was established in 2004 consisting of all the different line responsible persons. Since then there has been 2-3 line meetings a year. A permanent item on the agenda is those objectives, that the line responsible persons have committed themselves to. At the meetings a status on every objective is given, and achieved objectives are replaced by new ones. The members of the line operation manager group will by questionnaire be asked about their opinion and point of views of the group, the work of the group and the results.

Results

The results of the questionnaire among the members of the line operation group will be presented at the FIP congress 2006. Examples of line objectives will be presented as well.

Conclusion

The line operation manager group at Ballerup Pharmacy is working well and is now a permanent part of the Pharmacy. A lot of ideas and initiatives are realized by the members of the group instead of by the management. The final conclusion will be presented at the FIP congress 2006.

Community Pharmacy Section - Poster Session

CPS-P-109

PORTUGUESE MODEL FOR PROFESSIONAL LICENSE RENEWAL: LESSONS TO LEARN

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

Since 2001 the PPS has a legal basis to implement a mandatory renewal of pharmacists' professional license, on a five year basis, subject to a pre-defined number of credit units (15), obtainable through continuous professional development (CPD) activities. At this moment we can present some of the main results of this process and, additionally, we can also identify the essential difficulties and the major outcomes of our experience, in the fulfilment of the continuous quality improvement in the care provided to patients. The model was well accepted by community pharmacists, representing 56% of the Portuguese pharmacists, who already had a thirty year experience in the development of continuous education programs.

After two years, since the internal rules for the professional license renewal were approved, close to 4200 pharmacists had already started this process in 2005.

During this interval, the PPS accredited a total of 674 CPD activities submitted by different education providers, ranging from continuing education courses, symposia, to oral presentations, and also active participation in pharmaceutical care programs, quality assurance programs or others that may well be submitted for auditing by the PPS.

In order to assess if the accredited CPD activities, were in an adequate amount for pharmacists to accomplish the required credit units, we made a data analyses, using a 30% sample from the total of CPD activities and the total of the pharmacists in process.

The main results of this assessment and the overlook at the strengths and weaknesses identified in this passed two years, will allow us to find the opportunities to improve the process. This improvement should be implemented in order to fulfil the Portuguese pharmacists' needs of CPD activities, to overcome some of the restraints founded along the development of the process, to increase the criteria stringency in the accreditation of CPD activities and to identify pharmacists' future training needs.

CPS-P-111

KNOWLEDGE AND UNDERSTANDING ON PREVENTION IN SEXUAL TRANSMITTED DISEASE FOR MEN WHO HAVE SEX WITH MEN (MSM) IN CHIANG MAI, THAILAND

D Chinwong, S Chinwong, J Sangpuk, D Sukthong, P Saksripanit
Chiang Mai University Thailand

Objective: The purpose of this survey study was to examine knowledge and understanding on prevention in sexual transmitted diseases (STD) for men who have sex with men (MSM) in Chiang Mai, Thailand.

Method: The research instrument was a self-administered questionnaire. MSM, living in the centre areas of Chiang Mai, Thailand were invited to participate in the study during October 2004 to January 2005. Data were analyzed in descriptive statistic by using the SPSS for windows version 10.0.

Results: Of the 150 MSM who completed the questionnaire, about seventy percent of them were between 15-25 years of age, about forty-fiver percent of them graduated bachelor degree, about seventy percent of them earned less than 10,000 baht per month. Ninety-seven percent of participants had ever received information on STD from the media. They had higher level of knowledge and understanding in HIV infection (72%) than Herpes Simplex infection (66%) and Gonorrhoea infection (47%) and Syphilis infection (37%), respectively. Seventy-seven percent of the participants had correct knowledge and understanding on prevention in STD. Eighty-nine percent of the participants used to have sexual intercourse and most of those had homosexual intercourse (65%) with their regular partner (65%). Only forty-eight percent of the participants used condom every time when they had sexual intercourse. Eighty-nine percent of the participants would consult health care workers when they had a STD problem.

Conclusion: In this study, it was discovered that although MSM had correct knowledge and understanding on prevention in STD, they still had un-protective behavior when they had sexual intercourse. These finding should be used to promote reproduction health education, safer sex and preventive behavior in order to prevent and control STD in MSM. This information could be useful for health care workers to give appropriate advice to MSM to have appropriate behaviors related to sexual intercourse.

CPS-P-110

GOOD PHARMACY PRACTICE IN URUGUAY: WHAT WE HAVE LEARNED IN ITS IMPLEMENTATION?

E. Savio¹, E. Savio¹, E Ravera², S Fleitas³, L Bembrilla³, G Tomasiunas⁴, A Gherardi⁵
¹Facultad de Química Uruguay ²Asoc. de Química y Farmacia del Uruguay Uruguay ³Ministry of Health Uruguay ⁴Facultad de Medicina Uruguay ⁵Pan American Health Organization

The National Technical Group has been created by a resolution of the Ministry of Health (MOH, February 2004) and it gather representatives of Health Products Division (MOH), Health Population Division (MOH), University (Faculties of Medicine, Chemistry and Pharmacy), National Pharmaceutical Association (Asociación de Química y Farmacia del Uruguay) and Pan American Health Organization (PAHO).

Last year our country was selected by the Pharmaceutical Forum of the Americas and FIP to implement GPP, as well as Thailand, with the support of FIP Foundation for Education. NTG was the responsible of its implementation.

A project strategy was developed with took into account international experiences and our environmental conditions. In order to move forward three task forces were the responsible of educational, professional and regulatory aspects of the project. A Secretariat and project manager were on charge of the coordination of all the activities.

The professional task force elaborated three national standards for pharmacy practice, which were approved. The educational task force proposed a change in the curriculum of pharmacist career, in order to increase patient related subjects. Finally, the regulatory aspects task force is working on a new framework which would enable pharmaceutical care activities to be carried out, biologic fluids measurements, and an update in facilities and pharmacists responsibilities within the pharmacy. Several education courses are being implemented all through the country, as CPD, in order to change mindset of our colleagues.

We can conclude that implementing GPP in a country is such a multifactorial process, that the NTG is just in the begging of a very long road. The project has worked as an important catalyst for moving and changing a broad range of situations that are still inappropriate but better, if we consider the patient in the focus of our attention.

CPS-P-112

THE UNWANTED EFFECTS OF USING FEMALE-SEX HORMONES AND ANTI-ANDROGEN IN MEN WHO HAVE SEX WITH MEN (MSM) IN CHIANG MAI, THAILAND

S Chinwong, D Chinwong, P Chuamanochan, W Suppapong, H Numphanon, A Issarangkuin na Ayuthaya
Chiang Mai University Thailand

Objective: The objective of this survey study is to assess the type, dose and unwanted effects of the use of female-sex hormones and/or anti-androgen in 'Men who have sex with men' (MSM). This also includes the onset of each unwanted effect occurrence after the initial use.

Method: MSM who used female-sex hormones and/or anti-androgen, living in the centre areas of Chiang Mai, Thailand were invited to participate in the study during November 2004 - January 2005. Data were collected only from the MSM who were willing to take part by using structure interview questionnaires and direct interviews performed by the researchers.

Results: There were 150 participants who completed the interview. The mean age of the samples was 22 years (range 17 - 23) at the interviewing time and the mean age when they started using the hormones was 17 years (range 11 - 28). The study found that 395 different formulations (considering active ingredients and daily doses) were used by the participants. Combined oral contraceptive pills (COCs) were the most popular products used. COCs contained the combination of ethinylestradiol and cyproterone acetate and the combination of ethinylestradiol and levonorgestrel were reported by 40% and 13%, respectively. Considering particular active ingredients in the oral products, ethinylestradiol and cyproterone acetate were accounted for 82% and 65% of the active ingredients used by the participants, respectively. The most general unwanted effects regardless of doses of active ingredients reported by the participants were the decrease in sexual desire (47%), fatigue (41%), weight gain (39%), breast tenderness (38%) and enlargement of nipples (36%). These aforementioned unwanted effects appeared in just a month after the initial use of these therapies (median of one month).

Conclusion: This information could be useful for MSM in order to be aware of these effects and for health care professionals to give appropriate advice to males who use these kinds of products.

Community Pharmacy Section - Poster Session

CPS-P-113

IMPACT OF PHARMACIST-BASED SMOKING CESSATION PROGRAM ON STUDENTS' KNOWLEDGE AND PARENTS' TOBACCO QUITTING RATE

S Chinwong¹, D Chinwong¹, P Kanjanarat²

¹Chiang Mai University Thailand ²Faculty of Pharmacy Thailand

Aims: To evaluate the effect of pharmacist-based smoking cessation program on students' knowledge on tobacco and quitting rate in parents.

Methods: Randomised control trial was conducted for pharmacist-based smoking cessation program in students from 4 elementary schools in Chiang Mai, Thailand, during December 2005 to March 2006. The study included 176 students aged 9-12 and 176 parents who provided informed consent form (103 and 73 subjects in the intervention and the control group, respectively). The education program included an hour education session with teaching aids by 3 pharmacists for the students to provide important information on smoking. The students then were asked to communicate, encourage and convince their parents to quit smoking. Student social support groups were also formed to share experiences after the education.

Results: Fathers were accounted for 97% of parents who smoked and 80% had aged >35. The average year of smoking was 16.7±10.0. About 80% of the subjects wanted to quit smoking and 90% had tried to quit. The average post-test score of tobacco knowledge among students in the intervention group was higher than the pre-test score (8.66 out of 10 and 6.20; p < 0.001). The quit rate among parents in the intervention group at week 2, 4 and 8 after education session was 25.0%(20/80), 36.5%(23/63) and 25.7%(9/35) respectively. The quit rate in the control group at week 2, 4, 8 from baseline was 6.7%(4/60), 0%(0/9) and 25%(1/4). The overall all quit rate in the intervention and control groups were 35%(36/103; with 4 subjects relapse) and 6.8%(5/73; with one relapse), respectively. The quit rate in the intervention group was significantly higher than in the control group (chi-square 18.88; df=1; p<0.001 and chi-square 17.19; df=1; p<0.001, excluding the relapsed cases).

Conclusion: Pharmacist-based education program for smoking cessation was effective in improving tobacco knowledge in students and successfully promoting quit rate in parents through their children.

CPS-P-115

THE 2ND REPORT 'VISITING PHARMACEUTICAL CARE AT HOME CARE'

Y Nanaumi

Seven Pharmacy Japan

Community pharmacists is in their community pharmacy and work inside a pharmacy. However, may a pharmacist carrying one end of community medical care for local inhabitants stay only in a pharmacy?

We tried to appear outside a community pharmacy, and then a network of the community medical care that a pharmacist should have been concerned with outside a pharmacy was present.

And we noticed that community medical care had a relation to be very close to community-based welfare.

In other words it meant that a drugstore had to take cooperation as community-based welfare.

Cooperation of the chief physician and a pharmacist

Cooperation of a hospital and a pharmacist

Cooperation of a staff of welfare and a pharmacist

Most senior citizens have public welfare service when they go for home care.

We found the significance that a pharmacist was concerned with by 'a third person viewpoint' there.

A role as mediation of a doctor and a staff of welfare

Between a doctor and care article suppliers

Between a doctor and a care support center

Between a doctor and home help

I was able to recognize necessity of 'cooperation' by experience of visit pharmaceutical care of own.

A pharmacist should be concerned with community medical care more deeply, and therefore 'visiting pharmaceutical care at home-care' is the duty that is need indispensability, and we always coexist, and, in addition, as for it, each network is the same as medical care and the welfare for area inhabitants.

A pharmacist does not do duties only for medicine and should wrestle for the duties that paid more attention to human and an area from now on.

Visiting pharmaceutical care at home-care is exactly the pharmacist duty based on community.

CPS-P-114

PATIENT COUNSELING COMPETITION AT COMMUNITY PHARMACY NATIONAL CONVENTION IN INDIA: CONVENER SHARES THE EXPERIENCES

M.S. Gharat

Prin.K.M.Kundnani Pharmacy Polytechnic India

Patient Counseling, as a part of professional services, is not yet a routine practice in India Community Pharmacies but slowly the concept of Pharmaceutical Care is picking up & the pharmacist image is slowly changing from trader to professional. One of the recent milestones in the Community Pharmacy in the country was the national convention organized by Indian Pharmaceutical Association on 2nd & 3rd Feb, 0 at Pune, near Mumbai. One of the highlights of the Convention was 'Patient Counseling Event Competition', which was the most innovative & interesting session. The author, being convener of the Convention, shares her experiences of this competition, in this paper. The objectives of holding such competition were:

- To spread the word about the Patient Counseling concept among students/pharmacists & others
- To create interest about this concept & to make them think about how to carry out the counseling process
- To provide platform to exhibit counseling skills
- To see the status of skills of patient counseling among participants & to identify areas wherein education & continuing education should focus to improve these skills

It received overwhelming response from the pharmacy students. Total 15 teams enthusiastically participated in the competition. The competition succeeded in creating interest & awareness about Counseling techniques. Overall, the competition went well & it served the purpose. The events presented made the educators realize that there is urgent need to include patient counseling as a separate topic in the curriculum of all degree & diploma pharmacy courses. This would be the best way to equip the budding pharmacists with this skill.

CPS-P-116

PRACTICAL USE METHOD OF YAKUREKI-MEDICATION RECORDS-

RECORDS-

Y Nanaumi

Seven Pharmacy Japan

I introduced a Japanese community pharmacy original medication records which named 'YAKUREKI' in FIP2005 / Cairo.

By practical use of YAKUREKI, patient information which be grasped by pharmacist increased, and, as a result, communication and concordance of the patient and a pharmacist are promoted, and the consulting that definite decision to the patient is warm and support to pharmacotherapy were enabled.

I introduce some examples.

The example that mother held anxiety in for the antibiotics which her child was prescribed.

The example that the patient held anxiety in product for different a sale maker and agent of trade name.

The example that we got interest for a health food of the patient, and dealt.

The example that prescribed agent was different from the agent which the patient wanted in.

For these examples, we gave a response based on patient information and a consulting history recorded in YAKUREKI and the various source of information.

It became clear by recording the correspondence...

'What kind of patient information a pharmacist has to always grasp?'

'What kind of drug information is need?'

'What kind of information patient requires except medicine?'

In addition, we can understand necessary communication and concordance in a concrete example when we do intelligence from the patient.

Community Pharmacy Section - Poster Session

CPS-P-117

ASSESSMENT OF LEVEL OF RECOMMENDATION AND USE OF INSECTICIDE TREATED MOSQUITO NETS IN CHILDREN IN AMUWO ODOFIN LGA, LAGOS STATE.

A. Joda¹, O. Nwoke², F. Tayo¹, O. Dada¹

¹Faculty of Pharmacy, University of Lagos Nigeria ²Victory Drugs, Festac Town Nigeria

INTRODUCTION: Malaria is the number one public health problem in Nigeria and sub-Saharan Africa. In 1998, the Roll Back Malaria (RBM) programme was initiated. In Africa, one of its goals was to ensure that by 2005, at least 60% of those at risk of malaria, particularly women and children under 5, benefit from the most suitable combination of personal and community protective measures like insecticide treated nets (ITNS)

METHODOLOGY: This survey assessed level to which community pharmacists recommend the use of ITNS in children <5 year, provide information on proper use of the ITNS and the level of use of ITNS by caregivers of children <5 year in Amuwo-Odofin LGA of Lagos State

Pre-tested questionnaires were administered to 31 community pharmacists and 104 caregivers who came to a selected community pharmacy in the area

RESULTS: 74.2% of pharmacists recommend use of ITNS while 71% of them stock ITNS in their pharmacies. Only 25.8% of them provide instructions on proper use of ITNS to all users. 9.7% do not know the difference between pretreated and non-pretreated nets

87% of caregivers have heard about ITNS and 22.1% use them for their children. 17.3% were instructed on regular re-treatment at point of purchase, but 5.8% do not adhere. 77.9% do not use ITNS for their children for various reasons

DISCUSSION: From the above, pharmacists are not effectively utilizing the opportunities provided by the RBM to improve use of ITNS in their community and caregivers need this support to make the best use of protective tools available

CONCLUSION: There is need to educate pharmacists on use and care of ITNS as well as encourage them to serve as advocacy points for the health seeking public

CPS-P-118

PHARMACISTS VIEWS ON THEIR LEVEL OF INTERACTION WITH PATIENTS IN LAGOS, NIGERIA

A. Joda¹, J. Eniojukan²

¹Faculty of Pharmacy, University of Lagos Nigeria ²Pharmacy Faculty, Niger Delta University Nigeria

AIM: To determine the level of interaction between pharmacists and patients in community and hospital setting

METHOD: 37 pre-tested questionnaires were administered and collected back from 9 pharmacies (5 community, 4 hospital). The questionnaires sought demography and answers to research questions. 100% recovery was obtained.

RESULTS: Respondents were 61% male, 39% female with mean length in area of practice of 1.5 years. Mean number of patients attended to daily was between 41 and 100 persons. All of the pharmacists (36 in number; 100%) indicate that they counsel their patients because it is a professional responsibility and they get a positive response from the patients, though only 6 in community (16.7%) and 8 in hospital (22.2%) rated their communication skills as being at least very good. However, many (83.3%) gave reasons why counseling is sometimes hindered including heavy workload, time constraint, lack of up-to-date information and attitude of the patient. 6 pharmacists (16.7%) indicated that they always counsel and nothing hindered them from doing so.

21 pharmacists (10 in community, 11 in hospital) were satisfied while 13 pharmacists (1 in community, 12 in hospital) indicated they were not satisfied with the level of interaction they had with the patient, and this difference was statistically significant at 95% confidence interval, but only 3 (1 in community, 2 in hospital) felt there was no need for improvement on current level. One the reasons given for improvement 34% were economic/managerial; 26% were for public enlightenment, 18% were for improvement in drug information and 6% each for personality and ideal physical environment.

CONCLUSION: Pharmacists and pharmacy managers in Lagos, Nigeria, need to arise to the challenge of a patient oriented service (pharmaceutical care) which is being advocated now by proactively providing relevant information and counseling that will enable patients get the best out of their therapy.

CPS-P-119

ESTABLISHMENT OF SUGI PHARMACY'S CODE OF ETHICS, AND AN OPINION POLL OF MEMBERS - ABOUT THE IMPORTANCE OF THE ETHICS VIEW WHICH A PHARMACIST IS CONSCIOUS OF

K. Kawamura, M Sakakibara, M Kido, T Suzuki, H Okada, K Arai
Sugi Pharmacy Co.,LTD Japan

Aim

The pharmacist of a community pharmacy is bearing the big mission for maintenance and promotion of health of people who live in the area. In order to achieve this mission, it should be required to face business with high consciousness. Then, the code of ethics for pharmacists in our company was established expecting that every employee will be able to carry out their job with the same consciousness as a pharmacist of a Sugi Pharmacy. At this time, it will be reported about investigation for over three years about if this code of ethics is acceptable for the employee.

Method

When it was established in 2004, the questionnaire survey was conducted on 566 employees who serve in each store, and the reply from 391 persons was obtained (69% of recovery rates). Since then, the questionnaire survey is continuously conducted to the new employee.

Result

Although the reply had been obtained from total about 600 employees before now, all of them indicate the intention of spontaneous observance of the code of ethics of our company.

Consideration

The code of ethics for pharmacist, regulation as a pharmacist's conduct, is indispensable in order that pharmacists discharge his/her duties in right way. Simultaneously, in order to be observed, the articles of ethics regulation need to be the concrete and intelligible contents, which can be think by each pharmacist wants to observe willingly. In order for a pharmacist to achieve the important mission imposed on this occupation, it is necessary to revise at any time about the article which became not suitable with at a pharmaceutical environment, continued to investigate the opinion of employees. The code of ethics for pharmacists, which is useful in the pharmaceutical practice in alignment with the needs of a time, should be devised continuously.

CPS-P-120

PHARMACEUTICAL ASSISTANCE TO OSTOMY-SUBJECTED INDIVIDUALS

A.P. Menezes

Universidade da Região da Campanha Brazil

Individuals subjected to a surgical intervention that renders them ostomy-bearers suffer from a great impact on physical and psychological levels both. The herein enclosed work approaches an innovative community extension project performed in a hinterland county located in the southernmost section of Brazil, whose goals point to the preservation of life quality for the ostomy-subjected individuals, to a betterment of information access to their health data and that of their next of kin, their integration within the society, swapping of life experiences, as well as the creation of an educational space bonded to the Pharmaceutical Assistance Nucleus sponsored by Universidade da Região da Campanha [Southernmost Plains Area University] (Bagé-RS). The methodology to be employed retains to the concept of Permanent Education on Health, where the sensibilization of those 'actors' from the health services and that of the users is promoted, so that a new knowledge embased upon everyone's personal skills and life experiences may be built and supplied available through the creation of discussion and experience-swapping spaces. The Ostomy-Subject Attention Group is made up by a multiprofessional interdisciplinary team, whose members are selected from both faculty and student body and is sponsored by Town Hall Health and Environment Department. Altogether, fifty ostomy-subjected patients attend monthly the Pharmaceutical Assistance Nucleus, all of whom can enjoy the pharmaceutical assistance services and the monthly educational meetings. As results after a years' work the participants in the group presenting a good integration index and an improvement in their own life quality.

CPS-P-121

PHARMACEUTICAL ATTENTION X PATIENT WITH HIGH BLOOD PRESSURE IN THE CITY OF BAGE

M. Bittencourt
Univ. de Pelotas & da Campanha Brazil

the entire world, the high blood pressure represents serious problem of health, being causes of 5.8% of the ocured deaths. An aggravating one is that in many countries, less than 20% of the people who to suffer from high blood presssure they make control of the illness. The high blood pressure easily is diagnoSised, but its 'quiet' to character makes it difficult the precocious diagnosis. Treatments interrupted or inappropriated and inefficacy of the treatment also get worse the health conditions and diminish the quality of life of the patients. Arterial Moreover, the illness, will be being causing of innumerable to other illnesses, causes great financial damage you the health systems. The present study it aims at you the diagnosis the type of medication and the level of pharmaceutical information of the patients of the Bagé City determining the importance of the applied attention you the this patient is looked you evidence the necessity of the pharmaceutical farmacoterapeutical professional in the accompaniment will be the improvement of the quality of life of the patients and, so that this professional returns its position, not only agent of the assistance druggist, but them to member of the assistance the health.

CPS-P-122

PHARMACEUTICAL ATTENTION X PREGNANT WOMAN IN RANKS OF HEALTH IN THE BAGE CITY

M. Bittencourt
Univ. de Pelotas & da Campanha Brazil

The pharmaceutical attention is about the set of ethical abilities, attitudes, values, knowledge and responsibilities of the druggist who places it as last link between medicine and patient, and this is an excellent position to prevent possible involved errors in the farmacoterapeutical uses. One of the paradigms of the pharmaceutical attention is to become the patient o beneficiary end of the actions of the druggist. This, while disperser, needs to be engaged in fulfilling with ethics and responsibility the paper of health professional, as well as having concerns and criterion to cure possible imperfections created for our system of health. The practical one of the pharmaceutical attention if makes necessary in some sectors referring to the health as in the Ranks of Health of all country. In this work pregnant woman of Ranks of Health of Bage will be evaluated how much the farmacoterapeutical uses and, analyzed the necessity of the practical one of pharmaceutical attention directed to the aid of these patients, verifying themselves it orientation on prescribed, supply medicines of information on possible medicine or alimentary interactions, adhesion and the importance of the correct use of prescribed medicines.

CPS-P-123

ABSENCE OF THE FARMACIST IN PUBLIC PHARMACIES: A REALITY EACH LEFT TIME MORE STOPS BACKWARDS.

M. Bittencourt¹, F.B.M. Gerzso², D.S.M. da Costa², P. J. Zafalon², R. da S. Afonso²
¹Univ. de Pelotas & da Campanha Brazil ²Universidade Católica de Pelotas Brazil

The present work, carried through in you would drug of the city of Pelotas (RS), it looks for to behind demonstrate to the growth of the presence of the pharmaceutical professional in public pharmacies in relation to a carried through work in 15 years ago in the same conditions, and, in consequence to show the differences that this brought public health and the benefits that still can bring. 4 complaints of illnesses considered common in pharmacy balcony had been chosen and that they give reach to many interpretations: each complaint was presented in twenty different pharmacies totalizing 80 visits. During the visits it was observed: presence of the druggist medicine responsible-technician, indication, investigations of the store clerk, opinion how much to the diagnosis, and orientation and information with relation to the indicated medicine. The results had been analyzed and compared with the gotten ones in the year of 1980. It is considered that the absence of the professional is a chronicle until today but that the numbers has improved to each year thanks to a new position of the druggist that is facing the profession with more seriousness, showing its value and the difference that its presence brings to the public pharmacy and showing to that this is a health establishment and not a commerce in the hand of laypeople.

CPS-P-124

OBJECT: GENERATING GUIDELINES FOR IMPLEMENTATION OF THE ANATOMICAL THERAPEUTIC CHEMICAL (ATC) CLASSIFICATION SYSTEM FOR DRUGS IN A PHARMACY'S STOCK-KEEPING. INVESTIGATING IF A LIFT OF COMPETENCE AMONG EMPLOYEES COULD BE DOCUMENTED BY IMPLEMENTATION OF THE ATC SYSTEM.

J Mønster¹, E Vestergaard²
¹Budoplfli apotek Denmark ²Nørresundby Apotek Denmark

Method

A quantitative questionnaire among employees where the ATC system either was or was planned to be implemented.

Structure and design

The questions were a mixture of closed and multiple choice questions, with the option for comments.

Results

The guidelines are a proposal for optimal organisation of a pharmacy's stock-keeping according to the ATC system which the WHO recommends as international classification system for drugs.

The respondents of the questionnaire experience or expect increased focus on pharmacology,

increasing pharmacological safety, rise in proficiency in clinical pharmacy.

Conclusion

By means of the ATC classification system the employees at pharmacies get better acquainted with the different types of medicine. By organising the stock-keeping according to the ATC system one can gain knowledge about a drug's belonging to a pharmacological group of products merely by observing its placement in the stocks.

The ATC system contributes to understanding drugs as parts of a therapeutic-pharmacologic group. It creates a good overview on the options of generic substitution.

CPS-P-125

**THE ROLE OF AUTOMATED DOSE DISPENSING IN THE
PRIMARY HEALTH CARE AREA IN DENMARK IN RELATION TO
COMPLIANCE AND MEDICINE OVERVIEW FROM THE USERS'
POINT OF VIEW**

AB Larsen, LS Haugbølle

Danish University of Pharm. Science Denmark

Aim: A law on automated dose dispensing (ADD) in the primary health care area was entered into effect in Denmark in 2001. The objective of the study was to elucidate the users' view on main statements made by the health care professionals encompassing ADD as compliance and medicine overview strategy for medicine users.

Method: Qualitative research interviews served as the method for data collection. The interviewees were chosen in order to establish a varied sample population of the Danish ADD users. A theory classifying non-compliance as conscious and unconscious non-compliance was used as the main basis for framing the users' compliance degree.

Results: The results showed different manners of non-compliance among seven out of the nine interviews. Conscious non-compliance was the most frequent type of non-compliance, encompassing: The active removal of medicine from the dose packages and the intake of medicine on other intervals and other weekdays than suggested on the dose package. Only one ADD user experienced ADD as a medicine overview enhancing strategy. Along using ADD medicine, several users supplemented their medicine intake with medicine from unused ADD dose packages.

Conclusion: ADD, although simplifying the medicine regime does not eliminate non-compliance and does not change the medicine overview among the ADD users. If the goal with ADD is to enhance compliance and medicine overview among the users, the health care professionals encompassing for instance pharmacy staff needs to combine the ADD with other strategies.

HP-P-001

THE MANUSCRIPT «FOLK-MEDICINE BOOK» WRITTEN IN 1776 BY THE CATHOLIC PRIEST PETAR KASTELAN OF CROATIA

D. Eljuga¹, N. Kujundzic², I. Basic², M. Kujundzic³

¹Clinical Hospital Sestre Milosrdnice Croatia ²University of Zagreb Croatia

³Clinical Hospital Dubrava Croatia

Manuscripts containing collections of folk recipes for treatment of diseases were written mostly by Catholic priests in Croatia in the past centuries. They were used as manuals for preparation of remedies and gave directions for their use. These writings provide valuable data for ethnographers and historians of pharmacy. Kinds and incidences of diseases afflicting humans and domestic animals in the past, development of ethnopharmacology, folk medical terminology, names of medicinal herbs, and the interaction of folk and scientific medicine may be found in these manuscripts. Hence, a multidisciplinary approach to the evaluation of these books is recommended.

Here we present the manuscript «Folk-Medicine Book» written by the priest Petar Kastelan in 1776 in southern Croatia (Dalmatia). It was found in a private archive, and it has not been known to the public until now. The collection is written in the Croatian Cyrillic script, which was used mostly by Catholic priests when writing in Croatian from the Middle Ages to the second half of the 19th century.

The collection contains 250 recipes for human medical practice, and 8 recipes for veterinary medical practice. Three recipes contain household advice. Materia medica of the manuscript is mostly composed of drugs of plant origin. Remedies of animal and mineral origin are also included but to a smaller extent. Valuable information is given about the folk names for diseases and medicinal plants as well as descriptions of the ways of preparing remedies. Prayers for healing, void of sorcery and magic, are also included.

HP-P-002

MATERIA PHARMACEUTICA OF MUNICIPAL PHARMACY IN KOTOR – ANALISES OF THE DRUG LIST FROM 1632

D. Parojcic¹, D. Parojcic², D. Stupar², M. Stupar², K. Milosevic-Kostadinovic³, S. Grbic²

¹Belgrade University School of Pharmacy Serbia and Montenegro ²Belgrade University School of Pharmacy Serbia and Montenegro ³Medicor Pharmacy Serbia and Montenegro

Municipal pharmacy in Kotor was the first pharmacy opened at the territory of Serbian State in the early XIV century during the rule of Stefan Uros III Nemanjic. The aim of this paper is to investigate the level of materia medica and pharmacotherapy used in the city of Kotor, which had a strong medical influence on continental part of Serbia. Kotor has preserved many valuable pharmacohistorical sources of its heritage, and this paper is based on the particular document found at the Historical Archive of Kotor (IAK, SN XXXVI, 147-152). It is the inventory list of the «Antonioli pharmacy» made on May 23, 1632, by the municipal pharmacist Nicolo Zarich. He was requested by the Health Magistracy in Kotor to inspect the «Antonioli pharmacy». Zarich made a list of remedies and laboratory instruments he found in the store. Beside 225 remedies and drugs, it consisted of 78 pieces of laboratory and compounding equipment together with the apothecary jars and vessels, including majolica (unfortunately none of it is preserved). The materia pharmaceutica, included in Zarich's list of medicines, is typical of the time. Simples (plant and animal drugs) mainly prevail. Crude minerals are also listed, and metallic components are very few. The examination of the content reveals different kinds of dosage forms and types of medicinal preparations such as: electuaries, prepared honeys, conidia, confectiones, conserves, juices, troches, plasters, ointments, simple oils, gums, resin, and distilled waters. Names of simple and compounded remedies are given in Latin and Venetian nomenclature of that time without any therapeutic indications. Quantities of remedies are given in old weights: libras, ounces and drachms. Composita are listed by names without content.

In conclusion, the 1632 Kotor drug list represents valuable source of historical data giving us a definitive view of what pharmaco-therapy in the XVII century Kotor, and Serbia.

HP-P-003

ATTRIBUTION OF SALERNO MEDICAL SCHOOL TO FORMATION AND DEVELOPMENT OF PHARMACY AS SEPARATE SCIENTIFIC DISCIPLINE

M. Pocuca¹, D. Stupar²

¹Faculty of Medicine Serbia and Montenegro ²Faculty of Pharmacy Serbia and Montenegro

A popular legend says that Salerno school was founded by four masters: Latin, Greek, Jewish and Saracen. Even if it were just a legend, it still serves to illustrate the spirit of ecumenism in pharmacy and medicine which the school was famous for.

Although primarily a 'medical school', its importance for development of pharmacy was extremely high. Initially still one person, physician-apothecary, was intended to be an apothecary and a physician at the same time. However, knowledge in pharmacy and medicine was rapidly enhancing as scope and quality of professional skills in preparation of medicinal remedies and patient care were highly increased. Soon it was obvious that one person could not manage both the role of an apothecary and a physician. Formulation and preparation of medicines was increasingly complex and required knowledge, techniques and time which a physician-apothecary involved in patient care could no longer master.

The need for separation of pharmacy from medicine was recognised and in 1241, resulted in the publication of the Edict of Salerno by Frederick II. The edict regulated the work of apothecaries and physicians and their rights and responsibilities. It strictly forbade the physicians to prepare any medicines, to open a pharmacy and to liaise in a professional way with an apothecary in order to avoid any possibilities of misuse of their position. At the same time, apothecaries were obliged to prepare medicines according to proper rules and to retail them according to proper prices.

Edict of Salerno made the first legally defined separation of the occupations of apothecaries and physicians. This became a model for regulation of the practice of pharmacy throughout Europe and enabled formation and further development of pharmacy as a separate discipline which resulted in new system of education for pharmacists, development of pharmacies, pharmaceutical industry, new medicinal preparations and scientific work.

Working Group History Of Pharmacy - Short Oral Presentations

HP-O

CARL VON LINNÉ AND PHARMACY

L.H. Eklund

Swedish Society History Pharmacy Sweden

Linné was born 1707. That means that next year the 300 years anniversary of his birth will be celebrated. A lot of celebrations will take place all over the world especially in Sweden during a rather long period of time - and many activities have already begun. The peak will take place next year in May as Linné was born on the 23rd of that month.

Linné is most famous for his sexual system of plants but he was also a prominent physician and professor of practical medicine and anatomy at the university of Uppsala. After less than two years he changed chair with the second professor of medicine, Nils von Rosenstein, to educate in botany, symptoms of diseases, preventive medicine, dietetics and materia medica.

At that time most of the remedies were collected from the vegetable kingdom (and also from the animal and stone kingdoms) so both physicians and pharmacists were trained in botany and pharmacognosy. The professions were therefore both in collaborative and competitive situations. That created many connections between the professions as apothecary gardens, collection of plants for medical use, materia medica publications, prescriptions, inspections at the pharmacies and so on.

The paper will give some examples on the relationship between Linné and pharmacy/pharmacists.

HP-O

ROLE OF HISTORY OF PHARMACY IN THE PROFESSIONAL FORMATION OF A PHARMACIST IN SERBIA: PAST, PRESENT AND FUTURE

D. Parojcic¹, D. Stupar², D. Parojcic², M. Stupar², B. Peric²

¹Belgrade University School of Pharmacy Serbia and Montenegro ²Belgrade University School of Pharmacy Serbia and Montenegro

Although pharmacy is natural science it is also a humanistic science and it needs history and culture. Teaching history to pharmacy students has obvious goals and they are: to reveal the roots of the profession, to gain knowledge of its development and to encourage them to build their own system of assessing remedies and methods of treatment from the past. More importantly lectures from history could help students to understand scientific and humanistic character of pharmacy in order to better comprehend the function of pharmacy in social context.

Teaching History of pharmacy in Serbia at Belgrade University School pharmacy has a long tradition of more than half a century. From 2001 it is taught at University of Novi Sad, as well.

Since 1952 there has been 30-hour required course in history of pharmacy and was taught by pharmaceutical historian Andrija Mirkovic, who was the founder of the History of Pharmacy Museum at the School pharmacy. From early 70s last century, a joint course on history of pharmacy and ethics has been taught to the fourth year pharmacy students by different professors (Marjanovic, Stupar, Parojcic). It changed its status in the curriculum, from elective to compulsory course, mainly focused on world history, drug discovery and national development of pharmacy as a whole. Only 6 out of 30 hours are dedicated to professional ethics, responsibilities and human values. There is also postgraduate training in history of health culture leading to master and doctoral degrees.

In a new 5-year curriculum (starting in Sept. 2006 in Belgrade), History of Pharmacy course has gained elective status, and separate course of Pharmacy Ethics and Law will be a compulsory subject. Our view is that history of pharmacy should be taught during the third or fourth year of the curriculum as a compulsory subject and that it should have oral examination. To improve teaching of history of pharmacy, longer courses and written assignments are needed, as well as a textbook in Serbian language.

HP-O

THE PHARMACIES OF THE SPECIAL MINING SYSTEM OF WELFARE BENEFITS

P. Fortuit

French Society of Pharmacy France

The miners have enjoyed a special welfare benefit system since 1804 but its origin dates back from 1604 from a decree passed down from the King Henry IVth.

The first mining pharmacy opened in the northern city of Flers-en-escrebieux on January 2, 1901, remains as one of the french pharmacies with the biggest business today.

There are 68 of those pharmacies throughout France, mostly located in the North of the country.

They have specific legal status which is different from pharmacies associated with private companies. Only the miners and their beneficiaries are allowed to take advantage of them. For this reason, they are in the same category as 'internal use' pharmacies (like hospital pharmacies) and they are not counted in the 'numerus clausus' which limits the number of pharmacies in France.

The pharmaceutical act is identical to the one done in common law pharmacy and the managing chemist work within the scope of the Public Health legislation. He is responsible for his management and reports to his Board Committee. He is assisted by assistant chemists.

Currently, there are doubts about the future of these pharmacies pertaining to issues such as closing down, changing into a private insurance company or selling of assets to privatise them.

HPS-P-001

DECENTRALIZATION OF ART AS A MEANS OF PROMOTING ART ADHERENCE AND UPTAKE. A PROJECT OF THE PHARMACY DEPARTMENT OF MARAGUA DISTRICT HOSPITAL— A PUBLIC HOSPITAL IN KENYA.

T.M. Kauki
Maragua District Hospital Kenya

INTRODUCTION—Maragua District Hospital is one of the Public Hospitals in Kenya which provides ART services.

Scrapping of charges for ART lead to a dramatic increase in the number of patients.

Decentralization which is the transfer of the ART point of care from a District Hospital to the Rural Health Centres was started in September 2005 from a pool of 720 adult patients. 4 Health Centres in Maragua District were identified.

Targeted objectives of decentralization:

1. To promote adherence through reduction of the costs of transport to the treatment centre.
2. To promote ART uptake.

Patient's eligibility criteria for decentralization:

1. Increase of more than 130 from the CD4 count at start of ART to the CD 4 count at 6 months.
2. CD 4 count greater than 200 at 6 months.
3. Adherence to ART greater than 95 %.
4. Asymptomatic.
5. Willing patient.
6. No need of nutritional support.

AIM—To highlight the decentralization of ART project of Maragua District Hospital.

METHOD—Based on an appraisal of the decentralization of ART programme at Maragua District Hospital.

RESULTS—As at January 2006, 45 patients have being decentralized to a total of 4 Health Centres. Decentralization benefits

1. Reduction of the cost of transport to the treatment centre has promoted adherence to ART.
 2. Time creation for starting new patients on ART. Challenges being faced Qualifying but unwilling patients due to a) Stigma. Decentralization sites are close to the patient's homes which therefore might lead to the patient's HIV status being known near their homes. b) Resistance to change.
- CONCLUSION**—Decentralization of ART services from a District Hospital to the Health Centres is an innovative strategy in promoting adherence and uptake of ART. To address the challenge of 'qualifying but unwilling patients' the following are recommended: 1. Incentives such as provision of foodstuffs in the decentralization sites. 2. Incorporating the decentralization message into the adherence workshops early enough

HPS-P-003

PHARMACOVIGILANCE: A CLINICAL DISCIPLINE IN INDIAN HOSPITALS

P.J. Wable, V.V. Sonar, M.M. Deshpande, R.S. Bandal, A.N. Shah
SVPM COP India

Pharmacovigilance is the science and activities related to the detection, assessment, understanding and prevention of adverse effect or any other possible drug related problem.

Drug safety monitoring is an essential element for the effective use of medicines and for high quality medicinal care. It has potential to inspire confidence and trust among patients and the health professionals in medicine and contributes to raising standard of medical practice. The main objective of the patient study is to implement Pharmacovigilance as a clinical discipline in its own rights. One that contributes to an ethos of safety and serves as an indicator of the standards of clinical care practiced within a country.

Present study aims to achieve exchange of information between the industry, hospitals and regulatory authorities as a result of the regional and international harmonization arrangements that have emerged in recent years. Continuing professional education, patient education and sponsorship by industry of drug information activities could also contribute to safer use of medicine.

Future goals include insistence of pharmacovigilance at the hospital levels to promote understanding the education. Clinical training is to improve patient care and safety in relation to the use of medicines and all medical and paramedical interventions. It also includes the collaboration study of Pharmacovigilance and Pharmacoeconomics.

HPS-P-002

OVULATION INDUCTION WITH TWO DIFFERENT GONADOTROPIN PREPARATIONS

D. Petronijevic¹, M. Petronijevic², M. Pokrajac³, G. Ivanovic⁴, S. Vrzic-Petronijevic³, B. Miljkovic³

¹Pharmaceutical Institution Belgrade Serbia and Montenegro ²Institute for Gynaecology and Obstetrics Serbia and Montenegro ³Institute for Pharmacokinetics Serbia and Montenegro ⁴Special Gynaecological clinic 'Ivanovic' Serbia and Montenegro

Objective. Pharmacokinetic evaluation of two gonadotropins. **Method.** Two groups of patients received menotropin and FSH high purity from 2nd- 3rd day of cycle. Serum levels of FSH, LH and E2 were monitored. **Result.** Mean Steady State concentration (CSS) - CSSFSH in group A and B were 18mIU/mL and 15 mIU/mL, respectively, CSSLH in group A and B were 1.6 mIU/mL and 1.5mIU/mL, respectively, and CSSE2 in group A and B were 1100 pg/mL and 1300 pg/mL, respectively. Average oocyte number was: group A- 8.92, group B-10.88. **Conclusion.** FSH, LH and E2 serum levels showed no significant differences regarding efficacy of used preparations. Pharmacokinetic parameters obtained from monitoring FSH, LH and E2 serum levels showed that steady state was reached after 4th-5th day of therapy. Small differences in hormonal levels, although of no significance, indicated that the steady state was reached with certainty and maintained from 8th-9th day of therapy.

HPS-P-004

APPROACHES TO PREVENT MEDICATION ERROR DUE TO SIMILAR LABELING AND PACKAGING OF DRUGS AT A BRAZILIAN TEACHING HOSPITAL

M.C. Sakai, P.S.K. Takahashi, P. Luppi Jr., R.Q. Zolcsak, A.B. Sousa, E. Ribeiro

Hospital Universitário da USP Brazil

INTRODUCTION / OBJECTIVE

Similar labeling and packaging of drugs is one of the top ten causes of medication errors according to United States Pharmacopoeia reports. It increases not only the risk of an accidental interchange of drugs but also the administration of a wrong medication. So, the aims of the present study were to highlight the similarities found out in injectable drugs and to develop approaches to prevent medication error.

METHODOLOGY

Injectable drugs in ampoules with look-alike package or label were selected from registers reported by pharmacy and nursing staff from the University Hospital of the University of São Paulo (HU-USP) in the period of 2001-2005. Twenty-two pairs of them were listed. Therefore, comparisons between each two similar packaging of drugs were made based on eleven characteristics: size and colour of the ampoule; label design; colour of the ring around the ampoule neck; colour, size and font lettering; lettering direction (horizontal or vertical); ampoule content; strength of the drug and manufacturer.

RESULTS

The range of similarities noted varied from 4 up to 10. Likewise, 4 similarities were found in 1 case, 5 similarities in 7 cases, 6 similarities in 6 cases, 8 similarities in 4 cases and 9 similarities in 1 case. In two cases were noticed 10 similarities. The highest number of similarities were found out in the pairs of drugs of the same manufacturer. At least three similarities were observed in all of the 22 reports: colour lettering, size and colour of the ampoules. In addition, contents of ampoules were equal in 13 cases.

CONCLUSION

Similarities contribute to cause confusion and wrong drug administration. Because of this, when similar products are detected in pharmacy stock at HU-USP, pictures are taken and the nursing staff and doctors are notified. Then, the products are highlighted with different colour labels. Finally, reports are submitted to the sanitary regulatory agency of Brazil and drug manufacturer.

Hospital Pharmacy Section - Poster Session

HPS-P-005

DETECTION OF ASPIRIN ALLERGY

P. Turcic¹, M. Rudolf²

¹Farmaceutical and Biochemistry School Croatia ²Institute of Immunology Croatia

Acetylsalicylic acid, commonly known as aspirin, can induce some hypersensitive reactions with clinical symptoms such as urticaria, angioedema, acute bronchospasm, and rarely anaphylactic shock. At present, detection of aspirin allergy is still rather difficult and requires an adequate clinical history and sensitive in vivo and in vitro tests. The aim of the study was to evaluate the diagnostic utility of cellular antigen stimulation test (CAST) in the detection of allergic reaction mediated by aspirin. Fifty patients (39 women and 11 men) with a history of hypersensitivity reaction to aspirin were included in the study. Positive scratch test to aspirin was found in 72% (36/50) and positive CAST in 58% (29/50) of patients. Both skin scratch test and CAST positive results were recorded in 48% (24/50%) and negative results in 20% (9/45) of patients. The level of agreement between skin scratch test and CAST was fair with Cohen's kappa of 0.269 (0.95% CI 0.004-0.533). The observed between-test agreement was 66%. It is concluded that CAST-ELISA might be of value as an additional test for the detection of aspirin nonallergic hypersensitivity in suspected individuals.

HPS-P-006

PROVISION OF MEDICATION INFORMATION BY PHARMACISTS AT A BRAZILIAN TEACHING HOSPITAL

A.B. Sousa, M.C. Sakai
Universidade de São Paulo Brazil

INTRODUCTION / OBJECTIVE

It is considered that are published more than 250,000 biomedical researches a year, fact that generated the need for a specialized professional capable to inform in an updated, complete and brief way, of aspects related to drugs. The provision of medication information is among the fundamental responsibilities of pharmacists in health systems. In this manner, the aims of the present work were to quantify and to qualify the questions to the Dispensation Service of Drugs (DSD) of Hospital Universitário da Universidade de São Paulo (HU / USP).

METHODOLOGY

The present work was accomplished from July 2004 to February 2005, in a prospective way and based on an instrument to quantify and to qualify the questions from the health team from HU / USP.

RESULTS

During this period, the DSD was consulted 15,900 times. The professionals of health that more sought the service were the nursing (83%), doctors (7%) and other professionals of health (10%) such as pharmacist, social assistant and administrative staff. Product availability (16.37%); documents (6.02%); stability (5.8%); identification (5.02%); medicines of restricted use (5.02%); usual dosage (4.02); administration vial (3.01%); compatibility (2.01%); dilution (2.01%); parenteral nutrition (1.51%); cost (1 %) were the most questionable requests.

DISCUSSION / CONCLUSION

Besides the Clinical Pharmacy Section, the DSD of HU-USP plays a primordial function of providing medication information to health care professionals staff. Through this work, we verified that the demand for drug information is considerable and if there is not a Drug Information Center (DIC), the DSD assumes part of this work, supplying responses to requests for medication information with quality and impartiality, demonstrating the importance and the great relevance of DSD in relation to the supervision and orientation of this task.

HPS-P-007

MULTIDISCIPLINARY CARE IN THE TREATMENT OF WOUNDS: DEVELOPMENT OF FORMULA CONTAINING PAPAINE FOR TOPIC USE

M.O. Santos

UERJ Hosp Univ Pedro Ernesto Brazil

Objectives: Papain has been used in the treatment of wounds of several etiologies. The existing pharmaceutical forms, as gel, cream, and water solution, present higher cost and difficulty to prepare due to the physical-chemical instability and discomfort in the application. The objective of this study was to develop a formula that maintained papain's physical-chemical properties, were non-toxic for the client, of easy application and presented satisfactory clinical results. **Methods:** It has been chosen to test the pharmaceutical powder form, using papain in different concentrations and associating it to the excipient magnesium silicate (talc). The toxicity of papain and talc has been analyzed, isolatedly and in association, in strains of Escherichia Coli, through a cellular inactivation test. The formulation efficiency was clinically tested by a group of nurses. **Results:** The new formulation presented physical-chemical stability, low cost, easy preparation in the hospital pharmacy, as well as easy application on the wound. It did not present cytotoxicity for the strains studied. Since 2000, the formulation has been used directly on the wounds of approximately 5,000 clients, presenting satisfactory results. Clinically, it promoted the reduction of devitalized skin, without toxicity, reduced lesion, produced healthy granulation skin, and altered the pH of the surface of the wound in the sense of acidification with a considerable healing increase. **Conclusion:** Based on the above tests, the new papain formulation associated with talc has proven adequate for the utilization in the healing of wounds, not presenting the problems that other formulations with the same objective present.

HPS-P-008

A MEDICATION EDUCATION SERVICE (MES) PROVIDED TO PRIVATE HOSPITAL PATIENTS AT DISCHARGE.

R.J. Moles, J. Brien, S.I. Benrimoj
University of Sydney Australia

Aim: To implement and evaluate an MES to private hospital patients.

Methods: A random sample of 7 Sydney private hospitals recruited 89 patients taking 5 or more medications. Patients were randomised to either a control group (standard care) (30) or to receive the MES (59). Baseline data on adherence and satisfaction scores were collected. Patient medication profiles were recorded and the intervention was provided prior to discharge. Follow-up questionnaires were sent 1 week and 3 months post discharge, and medication printouts were collected from patients' community pharmacies at 3 months, to calculate changes in numbers and costs of medications.

Results: There was a significant difference between control patients and intervention patients in terms of regular prescription drug costs at 90 days ($p=0.0376$). There was a greater decrease in medication costs in intervention patients compared with controls (\$0.44 vs \$3.02/day). There was a significant difference between control and intervention patients in the number of medications being taken at day 90 ($p=0.0289$), (mean decrease of 1 medicine versus 3.9 medicines in intervention group). There was no difference in adherence scores, however satisfaction scores were significantly higher in the intervention group versus the control arm ($p=0.0144$) 1 week post discharge.

Conclusions: This study demonstrates that a MES can be provided in private hospitals and may impact on numbers and costs of drugs as well as patient satisfaction

HPS-P-009

USE OF FLUOROMETRIC ANALYSIS TO IMPROVE THE SAFETY OF COMPOUNDING OF HIGH-ALERT PARENTERAL MEDICATIONS.

J.G. Stevenson, H. Phan, Y. Kaakeh, D. Pasko, D. Glenn, J. Mitchell
University of Michigan Hospitals United States of America

Background: The process for checking high-risk parenterals has remained relatively unchanged over the last 40 years, relying on human visual checks. Fluorometry was identified as a means of checking parenteral medications to improve safety. The objective of this project was to evaluate fluorometry as an automated final check of high-alert parenteral admixtures.

Methods: A table-top fluorometer (ValiMed, CDEX, Inc) was used to validate high-risk parenteral medications: insulin, epinephrine, morphine, hydromorphone, morphine, lorazepam, gentamicin, vancomycin, and dopamine. Unique fluorescent signatures were developed for each medication. Signatures were identified by testing samples with ultraviolet light and measuring the ability to create a fluorescence pattern. The fluorometric testing was integrated into the normal work process as a final check for high-alert drugs. While it was initially known that errors > 2-fold were detectable by the device, we sought to determine the sensitivity/specificity limits of the system. Ten sample sets were tested for each drug. A sample set consisted of various dilutions ranging from 10-fold above and below the target concentration. Data were collected on the observed results (validated/not validated). Each drug was also cross-tested against other medications in order to determine whether the ValiMed device could distinguish between them.

Results: The fluorometer has been integrated into the compounding process for high-alert medications. Fluorometry was generally capable of detecting errors > +/- 20% from the target concentration with a sensitivity/specificity > 95%. Minor modifications of some of the fluorometric signatures may be warranted to improve performance and to prevent false 'non-validations'.

Conclusions: The sensitivity/specificity of fluorometry appears to be adequate to prevent clinically significant errors. During the first nine months since implementation, three serious medication errors have been avoided as result of the use of this technology.

HPS-P-011

POSTDISCHARGE NAUSEA AND VOMITING: ANOTHER 'BIG LITTLE PROBLEM' FOLLOWING AMBULATORY SURGERY'

T.A. Meyer¹, C.R. Roberson¹, R. McAllister¹, M.H. Rajab¹, R. McKinney², S. Carl²

¹Scott and White Health System United States of America ²Trinity Mother Francis Hospital United States of America

Introduction: Post discharge nausea and vomiting (PDNV) is reported to be more common than in the recovery room for ambulatory surgical patients. After discharge, patients are typically without medical oversight, and at risk for complications and delays in resuming daily activities. Limited information is available on PDNV and the patients' at home management of this symptom.

Methods: Following institutional approval, 135 adult patients undergoing general anesthesia and laparoscopic ambulatory surgery, were instructed to complete a questionnaire. Post discharge data were collected from the patient's diary at 24 and 48 hours. A 24-hour confirmation call was made by the research nurse.

Results: Patients indicated during the 'ride home', 21 (16%) experienced nausea and 20 (15%) experienced vomiting. In the 4-24hour period, 36 (27%) patients had nausea and 20 (15%) patients had vomiting. Nine patients (7%) managed their PDNV by self administering antiemetic agents. Patients utilized a prescription drug, and a variety of over-the-counter medications. Thirteen patients (10%) selected special food or beverages to relieve their PDNV. Overall, during the 4-24 hr. period, the patients experiencing nausea and vomiting showed a decreased return to activities.

During the 24-48 hour period, 5 (4%) patients indicated vomiting and 21 (16%) nausea. Six patients (4%) had taken medications and 10 patients (7%) had taken special foods and beverages to alleviate PDNV. All patients improved in their ability to resume moderate daily activities.

Conclusion: Many of these patients experienced PDNV. A small group of patients expressed the 'ride home' as a reason for the post discharge nausea and vomiting. Patients attempted to relieve symptoms by self-medicating with prescription, non-prescription drugs and food/beverages. The agents selected may not be effective for nausea and vomiting. PDNV and patient management of these symptoms warrants further study.

HPS-P-010

RATIONALIZATION OF COUGH THERAPY IN PEDIATRIC PATIENTS

Z. Binakaj, M. Deljkic, A. Alibajraktarevic, A. Trbakovic, B. Salkicevic, N. Sinanovic, M. Hrnjic
JU Apoteka and CMS Tefarm Bosnia and Herzegovina

Tefarm pharmacy from Tesanj supplies citizens and hospital with medicaments. There are about 20,000 inhabitants, or about 30%, gravitates to our Center. Constantly increasing medication costs causes maximum engagement of pharmacists in rational usage of medicaments. Monitoring medicaments consumption in 2004, the most consumed medicaments in our region in cough therapy are brombeksidin, karbocistein, folkodin and butamirat, which protectively affect on lining or block cough center.

With the goal of rationalization of medicaments usage, a syrup, containing fluid from root of plant *Althea officinalis*, L. is being prepared in our pharmacy. Due to large content of slime, this syrup covers gullet lining; it accelerates its drying and decreases cough irritation. During productive cough, it softens viscose content and facilitates coughing out. Since is completely harmless without any allergic reactions and implications, it is especially suitable for usage for small children in case of acute and sub acute catarrh of lining of respiratory system.

In our work, there are shown and discussed results of medication of cough in children, hospitalized at pediatric department of general hospital in Tesanj.

HPS-P-012

PREVALENCE AND INCIDENCE OF ADVERSE DRUG REACTIONS IN A MULTISPECIALITY HOSPITAL IN SOUTH INDIA.

J. Peter¹, A. Anil²

¹University of Technology, Jamaica Jamaica ²Wockhardt Hospital India

Adverse drug reactions (ADRs) are regarded as an important public health problem as they may be potentially life-threatening. The main goal of the study is to analyze the occurrence of ADRs with the help of a close monitoring system which can reveal unusual drug reaction peculiar to Indian population and to evaluate their effect on the length of hospital stay. A prospective observational study was done to detect ADRs on all the inpatients of the Department of general medicine over a 6 month period. All the details of patients and drugs prescribed were recorded in a standard data entry format and monitored for ADRs and drug interactions using an ADR monitoring card. ADRs were classified as 'prevalent' if it was presented during admission and 'incident' if occurred during hospitalization. Over all, 301 patients were scrutinized. A total of 74 ADRs occurred in 59 (19.58%) patients of which 33 prevalent ADRs in 24 patients (7.96%) and 41 incident ADRs in 35 patients (11.62%) were seen. Mean length of stay for patients with incident ADRs were 9.2 days while for patients with prevalent ADRs were 7.8 days and as for patients without ADR is only 5.8 days. The average cost of hospitalization was increased by 300 INR. Analysis of the drugs prescribed to the study population revealed that there were 180 prescriptions (59.76%) containing drug combinations with possible drug interactions. The CHI square test value was found to be 0.12 and 1.27 for sex and age distribution of the patients respectively, which is insignificant at 5% probability. ADRs are often considered part of the price to be paid for the therapeutic benefit of medicines. The rise in ADRs despite preventability estimates suggests that we are currently paying too high a price. The studies on the prescribing pattern and prevalence of adverse drug reactions cannot only give an insight for the physician, but also helpful in identifying patients at risk of developing severe reactions, and implementing early preventive measures.

Hospital Pharmacy Section - Poster Session

HPS-P-013

DOLASETRON AND TRANSDERMAL SCOPOLAMINE VS. DOLASETRON FOR PREVENTION OF POSTOPERATIVE NAUSEA AND VOMITING IN OUTPATIENTS UNDERGOING LAPAROSCOPIC SURGERY: A RANDOMIZED, DOUBLE-BLIND COMPARISON

T.A. Meyer¹, C.R. Roberson¹, R. McAllister¹, R. McKinney², M.H. Rajab¹, S. Carl²

¹Scott and White Health System United States of America ²Trinity Mother Francis Hospital United States of America

Introduction: Transdermal scopolamine is reported to be effective in the prevention of postoperative nausea and vomiting (PONV) and may offer an advantage for ambulatory surgical patients with its long duration of action and antinotion sickness properties. Combining this agent with a 5HT-3 receptor antagonist may provide improved outcomes. The purpose of the study was to compare the effectiveness of transdermal scopolamine 1.5mg patch with dolasetron 12.5mg IV vs. dolasetron 12.5mg IV alone for prophylaxis for PONV.

Methods: 135 outpatients undergoing elective laparoscopic surgery with general anesthesia were randomly assigned to one of two groups. Group 1 received transdermal scopolamine patch behind the ear 2 hours prior to surgery and dolasetron 12.5 mg IV 15 minutes before the end of anesthesia. Group 2 received a placebo patch placed behind the ear approximately 2 hours prior to surgery and dolasetron 12.5mg IV 15 minutes before the end of anesthesia. A visual analog scale was used with a range of 0=no nausea to 10=worst possible nausea. Episodes of nausea and vomiting, nausea scores, time to first episode of emesis, time in PACU, total recovery time and the need for rescue antiemetics were recorded. The incidences of nausea and vomiting and nausea scores were followed during the recovery period and 24 hrs. after surgery.

Results: There were no significant differences in the baseline characteristics or differences in side effects. The incidence of nausea and vomiting prior to discharge were similar in both groups. Vomiting in the 4-24hour post discharge period showed a trend for a decrease in the Group 1 (p=0.07), although not significant. Patients satisfaction scores were similar (very satisfied=Group1- 52%, Group 2- 56%).

Conclusion: The combination of transdermal scopolamine with dolasetron did not decrease the incidence of PONV prior to discharge as compared with dolasetron alone. However, although not significant, the combination may have an advantage

HPS-P-015

TESTING ALTERATIONS IN THE STRUCTURE OF WOLFF BASIS CREME

M. Toskic-Radojicic

Military Medical Academy Serbia and Montenegro

Wolff Basis Creme is a non-ionogenic amphiphil basis convenient for preparation of medical ointments with both lipophil and hydrophil active principles. Applied on skin, it leaves a thin compact elastic film.

Aim of this study is to test the alterations of the basis structure, resulting from its application to skin.

Methods: We observed, by polarisation microscopy, the structure of the basis applied in a thin layer on: (a) glass slide, (b) skin: immediately after application, as well as 6, 10 and 20 minutes post-application. Skin samples were taken by Scotch tape and stuck to glass slides.

Results: (a) glass slide samples: initially showed hexagonal alignment ('fans'), and very scarce particles with multilayer packing of the complex emulsifier ('maltese crosses'). Six minutes later a decreased number of hexagonal formations was detected along with development of lamellar bands. After 10 minutes the number of arranged bands increases and hexagonal structures are very scarce. After 20 minutes only broad lamellar bands are detected. (b) skin samples: there are no essential differences except in the velocity of formation, and the density of the lamellar layers (10- minutes' sample is similar to the glass slide sample after 6 minutes), which can be explained by slower loss of water (due to existing skin water) and blending skin lipids with those from the basis.

Conclusion: After applying the Wolff Basis Creme on skin, due to water evaporation, the structural array is transformed from hexagonal to linear lamellar, which resembles the array of lipids in the extracellular space of the stratum corneum. Such array allows for the skin-protecting features of the film formed.

HPS-P-014

AN EVALUATION ON THE RELATIVE EFFICACY AND SAFETY OF ONCE DAILY DOSING VERSUS MULTIPLE DAILY DOSING OF AMINOGLYCOSIDE ANTIBIOTICS IN A MULTI-SPECIALITY TEACHING HOSPITAL IN SOUTH INDIA

J. Peter¹, S.S. Shiram²

¹University of Technology, Jamaica ²Sri Ramakrishna Institute of Paramedical India

After 50 years of clinical experience with Aminoglycoside agents, there is continuing debate over the most appropriate administration regimen for these drugs. In recent years, Once Daily dosing of Aminoglycoside has been used increasingly, in hope of both improving efficacy and reducing toxicity. A randomized comparative trial was carried out in a 350 bedded Multi-specialty Hospital to compare the safety and efficacy of Once daily dosing (ODA) versus multiple daily dosing (MDA) of aminoglycosides. The patients were randomized to receive the aminoglycosides once daily or twice daily with similar total daily dose. The statistical analysis was done using Chi square analysis and test of proportions (p-test). Nephrotoxicity was defined as a 50% or greater fall in calculated creatinine clearance. For efficacy analysis only those patients were considered in whom treatment with aminoglycosides was not stopped within 72 hours. During the study period 172 patients received aminoglycoside therapy, out of which 49 evaluable patients were considered for renal assessment. The incidence of nephrotoxicity was 4% with ODA and 23% with MDA (p < 0.05). 74% patients showed improved or stable renal function in ODA compared to only 36% with MDA. Decreased renal function was seen in 26% with ODA and 64% with MDA. The Chi square analysis shows significance at 1% level. Eventhough the study could not prove the incidence of ototoxicity; it doesn't show a greater risk of ototoxicity. Further study should be conducted in this matter. On the basis of prospective evaluation and follow-up via Clinician's report, it was noted that no apparent alterations in clinical response was seen with the ODA program. Once Daily Aminoglycoside administration is as effective as multiple daily dosing, has a lower risk of nephrotoxicity and no greater risk of ototoxicity. Also the convenience of administration and reduced cost makes once daily dosing method a preferred mode of administration.

HPS-P-016

ASTHMA MANAGEMENT BY PHARMACISTS

C.C.H. Chiang, C.H.C. Chiang, C.F.L. Lin, M.L.H. Hsu, S.J.K. Kao, C.Y.W. Wang

Shin Kong Wu Ho-Su Memorial Hospital China Taiwan

Aims:

GINA (Global Initiative for Asthma) guideline indicated appropriate asthma care could help patients prevent most attacks, stay free of troublesome night and day symptoms, keep physically active, and improve quality of life. Pharmacist should educate patients about asthma knowledge, using a portable spirometer to monitor asthma severity, and managing asthma attack. Thus, quality of life and self-management ability of patient with asthma would be improved through 'pharmacist managed asthma education program'. This randomized control study was conducted to evaluate the value of this 'pharmacist managed asthma education program'.

Methods:

Patients aged 18 to 73 years old with persistent asthma were included. The asthma knowledge was developed based on the GINA guideline. Patient's quality of life and asthma knowledge were assessed before and after 'pharmacist managed asthma education program' by questionnaire developed from GINA guideline. Spirometer was used to measure the patient's lung function at each visit with physician.

Results:

We found differences between pharmacist managed and control group (before 3.18±1.27, after 5.43±0.89 vs. before 2.00±1.30, after 2.62±0.91, p<0.05) regarding to asthma knowledge. There are also differences between pharmacists managed and control group (14.88±6.17 vs. 9.01±6.44, p<0.05) regarding to peak expiratory flow (PEL).

Conclusion:

Based on the primary result, patients with persistent asthma who underwent 'pharmacist managed asthma education program' have better asthma knowledge and peak expiratory flow value.

HPS-P-017

SJAPPE.CYT – A FILE NAMING SYSTEM FOR CYTOTOXIC PREPARATIONS

S. Lyftingsmo
Hospital Pharmacy of Elverum Norway

Fluorouracil 1750mg in a plastic container (P) 100ml (C) dissolved in saline (S)

FLUO1750.PCS

Carboplatine 620mg in a perfusion bag (P) 1000ml (M) dissolved in glucose 50mg/ml (G)

CARB620.PMG

Every day numerous unnecessary calculations are made for cytotoxic preparations. The quality is not satisfactory when calculations have to be repeated for every single preparation, instead of being done and rechecked once and for all for relevant doses.

SJAPPE.CYT is a simple file naming system, making it possible to organise detailed production documents for all relevant varieties of cytotoxic preparations.

SJAPPE.CYT consists of a template for file names, table for rounding off doses, tables for active ingredient, container, volume, and solvent, and templates for production documents and labels.

More information about SJAPPE.CYT can be found at www.lyftingsmo.no

HPS-P-018

INSTITUTION D.I.C. A MUST FOR PHARMACOVIGILANCE AND RATIONAL DRUG USE

C.M. Ibekwe, M.O. Obono
National Orthopaedic Hosp Igbobi Lagos Nigeria

Establishing an institutional Drug Information Centre (DIC) is necessary in promoting pharmacovigilance and rational drug use.

The D.I.C. in our institution was set up in 2002 with approval but no funding from the hospital management. Pharmacy disseminated information to the hospital community as the need came up. They also published a biannual newsletter despite the constraints.

A post-implementation evaluation was undertaken three years later to assess the impact of the Drug Information Centre in the hospital. 98% of the respondents (doctors, pharmacists and nurses) agreed that the DIC was relevant in their practice. 79% believed they could get information, 68% felt they could make complaints on medication for themselves or their patients and 94% agreed that hospitals should have drug information centres

The areas of major clinical impacts were:

(a) Rational drug use:- providing information on drug availability, dosage, safety, contra-indications, therapeutic indications and choice of drug.

(b) Adverse drug reaction reporting:- This recorded a steady increase from 6 reports in 2001, 23 in 2004 to 42 reports in 2005 an increase of 86%.

The major challenges faced by the DIC are poor funding, poor information systems, inadequate computer and internet facilities, lack of reference materials and inadequate manpower.

This study has shown the importance of having a drug information centre, a useful tool in the process of disseminating and evaluating clinical information that will contribute to improved patient care.

HPS-P-019

PATTERN OF ADVERSE DRUG IN THE NATIONAL ORTHOPAEDIC HOSPITAL, IGBOBI, LAGOS

C.M. Ibekwe
National Orthopaedic Hosp Igbobi Lagos Nigeria

Adverse drug reactions (ADRs) have always been of importance to the healthcare professional as a possibility of any drug medication.

A review of suspected adverse drug reactions in the National Orthopaedic Hospital Igbobi, Lagos was undertaken from 2001-2005. 26.4% of the reported adverse drug reactions were due to NSAIDs, 25.3% were due to anti-tuberculosis drugs while 22% were due to antibiotics.

Potentially serious ADRs were reported, like psychosis and gynecomastia due to Isoniazid, tightening in the chest and a feeling of suffocation due to Celecoxib and Naproxen, possible convulsion due to the combination use of Nimesulide and Pefloxacin.

An interesting trend showed that 70% of the reports were documented in the year 2004-2005. This reflects the importance of creating awareness by the Drug Information Unit of the hospital.

A follow up work is being undertaken to evaluate the overall impact of establishing a drug information unit in the Hospital.

HPS-P-020

CAN YOU CALCULATE RIGHT DOSE? COMPARISON OF LABELING TYPE ON INJECTABLE DRUGS' STRENGTHS FOR PREVENTING CALCULATION ERRORS

H. Furukawa¹, F. Tsuchiya², H. Zenda³

¹Kanazawa University Hospital Japan ²Tokyo Medical Dental Univ. Hospital Japan ³Japanese Society of Hospital Pharmacists Japan

Objective: The labeling method of injectable drugs' strengths for preventing calculation errors is evaluated by comparing the correct answer rates to three labeling types (X% YmL, Xmg/mL YmL, Xmg/YmL).

Method: Three labeling types are showed to 44 physicians, 506 nurses and 206 pharmacists by using Microsoft-Power Point for 30 seconds, calculation of the dosage is tried by each health care providers within projecting time (30 sec).

Results: The correction rates to 'X% YmL' are 25.0% (physicians), 2.6% (nurses) and 35.4% (pharmacists). The correction rates to 'Xmg/mL YmL' are 79.5% (physicians), 36.6% (nurses) and 72.6% (pharmacists). And the correction rates to 'Xmg/YmL' are 88.6% (physicians), 51.2% (nurses) and 85.2% (pharmacists).

In all objective health care providers, the lowest rate and the highest rate were seen by the labeling type of 'X% YmL' and 'Xmg/YmL', respectively. And same results were seen in 85 medical students, 162 nursing students and 211 pharmacy students. These results indicate the most effective labeling type to prevent calculation errors is 'Xmg/YmL', significantly.

Conclusion: The most effective labeling type of injectable drugs' strengths for preventing calculation error is 'Xmg/YmL' in this research. This result was accepted and Ministry of Health, Labor and Welfare sent notice to pharmaceutical companies on June 2004 based it.

Hospital Pharmacy Section - Poster Session

HPS-P-021

CURRENT STATUS OF DISPENSING REFILL PRESCRIPTIONS IN COMMUNITY PHARMACY FOR CHRONIC DISEASES IN SOUTHERN TAIWAN

P.Y. Liu Yeh¹, H.J. Chang¹, S.H. Tai¹, C.T. Yu¹, J.C. Tsai²

¹National Cheng Kung University Hospital China Taiwan ²Institute of Clinical Pharmacy, NCKU China Taiwan

Background

Taiwan has become an aged country for years according to the definition of WHO. The trend continued increasing, and the elder population in Taiwan had approached 9.5% by the end of 2004. In order to reduce the associated medical economic pressure, the Department of Health and the Bureau of National Health Insurance had implemented policies to encourage the health institutes to prescribe refill prescriptions for chronic diseases. The patients can then refill the prescriptions in the hospitals or in any of the National Health Insurance community pharmacies for their own conveniences.

Method

The study analyzed the current status of dispensing refill prescriptions from hospitals for chronic diseases in southern Taiwan. All figures came from South District of the Bureau of National Health Insurance claim data of the year 2004.

Result

Data analyses demonstrated that there was a total of 895,522 refill prescriptions for chronic diseases from 16 hospitals, of which 246,743 were dispensed in community pharmacies. The release rate averaged 27.6% with a range of 0.8% to 51.8%. Among the released prescriptions, 34.5% were from a single public teaching medical center, with release rate of 42.8% (85,141/199,146). The distribution of the prescription refill in community pharmacies varied widely among hospitals. The 85,141 released prescriptions from the above-mentioned medical center evenly distributed among 279 pharmacies with an average of 0.4% (0-3.8%) dispensed in each community pharmacy. The results indicated that Government's strategy had a great success in Southern Taiwan.

HPS-P-023

LOW-DOSE GLUCOCORTICOID THERAPY DECREASES RISK FOR TREATMENT-LIMITING INFUSION REACTIONS TO INFLIXIMAB.

J. Augustsson¹, S.E. Ernestam², S.E. Eksborg², R. Van Vollenhoven²
¹Apoteket AB Sweden ²Karolinska Institute Sweden

Background:

Infusion reactions are a well-described complication of infliximab (Remicade) therapy and represent the cause of appr. 15% of the discontinuations of this treatment. The aim of this study was to investigate the role of glucocorticoids and possible predictors of infusion reactions, thus improving the patient safety.

Methods:

Forty-three patients with immediate-type infusion reactions, defined as an allergic reaction, that resulted in discontinuation of infliximab treatment, and 639 controls were identified in the STURE (Stockholm TNF-alpha follow-up) registry. Comparisons of baseline variables were made. The cases were also compared to a nested control group matched for gender, diagnosis and age.

Results:

Cases vs cohort:

Glucocorticoid treatment at baseline: 50% of all patients. 4.6% had an infusion reaction compared to 8.6% of patients without glucocorticoid treatment ($p = 0.04$).

HAQ-scores: cases 1.71 ± 0.11 vs cohort 1.40 ± 0.03 ($p = 0.01$).

Cases vs controls:

Glucocorticoid treatment at baseline: cases 35% (15/43) were on low-dose glucocorticoids compared to 65% (28/43) of the controls ($p = 0.007$).

Number of failed DMARDs: cases 3.65 ± 0.32 vs controls 2.61 ± 0.24 . ($p = 0.0115$)

The proportion of infusions associated with infusion reactions decreased significantly from 1999 to 2004, for example, in the year 2000, 5.92% (9/152) of the patients on infliximab had a treatment-limiting infusion reaction compared to 1.14% (5/438) in 2003 ($p = 0.0009$).

Conclusion: The use of daily low-dose glucocorticoids was associated with a >50% reduction in the risk of treatment-limiting infusion reactions to infliximab. This may be particularly relevant when treating patients with higher HAQ-scores, greater number of prior DMARDs, and higher disease activity, all of which may contribute to a greater risk for such reactions. Overall, infusion reactions have become significantly less common during the past 5 years.

HPS-P-022

REVIEW OF HOME PARENTERAL NUTRITION SERVICES - A 20-YEAR EXPERIENCE

L.J. Lin¹, Y.H. Chen², D.Y. Hsieh¹, M.T. Lin³, H.S. Lai³, J.M. Lien⁴, F.Y. Lin³, W.J. Chen³

¹National Taiwan University Hospital China Taiwan ²Postgrad School of Clini Pharm China Taiwan ³Dept. of Surgery, National Taiwan Univ. China Taiwan ⁴Taipei Pharmacists' Association China Taiwan

Aims:

Since Feb. 1986 we have provided parenteral nutrition (PN) and pharmaceutical care for 118 HPN patients (adults 63, children 55). We retrospectively analyzed, evaluated, and documented the data during 20 years to help advancing further HPN guidelines, the quality and safety of PN support.

Methods:

Chart review and Excel processing, we focused on patients' age, sex, IBW, major diagnosis, operation, indication, catheter, enteral (EN) or oral nutrition, catheter related blood stream infection and microorganism, length for HPN, formulation evaluation, complications, then discussed the rationality for HPN formulations and implementation.

Results:

Period A (1986-1988) we provided HPN for 2 adults and 5 children. Except 1 child with malignancy, the major diagnosis was GI disease. Two adults died from old age and underlying diseases. Very young children with long term HPN were lost following. There were 6 adults and 19 children in Period B (1989-1997), 55 adults and 31 children in Period C (1998-2005). In Period B and C inevitably high percentage of HPN patients elevated their SGOT (67%), ALP (40%), SGPT (87%) and suffered from complications, catheter infection (40%), or cholestasis (20%). However under the NST care. They were provided PN following the RDA and kept serum BG, BUN, Na+, K+, Ca+2 within normal limit. 87% HPN cases kept normal serum CL-, P+S, Mg+2. Most patients (73%) with normal serum albumin and TG. **Conclusions:**

Now 6 adults and 10 children kept on HPN, 17 adults and 26 children shifted to EN, only 1 child was taking food orally. Unfortunately the overall survival rate is low (56.8%). More efforts of team work for further HPN care will be made.

HPS-P-024

INFUSION PHLEBITIS: PREVENTION THROUGH SIMPLE INTERVENTIONS

N. Khalidi, F. Btaiche

University of Michigan United States of America

Medical and nursing personnel have traditionally focused on preventing and treating Infusion Phlebitis. Improvements in peripheral and central catheter insertion technique and care, and the introduction of safer vascular devices have contributed to a reduction in phlebitis but not its elimination. Chemical Phlebitis persists as a leading outcome of infusion therapy despite pharmacy's intervention through buffering or diluting solutions, recommending alternate rate of administration, or in adding medications per physicians' order to mask or attenuate infusion phlebitis and its outcomes of pain and inflammation.

Aims: To support the hypothesis that selecting peripheral midline catheters, through which a vein irritant drug of choice can be administered, is economical, and would lessen the rate of infusion phlebitis and its outcomes.

Methods: A retrospective review of 201 patient therapies with any of six drugs causing phlebitis administered via short peripheral catheters was performed (17-38 each of, acyclovir, erythromycin, gentamicin, nafcillin, peripheral parenteral nutrition, and vancomycin). Catheter longevity, phlebitis grade, pain, infiltration and extravasation were assessed. Statistical design was based on ability to identify 30% difference in early catheter removal, 5% significance level (95% CI), and a power of 80%.

Same parameters were measured and analyzed prospectively in 74 patients therapies infused through midline catheters instead.

Results:

	Retrospective	Prospective
Phlebitis rate	25.8%	2.8%
Ave.cath.dwell time	2.6 C. days	10.6 C. days
Infiltration	1.5%	2.8%
Extravasation	2%	0%
Pain	15%	1.4%

Poster has more statistical and cost analysis data.

Conclusion: Pharmacists should expand their roles from recommending and dosing medications to also recommending appropriate peripheral vascular devices that will reduce or eliminate infusion related adverse events based on their knowledge of the chemical profile of the drug of choice.

HPS-P-025

TESTING INFLUENCE OF PROPYLENEGLYCOL ON THE RATE OF METRONIDAZOL RELEASE FROM VARIOUS BASES

M. Toskic-Radojicic¹, G. Andreev¹, Z. Nonkovic²

¹Military Medical Academy Serbia and Montenegro ²Institute for Microbiology, Military Me Serbia and Montenegro

Aim of this paper was to test the influence of various bases (a) without penetrant (b) containing penetrant (propyleneglycol) on metronidazol release rate (MRR) from preparations.

Methods: Samples were made containing 1% M in bases (1) Excip. ung. antibiot., (2) Excip. emulsificans aqu. (1 and 2 as prescribed by Ph. Yug. IV), (3) Galsana® - Galenika s.a., (4) Wolff® basis creme - Dr. Wolff Arzneimittel, with and without 5% propyleneglycol. Preparation structure was observed with Leica DMR polarization microscope. MRR was determined by membrane-free diffusion method on blood agar medium with haemin and vitamin K (slide width 8 mm), by measuring the clear growth inhibition zone of the previously inoculated *Fusobacterium* spp. strain, under the influence of 250 mg of preparation applied into a central circular well (radius, 4 mm), after 48 hours of incubation in anaerobic conditions at 36°C.

Results: All media express various forms of lipotropic and thermotropic liquid-crystal array. Adding propyleneglycol does not essentially interfere with structural array, but increases MRR. Best results, with and without a penetrant, are seen with ambiphyl base (4) (70/74 mm), and worst are seen with hydrocarbon base (1) (40/47 mm); however this base had the strongest expressed penetrant effect - 17.5% improvement. In ambiphyl bases (2) (66/68 mm) and (3) (68/70 mm) MRR increase with addition of penetrant is approximately 3%.

Conclusion: If M preparations are manufactured in hydrocarbon bases, it is necessary to add propyleneglycol. If preparations are manufactured in ambiphyl bases, the influence of penetrant is less expressed.

HPS-P-027

RESULTS OF AN ADVERSE DRUG EVENTS MONITORING PROGRAM CONDUCTED BY PHARMACISTS IN A BRAZILIAN TEACHING HOSPITAL

A.B. Sousa, A.M. Yamaguchi, C.P. Rodrigues, C.A. Takagi, E. Ribeiro, E.R. Sugawara, G.G. Franca, M.C. Sakai, M.F. Lima, M.C. Ricci, P.S.K. Takahashi, S.C. Brassica
Universidade de São Paulo Brazil

INTRODUCTION/OBJECTIVE

The University Hospital of University of São Paulo (HU/USP) is one of the monitoring centers of The National Pharmacovigilance System developed by the Brazilian drug regulatory agency (Anvisa). The main purpose of this study was to demonstrate our institutional experience in reporting adverse drug reactions (ADRs) from January to December 2005.

METHODOLOGY---The adverse drug reactions were detected by clinical pharmacists through drug therapy follow-up, prescription signals (i.e. prescription of anti-histaminic medication, antidotes, dermatological allergy, symptoms, laboratory abnormalities) or reports by the health care team or by the risk manager of our institution. Each suspected ADR was evaluated by The Pharmacy Service of HU/USP and then reported to Anvisa, electronically.

RESULTS-----Pharmacists investigators identified 79 ADRs among 268,064 patients (0.03%), of whom 1 (one) died as a result of the reaction. The ages of the patients ranged from 0 to 89 years old and the male/female ratio was 0.975. Most of the ADRs reported were classified as possibly or probably associated with the medication. The therapeutic drug classes more frequently involved were: antibiotics (41.3%) followed by anticoagulants (12%). The drug most implicated in the reported was diclofenac (6.5%). The system organs most often reported were: skin and subcutaneous tissue (44.6%) followed by central nervous system (13%), gastrointestinal (10.9%), hematological and lymphatic system (6.5%).

DISCUSSION/CONCLUSION

Through this study, the data illustrate the strong mobilization of pharmacists in a multi-professional health care program intended to identify ADRs. In this way, our pharmacy service has improved in quality and implemented methodological tools to identify them. This first description of the ADR data collected from the HU/USP pharmacovigilance shows a similarity with the literature. It is therefore important to get a detailed medical history, and to establish a temporal relationship between start of a therapy and appearance of the symptom.

HPS-P-026

CARDIOVASCULAR AND GASTROINTESTINAL SAFETY EVALUATION FOR LONG-TERM ORAL CELECOXIB ADMINISTRATION AT A TEACHING HOSPITAL IN TAIWAN

G. Wang¹, S.C. Chien¹, J. Chen²

¹Taipei Medical University Hospital Taiwan China Taiwan

Aims: To evaluate the cardiovascular (CV) and gastrointestinal (GI) safety for long-term oral celecoxib administration at a teaching hospital in Taiwan.

Method: This is an observational, retrospective study. Patients were continuously prescribed celecoxib between Sep. 1, 2005 and Nov. 31, 2005, as well as had more than 90 days' supply of celecoxib were eligible. Medical charts were reviewed to evaluate CV & GI safety. All data were analyzed by the descriptive statistics.

Results: The average age of 138 patients enrolled was 64 ± 17.1 (mean ± SD). One hundred and four patients are female and 34 patients are male. They took celecoxib mainly for treatment of rheumatoid arthritis (33.3%, n=46), osteoarthritis (28.3%, n=39) and other bone disease (28.3%, n=39). Rheumatologists prescribed long-term celecoxib more frequently than other specialists. No long-term prescription of celecoxib was found by cardiologists. Most patients (79.0%, n=109) used 200 mg daily, the minimum usual dosage for their diseases. The mean treatment duration of all patients was 17 ± 12.7 months, and 44 (31.9%) patients used rofecoxib before its withdrawal from the market. There were 43 (31.2%) patients with GI problems before prescribing celecoxib. After using celecoxib, 7 (5.0%) patients recurred, 11 (8.0%) patients had new development of GI problems. More than half of the patients (56%) had at least one risk factor of CV disease. The most common CV risk factor is hypertension (47.3%). In addition, two patients experienced vascular events, one had stroke and the other had one episode of stroke and one episode of AMI during treatment of celecoxib.

Conclusion: In this analysis, many patients prescribed long-term celecoxib have risks to develop CV disease or GI events. Clinicians should be aware of the risk of celecoxib treatment in patients with CV & GI risk factors, and are encouraged to use the lowest effective dose for the shortest duration to reach individual treatment goals.

HPS-P-028

PARTIAL HEPATECTOMY ENHANCES POLYETHYLENIMINE-MEDIATED PLASMID DNA DELIVERY

H. Sasaki

Nagasaki University Hospital Japan

Polyethylenimine (PEI) has been widely used for non-viral transfection in vitro and in vivo. The hepatectomy is one interesting and considerable factor modifying the PEI-mediated gene expression. We investigated the gene expression in the mice with time following partial hepatectomy after intravenous injection of PEI/Plasmid DNA (pDNA) complex. pDNA encoding firefly luciferase was used as the model reporter gene. The hepatectomized liver was rapidly regenerated until 72 h. After 168 h, the weight of liver of hepatectomized mice turned to be insignificant from that of control mice. The slight injury of liver function was only observed at 1-24 h after hepatectomy as AST and ALT levels. The luciferase activity in the liver of partial hepatectomized mice at 48 h after partial hepatectomy increased by 75 times compared with that of control mice. There was, however, not significant difference between luciferase activities in the spleen, lung, heart, and kidney of hepatectomized mice and control mice. Among the lobes, the luciferase activity showed by gram of tissue was not significantly different, indicating that gene expression enhancement by partial hepatectomy was equally occurred in all liver. In conclusion, our findings demonstrate that the liver resection is a influencing factor on PEI-mediated gene delivery in mice. These results indicate the necessity of considering the cell division to PEI-mediated pDNA delivery.

Hospital Pharmacy Section - Poster Session

HPS-P-029

RESEARCH ON TRACEABILITY OF DRUGS IN HOSPITALS

T. Orii¹, O. Chikayuki¹, F. Tsuchiya²

¹NTT Kanto Medical Center Japan ²Dep. of Pharm, Tokyo Med. & Dental Univ. Japan

Objectives: Even though drugs are lot-controlled and expiration date-controlled from the manufacturer/wholesaler to their delivery to medical institutions, systematic control is inadequate after delivery and unpacking at medical institutions, where the task is entrusted to human control by pharmacists and other medical professionals. Appropriate expiration date-control and lot-unit management of administration to patients is therefore difficult. The objective of this research is to investigate the use of electronic tags in the hospital setting for efficient and reliable lifecycle management for drugs, from delivery to preparation/mixing of injectable drugs, dispensing, and finally to their disposal in the pharmacy department.

Methods: Prior to designing an electronic tag-based lifecycle management system for drugs from delivery to preparation/mixing of injectable drugs, dispensing, and then to disposal, task analysis in the hospital setting is to be performed, and the functional requirements of the lifecycle management system elucidated. Next, via source-marking on drugs with electronic tags (RFID), the various technical issues will be investigated and ultimately the traceability of drugs can be achieved.

Results and Discussion: For this research, the array of tasks performed in the hospital setting was analyzed. To elucidate the functional requirements of the lifecycle management system for drugs, we investigated (1) the flow of work from delivery to use in patients, (2) the actual use of regimens for anticancer drugs, (3) the practice of mixing/preparing injectable drugs, and (4) disposal practices for injectable drugs. Building on the results of these investigations and with the goal of ensuring medical safety, the various technical issues will be investigated, and ultimately the traceability of drugs can be achieved via the use of barcodes, electronic tags, or other form of 'ubiquitous network' technology.

HPS-P-031

THE ROLE OF THE HOSPITAL PHARMACY DEPARTMENT IN A PROCESS ENSURING SAFE CYTOTOXIC DRUG RECONSTITUTION

M. Antunovic, V.P. Putic, D.M. Mirkovic, A.D. Aleksic
Military Medical Academy Serbia and Montenegro

Cytotoxic drugs have been found to be carcinogenic and mutagenic. In the hospitals in our country, these drugs for parenteral use are prepared by nurses. Sometimes they reconstitute drugs near the patient bed, but some bigger hospital has cabinets on the ward.

Very important reasons led to decision to change the cytotoxic drug manipulation system from a decentralized on the ward to a centralized system in the hospital Pharmacy department. Advantages for the pharmacy are: reduction of number non-pharmaceutical staff handling, reduction of the stocking drugs on the ward, better planning production / better cost effective/, developing some procedures on preparation, administration and organizing data about drugs stability. There are also many advantages for the nurses because for development different regulations and guidelines were considered in order to follow them as well as protect the medical, pharmaceutical staff and the environment.

It's necessary; to make retrospective analyses of the number preparing chemotherapy on the different unit in the hospital, daily; to defined objectives between the management, architects and the pharmacist with the qualified specifications about technical need, evaluate equipment, economical and organizing optimum; Pharmacy department have been evaluated the methods of the safe working, personal competency in procedure preparing cytotoxic drugs, continuously education and trainings staff, quality assurance of preparations and documentation about all procedures, validation system, monitoring a system of health surveillance for staff who are directly involved in handling.

The involvement the hospital pharmacy department in the centralized system of cytotoxic reconstitution makes remarkable contribution of the decreasing number of persons which handling with hazardous substances, decreasing risk for themselves, nurses and patients.

HPS-P-030

THE EXPERIENCE OF A BRAZILIAN GROUP OF HOSPITAL PHARMACISTS (GAFO) IN AUDITING PRODUCT SOURCING FOR PATIENT SAFETY

A. Gurgel¹, M.C. Sakai², R.A.R. Migotto³, T.C. Bortoletto¹, M.H.A. Barbere⁴, M. Alcantara⁵, A. Cordeiro⁶

¹Hospital Alemão Oswaldo Cruz Brazil ²Hospital Universitário - USP Brazil

³Hospital São Camilo Brazil ⁴Hospital Israelita Albert Einstein Brazil

⁵Hospital Beneficencia Portuguesa ⁶Hospital 9 de Julho

The aims of this study is to present the results of audits conducted by an independent group of hospital pharmacists, with manufacturers of pharmaceutical and related sources, in the period of 2004-2005. The role of these professionals in ensuring that patients receive products of the highest quality and safety at the lowest cost is emphasized.

Prior to audits, suppliers were considered eligible provided they had competitive prices and met regulatory requirements. The audits were carried out by a group of at least four pharmacists of different hospitals. During the visit a checklist developed by GAFO and based on Brazilian regulatory legislation was applied. Score criteria were established according to degree of compliance with the checklist items, and a final result was obtained from the weighted mean of the item scores. After the first visit suppliers continued to be audited regularly.

23 and 57 manufacturers were audited respectively in 2004 and 2005. From the audits in 2004 (N=23), 83 % of the suppliers were approved and 17% needed corrective measures; In 2005 (N=57), 71% of the suppliers were considered qualified, 22% needed corrective measures and 7% failed.

In 2005 visits concerning related products were expanded, thus the number of manufacturers below qualification or needing corrective measures increased. This is due to the more recent legislation related to this kind of products. The positive features of this activity are the establishment of a partnership between manufacturers and hospital pharmacies to assure the reliability of supplied products and integrity of the supply chain, the increase in the number of official group visits which strengthen the partnership of hospital pharmacists, and the improvement of bargaining power of the hospitals.

HPS-P-032

PREPARATION AND TESTING OF PRESERVATION SOLUTION FOR MULTIORGAN TRANSPLANTATION IN HOSPITAL PHARMACY

M. Antunovic¹, A.D. Aleksic¹, S. Cosic², D.M. Mirkovic¹, V.P. Putic¹

¹Military Medical Academy Serbia and Montenegro ²Ministry of Defence Serbia and Montenegro

Organ transplantation seems to be the mainstay of treatment for end-stage liver, kidney, pancreas, pulmonary diseases and heart failure. The main causes of graft failure is functional alteration of the graft. Organ preservation is an essential prerequisite for better survival rates in organ transplantation and central point in transplantation. Cold storage that involves flushing the organ with the preservative solution and storage at 0 to 4 °C, is preferred method of organ preservation.

Many methods and preservation solutions have been developed to find appropriate one, for preserving donor organs for transplantation. Because of impossibility to buy preservation solution on domestic market, we developed production, sterilization and storage in hospital pharmacy.

Beside Eurocollins solution for kidney transplantation, we prepare and examine quality of histidine-tryptophan-ketoglutarat (HTK) solution. In order to produce testing solutions amino acids were dissolved in water for injection. The rest of other components (NaCl, KCl, CaCl₂, MgCl₂ and mannitol) were made as concentrated solutions which were sterilized by autoclaving. Under aseptic conditions, obtain HTK solution was sterilized by bacteriological membrane filtration (0, 22 µm), transfer to sterile plastic 3 l bags and store on 4 °C.

Quality testing were enclosed identification and determination of all components and pH of testing solutions. The content of amino acids includes HPLC determination (obtain 99%). pH- value was determined by potentiometer method (stay in preferably range: 7, 02-7, 2). Biological determinations (sterility control and testing on pyrogens) made according to PH.JUG. V request were negative.

According to obtain results of physico-chemical and biological testing we conclude that with applied technological procedure, we can produce HTK preservation solution of required quality, in the hospital pharmacy.

HPS-P-033

SPLITTING TABLETS FOR USE IN PEDIATRIC PATIENTS - SUFFICIENT DOSING ACCURACY?

Å. Andersson¹, S. Eksborg²

¹Karolinska Pharmacy, Apoteket AB Sweden ²Dep of Women and Child Health, KI Sweden

Background and Objective: Split tablets are often used in the clinical practice. In the United States splitting tablets are sometimes used for economical reasons, since different strengths of the same medicine cost the same. Most oral drugs are not available as oral solutions or tablets in various strengths suitable for use in children. Hence, there is a need to split tablets for use in pediatric medicine.

Design: Splitting of the following tablets was studied: Alvedon (paracetamol), Hydrocortone (hydrocortisone), Catapresan (clonidine), Tavegyl (clemastine) and Prednisolon (prednisolon). All the tablets selected had a score and one of them (Hydrocortone) even had a crossed score. Four of the tablets were halved both manually and by the use of a tablet splitter. The tablet splitter used was made by LGS Corp.

Setting: The study was conducted at the Karolinska pharmacy, Stockholm, Sweden.

Main Outcome Measures: The tablets were weighed before splitting. After splitting the resulting halves and quarters were weighed and the difference between the added halves/quarters and the whole tablet was calculated to give the loss.

Results: Our results show that splitting of tablets result in large variability of the doses administered. This could be of clinical importance, especially for children. The results indicate that the accuracy in weight of the split tablets does not fulfil the criteria set by pharmacopoeia requirements for intact tablets. It has to be noticed that we were not able to split Tavegyl tablets by hand.

Conclusions: Splitting of tablets should be avoided due to lack of dosing accuracy. Patient safety could be at risk when using split tablets to achieve a pediatric dose. Tablets containing antineoplastics or antibiotics must not be split due to risk for exposures of harmful compounds. Pharmacy prepared extemporaneous products should substitute the use of split tablets in pediatric practice.

HPS-P-035

PREVENTION OF MEDICATION PRESCRIBING ERRORS BY PHARMACISTS IN TAIWAN HOSPITAL

Y.D. Cheng, C.W. Chang, R.L. Jiang, Y.W. Hsieh, S.T. Deng
Chang Gung Memorial Hospital China Taiwan

Aims: The purpose of this study was to quantify the type and frequency of identifiable factors associated with medication prescribing errors in Taiwan hospital which implemented the computerized prescriber order entry system.

Methods: All medication prescribing errors detected and averted by staff pharmacists from June 1, 2003, through June 30, 2005, were systemically recorded and analyzed. Errors were evaluated by types of errors, medication classes, and prescribing services.

Results: A total of 1156 errors thought to have potentially clinical importance were detected during the 2-year study period. The overall rate of errors was 0.58 errors per 1000 medication orders, and the error rate varied among medication classes and prescribing services. Principal types of errors detected were physician key-in errors (43.9%), wrong dosage (29.0%), and duplicating therapies (15.4%). Moreover, Internal Medicine Services (37.4%) were found to have a higher error rate than other prescribing services, followed by Surgery (19.5%), Pediatrics (14.3%). The most common medication classes involved in errors were anti-infective agents (18.5%), cough/cold/allergy agents (11.7%), and gastrointestinal agents (10.5%).

Conclusions: The study results demonstrate the significant risk to patients from medication prescribing errors. Pharmacists play an important role in preventing medication errors. Both effective education and reporting system will allow for the identification of processes that introduce the potential for errors and will lead to an open discussion about improving the quality of patient care.

HPS-P-034

A SURVEY ON PREVALENCE OF BACTERIAL INFECTIONS AND THE TREATMENT PATTERN IN CHILDREN IN THE DISTRICT OF WARANGAL, ANDHRA PRADESH

M. Naidu

St.Peter's Institute India

Many children are affected mainly of bacterial infections such as Dysentery, Enteric fever, Septicemia, Pneumonia & Lower respiratory tract infections. A survey was conducted on the prevalence of bacterial infections and the treatment pattern in children in Warangal District, Andhra Pradesh. Mahatma Gandhi Memorial (MGM) hospital is a tertiary care hospital with about 500 in patient capacity comprising of all medical departments. A 15-month survey (August 2004-November 2005) was conducted at out patient department of MGM hospital.

A preformatted protocol was used to collect the data using case sheets of children suffering from bacterial infections. Sources of the data were medical records and prescriptions of the patients. The data of 862 pediatric patients was collected and analyzed statistically.

The main reasons for the poor health of the children were found to be malnutrition & poor sanitary conditions. From the study it was found that more than 39.67% of children are suffering from Dysentery. Other prevalent diseases among children were found to be lower respiratory tract infections (24.71%), Septicemia (20.42%), Pneumonia (7.19%), Enteric fever (5.1%) and tuberculosis with meningitis (2.9%). The antimicrobial drugs were usually prescribed by the physicians. The other co-prescribed drugs along with antimicrobials were Frusemide, Dexamethasone, Prednisolone, Mannitol, Rantac, Paracetamol, Domperidone.

It was found that the treatment pattern for the same disease by different physicians was found to be varying. It is concluded that further studies are needed to analyze the motives of prescribing physician, in choosing the specific drugs and to plan for improving the prescribing practices. Further studies in this area using a larger sample size should be carried out and a well-designed training program should be conducted on rational drug use.

HPS-P-036

DRUG PRESCRIPTION TRENDS FOR PREGNANT WOMEN IN THE DISTRICT OF WARANGAL- A PROSPECTIVE STUDY

M. Naidu¹,

¹St.Peter's Institute India

Drug prescription audit was performed to understand the prescription trends for pregnant women in Warangal. The subjects of the study were the pregnant women who were in their first, second or third trimester period of gestation. The prescriptions given to 303 pregnant women in four hospitals were collected and analyzed statistically for various parameters like common diseases prevailing in the pregnant women, average number of drugs per prescription, drugs prescribed by generic name, patients receiving more than 5 drugs, percentage use of various dosage forms and drugs falling under different FDA categories (A, B, C, D, X and NC).

It was found that fungal infections, anemia, nausea and vomiting were predominant in pregnant women. The average number of drugs prescribed in the clinics and hospitals surveyed are within the acceptable range. For 20.17% of patients more than 5 drugs were prescribed. The average number of drugs per prescription was 4. The study indicated that tablets were the most frequently prescribed dosage forms with as much as up to 45% of total dosage forms followed by capsules (17%) and syrups (14.3%). The study revealed that Vitamins, Folic acid, Calcium and Zinc are the most frequently prescribed drugs during pregnancy. Most of the drugs fall in to the category A or C or NC (non categorized). Category X drugs were prescribed 34 times because the benefit of treatment outweighed the risk of the exposure to the fetus.

It can be concluded from this study that proper nutrition and hygiene in women could significantly reduce the need to take medication during pregnancy and the health care provider should take certain aspects into consideration such as dosage form, duration of use, and fetal susceptibility thus weighing the risk of exposure to the fetus with the benefit of treatment and the aspect of women health has to be treated with much more

sensitivity.

HPS-P-037

UTILIZATION OF CARBAPENEMS AND INCIDENCE OF BACTERIAL RESISTANCE IN THE CLINICAL HOSPITAL

B. Virovkic-Zunec¹, I.Z. Zunec²

¹Clinical Hospital Osijek Croatia ²AstraZeneca Croatia

Clinical hospital Osijek has 21 clinics and wards with 1160 beds. We showed utilization of carbapenems and bacterial resistance to this antibiotics for the year 2004 (392 828 inhabitants/day) and 2005 (390 386 inhabitants/day). Carbapenems (meropenems and imipenem/cylastatine) are financially on the fourth place of the most prescribed antibiotics.

Bacterial resistance is one of the leading problems of the modern medicine and continuous following of incidence and spreading of resistance of the microorganisms in their area of existence is necessary.

Carbapenems are reserve antibiotics in our clinical hospital and their use depends on the results of antimicrobial tests performed for each patient.

Data in this work show the results of analysis of the specimens (urines), taken from hospital clinics and wards and analysis of antibiotic request forms from hospital pharmacy department. Highest resistance to carbapenems, with significantly increasing resistance from 'I' to 'R' shows *Pseudomonas aeruginosa* and *Pseudomonas* spp (*Xanthomonas malthophilia* had 100% resistance as expected).

Carbapenems are prescribed on 11 clinics/wards. Surgery and intern clinic show decrease in use, and the rest had increased use. Carbapenems are most prescribed on surgery, intensive care unit, infective clinic and neurosurgery so these clinics/wards were analysed in details. *Pseudomonas aeruginosa* has increasing resistance in neurosurgery and ICU and surgery has decrease of resistance to carbapenems.

Utilization of the expensive drugs and prevention of bacterial resistance is essential to reduce costs of healthcare.

HPS-P-039

USE OF A DRUG INFORMATION FORM FOR FOREIGNERS

A.K. Kubota¹, N.K. Koga², A.I. Izumikubo³, N.K. Kondo⁴, Y.S. Suzuki⁵, N.Y. Yoshino⁶

¹International Medical Center of Japan Japan ²Naoko Koga Japan ³Aki Izumikubo Japan ⁴Naoki Kondo Japan ⁵Yoshihiko Suzuki ⁶Nobutsugu Yoshino

Background

The International Medical Center of Japan is a general hospital that is located in Shinjuku ward in the heart of Tokyo, the capital of Japan. Although this center provides health care services for numerous foreign residents due to its community-like characteristics, the guidance provided for taking medications when dispensing pharmaceuticals is inadequate. With this in mind, a drug information form was prepared in various foreign languages, and this form is used for explaining medications to foreigners when pharmaceuticals are dispensed at this center, a summary of which is reported here.

Aims

Drug information forms were prepared in English, Chinese, Korean and Portuguese that contain information on Internal medicines, External medicines and Medicines to be taken only once. When pharmaceuticals are dispensed, instructions on taking the medication are provided while checking the procedure for taking the medication, the purpose of taking the medication and other information written on the form.

Methods

The use of these foreign language instructions provided for foreigners receiving health care at this center has made it possible to provide accurate guidance and information to these patients. Since the forms are filled out simply by entering numbers and check marks, the form can be easily understood.

Result

The failure to provide suitable guidance regarding the taking of medications to foreigners who are unable to speak hardly any Japanese results in the risk of medications not being taken properly, errors in taking medications and inappropriate dosages and use, thus resulting in the potential for the occurrence of serious adverse side effects. The preparation of this drug information form has made it possible to provide suitable instructions and guidance on the amounts and times when medications are to be taken by foreigners even when adequate communication is difficult, and this is believed to eliminate the apprehension felt by foreign patients when taking medications.

HPS-P-038

A RETROSPECTIVE STUDY OF STATIN USE FOR SECONDARY PREVENTION

IN A TEACHING HOSPITAL IN TAIWAN

Y.J. Hung¹, I.H. Lee², Y.K. Yang², Y.H. Kao Yang²

¹E-DA hospital China Taiwan ²National Cheng Kung University Hospital China Taiwan

Aims

Cardiovascular disease (CVD) and its subset coronary heart disease are leading causes of morbidity and mortality in the worldwide. In general, higher levels of low-density lipoprotein cholesterol (LDL-C) are associated with an increased risk of coronary heart disease, myocardial infarction, and stroke. Recently, several active control trials have reported that more intensive HMG-CoA reductase inhibitor (statin) therapy results in a greater reduction in adverse cardiovascular outcomes.

Methods

This is a retrospective chart review study to evaluate the percentage of achieving target Total Cholesterol (TC) and/or LDL-C levels and the reduction rate of blood lipid with various kind and dosage of statin during the period from September 1, 2003 to December 31, 2004 in the National Taiwan University Hospital. The target TC and/or LDL-C levels defined the guideline recommended by Bureau of National Health Insurance (BNHI), Taiwan.

Results

A total of 1005 converted patients met criteria who continuously undertaking a specific type and dosage of statin for inclusion in the analysis. The average age 62.0 ± 11.52 years (42.6% male, 57.4% female). The patients were divided into three groups; 43.4% had established CVD or diabetes mellitus (group 1), 29.0% had 2 or more risk factors but no evidence of CVD or diabetes mellitus (group 2), 27.7% had fewer than 2 risk factor and no evidence of CVD or diabetes mellitus (group 3). Overall, only 29.6% and 31.7% of patients usual dose achieved BNHI-specified LDL-C and TC target levels. The LDL-C and TC reduction success rate in 1,2,3 group was 15.4%, 12.8%; 34.0%, 30.2%; 47.1%, 62.9%, respectively. The appropriate usual dose of each statin was 10 mg for atorvastatin (96.6%), 40 mg for fluvastatin (86.8%), 20 mg for lovastatin (84.2%), 10 mg for pravastatin (83.7%), and 20 mg for simvastatin (68.9%).

Conclusions

Large proportions of dyslipidemic patients receiving lipid-lowering therapy could not achieve the BNHI LDL-C target levels in Taiwan.

HPS-P-040

ASSESSMENT OF ONLINE ANTIBIOTIC CONTROL PROGRAM IN A MEDICAL CENTER IN SOUTHERN TAIWAN

I. Chen¹, J.W. Liu¹, S.T. Deng²

¹Chang Gung Memorial Hospital China Taiwan ²Chang Gung Memorial Hospital-Linko China Taiwan

Objective: To assess antibiotic consumption and cost after the implementation of online antibiotic control program (OLACP), started in Dec 2004 in a medical center in southern Taiwan.

Methods: The quantity and cost of consumed antibiotics within 6 months after OLACP were assessed and those with 6 months before OLACP were used as historical control. The OLACP mandates all antibiotic agents other than firstline antibiotics should be reviewed by an infectious disease physician and approved online. Those agents are including cefuroxime, third generation cephalosporins, cefepime, piperacillin, β -lactams/ β -lactamase inhibitors, amikacin, voriconazole, caspofungin, carbapenems, monobactams, glycopeptides, linezolid, fluoroquinolones. The quantity of individual consumed antibiotics were assessed based on defined daily dose (DDD) per 1000 patient days, and costs of consumed antibiotics in Taiwan dollar were assessed. The difference in change of antibiotic consumption was determined by comparing the mean usage. Comparison of differences in changes of quantity and cost of consumed antibiotic were performed using by Wilcoxon rank sum test; a p value of less than 0.05 was considered statistically significant.

Results: After the implementation of online antibiotic control program, overall antibiotic consumption decreased by 9.6%, and reduced NT\$ 834 in consumed antibiotics for every patient during their hospitalization. The quantity of consumed non-firstline antibiotics was reduced by 14.6% ($P=0.055$) and costs by 17.8% ($P=0.037$), while no significant changes in quantity and costs of first-line antibiotics were found during this time period.

Conclusion: OLACP is effective in reducing quantity and costs of consumed antibiotics.

HPS-P-041

CASE REPORT: ACUTE LIVER FAILURE RELATED WITH WILSON'S DISEASE

T. Tsai, S. Deng

Chang Gung Memorial Hospital China Taiwan

Case Summary:

The 35 year-old male was well before and traveled to Italy and Czech in Sep. 2005. He felt poor appetite with nausea and vomiting after the trip. Unfortunately, the disease progress rapidly, he lost consciousness and transferred to our emergency room. Coagulopathy, hyperbilirubinemia and acute liver failure were found after admitted. All of the virus hepatitis and autoimmune markers were negative. During the hospitalization, progressive leukopenia was noted then withdrawal the suspicious medicine. The 24 hours of urine copper level was 1451.3 mg over the normal range. Low serum ceruloplasmin concentration combined with Kayser-Fleisch ring, Wilson's disease was highly suspected. Zinc acetate and trientine were started. For preserve the liver function, molecular absorbents recirculating system (MARS) therapy, plasma exchange and blood transfusion were introduced aggressively. Finally, the severe leucopenia could not be resolved even GCSF administered. The patient died in septic shock with multiple organ failure eventually.

Discussion:

Wilson's disease is a rare autosomal recessive genetic disease resulting in decreased incorporation of copper into the ceruloplasmin and reduced biliary excretion of copper. Wilson's disease typically present in the teenagers, younger patients tend to present acute liver disease frequently. If fulminant liver failure is present, transplantation is the only option to survival. In our case, he complicated with severe leukopenia could not receive the liver transplantation. We try chelating agent and zinc supplement to preserve the liver function. The 24 hours of urine copper was decreased to 191.1 mg after above therapy for 10 days. But he suffered from neutropenic fever and expired due to sepsis with multiple organ failure.

HPS-P-043

A RETROSPECTIVE STUDY OF STATIN USE FOR SECONDARY PREVENTION IN A TEACHING HOSPITAL IN TAIWAN

H.L. Chang¹, M.F. Lin², P.C. Tsai², CC Wu³

¹E-DA hospital China Taiwan ²Department of Pharmacy, E-DA Hospital China Taiwan ³National Taiwan University Hospital China Taiwan

Aims

Cardiovascular disease (CVD) and its subset coronary heart disease are leading causes of morbidity and mortality in the worldwide. In general, higher levels of low-density lipoprotein cholesterol (LDL-C) are associated with an increased risk of coronary heart disease, myocardial infarction, and stroke. Recently, several active control trials have reported that more intensive HMG-CoA reductase inhibitor (statin) therapy results in a greater reduction in adverse cardiovascular outcomes.

Methods

This is a retrospective chart review study to evaluate the percentage of achieving target Total Cholesterol (TC) and/or LDL-C levels and the reduction rate of blood lipid with various kind and dosage of statin during the period from September 1, 2003 to December 31, 2004 in the National Taiwan University Hospital. The target TC and/or LDL-C levels defined the guideline recommended by Bureau of National Health Insurance (BNHI), Taiwan.

Results

A total of 1005 converted patients met criteria who continuously undertaking a specific type and dosage of statin for inclusion in the analysis. The average age 62.0 ± 11.52 years (42.6% male, 57.4% female). The patients were divided into three groups: 43.4% had established CVD or diabetes mellitus (group 1), 29.0% had 2 or more risk factors but no evidence of CVD or diabetes mellitus (group 2), 27.7% had fewer than 2 risk factor and no evidence of CVD or diabetes mellitus (group 3). Overall, only 29.6% and 31.7% of patients usual dose achieved BNHI-specified LDL-C and TC target levels. The LDL-C and TC reduction success rate in 1,2,3 group was 15.4%,12.8%; 34.0%,30.2%; 47.1%, 62.9%, respectively. The appropriate usual dose of each statin was 10 mg for atorvastatin (96.6%), 40 mg for fluvastatin (86.8%), 20 mg for lovastatin (84.2%), 10 mg for pravastatin (83.7%), and 20 mg for simvastatin (68.9%).

Conclusions

Large proportions of dyslipidemic patients receiving lipid-lowering therapy could not achieve the BNHI LDL-C target levels in Taiwan.

HPS-P-042

A REPORT OF INQUIRY TO PHYSICIANS AT INTERNATIONAL MEDICAL CENTER OF JAPAN (IMCJ) PHARMACY

M. Makino, S. Iwamoto, A. Kubota, Y. Suzuki, N. Yoshino
International Medical Center of Japan Japan

Objective

IMCJ pharmacists fill eighteen hundred prescriptions every day. Preparation the prescriptions is limited to pharmacists by the Japanese Pharmacists' law, so there is no help from a technician or assistant. Pharmacists check the prescriptions to determine whether the contents are appropriate or not. If there is any doubt, the pharmacist will consult with a physician. We think this checking work is an important task of pharmacists to provide the appropriate medication for patients. This report is about the checking that pharmacists perform.

Method

We analyzed the rates of inquiries from 2001 to 2006, but we focused on the results for the period from 2003 to 2006. We separated the types of prescriptions into four categories-such as inpatient and outpatient, injection and prescribed drug and classified into contents such as product name, dosage, usage, mutual reaction, chemical reaction, and insurance related information.

Results

We introduced Information Technology (IT) for Injection medicine order from May 2002 and the inquiry rates of product names decreased because of this. But the total rate increased from 2004.

Conclusion

We found that there were some errors caused by mistyping and select mistakes due to similar product names or keywords. The physician's education system has changed since 2004. It is called 'Super rotation system'. Intern physicians rotate through every division of IMCJ in two years. Usually they move every month and have the responsibility to order medication. We think it causes an to increase in the rate of inquiry.

Nowadays, many kinds of medical errors happened in Japan. The pharmacist's task for medication is highly needed. Reducing every human error is impossible, but we have to try to decrease these errors in order to provide safe medication for patients.

HPS-P-044

SURVEILLANCE OF ANTIMICROBIAL USE AND ANTIMICROBIAL RESISTANCE IN NOSOCOMIAL BLOODSTREAM INFECTIONS AT A UNIVERSITY HOSPITAL IN TAIWAN

M.F. Lin¹, Y.H. Kao Yang², W.C. Ko²

¹E-DA hospital China Taiwan ²National Cheng Kung University China Taiwan

Aims: Rising antimicrobial resistance rates among bacterial pathogens have resulted in increasing morbidity and mortality in nosocomial bloodstream infections.

Methods: We conducted an observational study to evaluate the trend of etiological pathogens causing nosocomial bloodstream infections from 1996 to 2000 at the National Cheng Kung University Hospital and antibiotic resistance during this period.

Results: 2451 bacterial pathogens causing nosocomial bacteremia were identified. The hospital's overall incidence rate was 1.9%. The most common organisms were coagulase-negative staphylococci (CoNs), methicillin-resistant staphylococcus aureus and Escherichia coli. Candida species were likely to cause infections in patients in intensive care units. The proportion of Candida spp. isolates from ICUs was 25 fold higher than isolates recovered from non-ICU settings (RR 25.59; 95%CI:18.52-35.35). The rate of imipenem-susceptivity A. baumannii has decreased progressively from 100% in 1997 to 86% in 2000. A remarkable increase in incidence was found in MRSA from 7.6% in 1996 to 22.8% in 2000. The amount of use for each antimicrobial agent was expressed as Defined Daily Dose (DDD). We observed a temporal relationship of average DDD and the trends of antimicrobial susceptibility for P. aeruginosa, S. aureus and CoNS.

Conclusion: Our results implicate that antimicrobial agents resistance need to be monitored closely.

Hospital Pharmacy Section - Poster Session

HPS-P-045

UTILIZATION OF ANTIPSYCHOTIC AGENTS IN PATIENTS WITH SCHIZOPHRENIA

Y.J. Hung¹, Y.K. Yang², Y.H. Kao Yang³, I.H. Lee²

¹E-DA hospital China Taiwan ²National Cheng Kung University Hospital China Taiwan ³National Cheng Kung University China Taiwan

Aims: Pharmacotherapy is an important management for patients with schizophrenia. Up to date, the prescribing pattern was affected by many factors which includes drug of choice, inconsistency of treatment guideline, patient's condition, and physicians' behavior etcetera. Hence, we aim to study the utilization of antipsychotic agents in patients with schizophrenia.

Method: The prescribing patterns were investigated retrospectively by using the outpatient database of Psychiatry Department in the National Cheng-Kung University Hospital (NCKUH) from January 2003 to December 2003.

Results: Data of 786 patients with schizophrenia were used in this study. 78 percent of the patients received only one kind of antipsychotic, within which 313 patients (39.8%) were prescribed with the first generation antipsychotics (FGAs). The data also presented that the doses of most of antipsychotics were prescribed in the lower recommended range. According to the study, in 2003, the use of combination antipsychotics was 22.1% and the mean of duration of combination use was 4.5 months. The use of antipsychotic polypharmacy for more than 2 months were 14.5%, and the mean combination duration were about 6 months.

In multiple psychotropic pharmacotherapy, 83.6% patients were prescribed with other psychotropic agents, and the mean of items in psychotropic agents was 2.1. The frequency of prescribing antiparkinson drug is highest in the depot antipsychotic group and polypharmacy group. Patients were prescribed 81% benzodiazepine, 12.7% mood stabilizer, and 11.7% antidepressants respectively.

Conclusion: Nowadays, the trend of polypharmacy in combining antipsychotic and psychotropic agents was demonstrated high percentage in schizophrenia therapy. Consequently, more attentions should be drawn toward safety concerns due to potential drug-drug interaction.

HPS-P-046

COMPUTERIZED PHYSICIAN ORDER ENTRY OF LARGE VOLUME PARENTERALS IN A TERTIARY CARE HOSPITAL OF PAKISTAN (A PILOT PROJECT)

S Syed¹, S.R. Syed¹, A.L. Sheikh², F. Zaheer¹, Z. Ghous¹
¹Aga Khan University Hospital Pakistan ²Aga Khan university hospital Pakistan

Objective: To improve patient safety and reduce patient cost by computerized physician order entry of large volume parenterals.

Background: A gap was identified in the LVP distribution system of the hospital that fluid orders were not reviewed by pharmacist before administration. The drips were dispensed by a technician making them a high potential for medication error and the fluid administration and consumption was not properly monitored.

Methodology: A computerized physician order entry system was designed by the coordination of information technology department and pharmacy. Physicians, nurses and pharmacist were trained to use the software. All the drips were removed from distribution and were placed in the satellite pharmacy under the supervision of pharmacist. The drips were dispensed with the patient label having dose and infusion rate along with any additive. A two months pilot was conducted in a 70 bed Medical unit of the hospital, the distribution steps before and after pilot were as follows.

Steps before pilot project: Physician writes order in physician order sheet - Nurse takes drip from distribution - Nurse administers the fluids.

Steps after pilot project: Physician enters order in computer - Pharmacist reviews and dispenses the drip - Nurse administers the fluids.

Results: The usage of LVP decreased from average 2830 to 2282 units / month decreasing patient cost by 15,000 Pak rupees/month. The usage of premixed electrolytes especially potassium chloride increased from 3 units/ month to 62 units/ month contributing to increased patient safety. The chances of medication errors were minimized because of patient label on each drip.

Conclusion: Computerized large volume parenterals distribution resulted in better patient safety and cost reduction of patients. The pilot was approved for hospital wide implementation.

HPS-P-047

THE IMPACT OF PHARMACIST INTERVENTION ON THE EFFECTS OF MEDICATION THERAPY IN TB PATIENTS

W. Liou, C Chao, L Lee

Tri-Service General Hospital China Taiwan

Objectives: To increase medication compliance in Tuberculosis (TB) patients, pharmacist intervention services was implemented by providing drug information and administration reminding.

Design: Total of 110 patients were included in this study. The primary inclusion criterion was positive sputum TB culture. Patients were randomly assigned into two groups. Pharmacist intervention service was provided for group A, including offering detailed drug information, side effects, and reminding for medication administration. Group B did not receive any intervention. Outcome indicators include therapeutic complete rate, cure rate, and therapeutic interrupt rate. The side effects were recorded.

Result: Over two-third of the patients are male (73.6%). Twenty-third percent of the patients are elderly population. The preliminary results indicated group A had higher therapeutic complete rate (85.7% vs 82.1%), and cure rate (83.3% vs 76%), and lower therapeutic interrupt rate (14.3% vs 18.0%), compared to group B. The common side effects occurred were adverse skin reactions (40.9%) and hyperuricemia (55.5%).

Conclusion and discussion: The trend of new discovered and recurrent TB patients has significantly increased recently worldwide. The length of TB therapy, which will lower patient compliance, is considered a significant factor for TB recurrent. This study is intent to verify that pharmacist intervention services have a significant impact in increasing patient compliance. The researchers are not able to perform statistical analysis due to not completing the study yet. However, the trends of results are showing positive impacts on outcome variables.

HPS-P-048

HOSPITALIZATION EFFECT DECREASING PROCEDURES IN PRESCHOOLERS AND SCHOOLARS

V Rosovic-Bazijanac

University Hospital Center Croatia

In the 1999 the «For children smile in hospital» action was launched in the University Clinic of Pediatrics. The hospital has 117 beds polyclinic service with daily hospital, school and kindergarden.

The aim of the study was to show the procedure undertaken to decrease the stress in preschool and school children.

We took the poll in the years 1999 and 2004 to show the success in humanization in hospital care among the preschoolers (1999 - 33 and 2004 - 30 persons), schoolars (1999 - 84 and 2004 - 103 persons) and their parents (1999 - 84 and 2004 - 103 persons). The children had positive attitude about their hospitalization (1999 - 56% and 2004 - 65%). The children think the nurses are the most devoted to them: preschoolers (1999 - 87% and 2004 - 94%) and schoolars (1999 - 27% and 2004 - 45%).

The schoolars had experienced hospitalization negatively because of the separation from their parents (1999 - 45% and 2004 - 36%). The percentage is decreased because the parents are allowed to stay in hospital the whole day.

The same at the schoolars (1999 - 64% and 2004 - 66%). Making new friendships is experienced as the most positive effect of hospitalization, preschoolers (1999 - 50% and 2004 - 52%) and schoolars (1999 - 27% and 2004 - 26%).

The patients evaluate most positively both years (1999 and 2004) possibility to contact the nurses and the child and most negatively hospitalization itself.

The most important achievement:

1. Staff education
 2. Preparing the medicals most acceptable for children
 3. Daily hospital establishing
 4. Possibility for nursing mothers to stay in hospital with their children as well for parents to stay the whole day with their children and participating in daily activities
- This is the preliminary study about global perception of hospitalization at children.

HPS-P-049

MYCOBACTERIUM FORTUITUM (MF IN FURTHER TEXT): UNUSUAL AGENT OF PNEUMONIA AT IMMUNOCOMPETENT PATIENT

V Rosovic-Bazijanac, I.F. Francula, I.V.C. Vlastic Cicvaric, I.B. Bacic, V.P. Pupacic
University Hospital Center Croatia

We would like to show an unusual case of pneumonia caused by *Mycobacterium fortuitum* at immunocompetent patient. Pulmonary diseases with suspect on fast growing *Mycobacterium* (Mf) are difficult to recognize clinically from pulmonary tuberculosis. The immunocompromised patients (AIDS) are the most exposed to this disease.

The 15 years old, 3A syndrome (achalasia, adrenal insuff. and alacrimia) suffering patient, is received on the cardiopulmological department of Paediatric Clinic of Rijeka.

First diagnosis: Pneumonia. Clinical picture: non-productive cough, apnoea, severe hypoxia, high temperature and lost of the bodyweight (55 to 45 kg).

RTG: bilateral extensive infiltrate.

Lab report: ESR=75; CRP=262; WBC=10.2

Empirically, antimicrobial therapy is applied: ceftriaxone, amikacine, imipeneme, kinolone. After the first week, like after the full month of antimicrobial therapy there was no positive response.

Bronchoscopy and BAL is made during the first month, but the response was negative because of low quantity of secrete. Acidoresistant microbiological test result was negative.

Two months later, after the third trial of bronchoscopy and BAL there was a positive Mf result.

Lab reports during four months after the first report:

after the 1st week:	ESR=97; CRP=256; WBC=7.5
after the 1st month:	ESR=36; CRP=134; WBC=14.5
after the 2nd month:	ESR=67; CRP=112; WBC=12.2
after the 3rd month:	ESR=38; CRP=43; WBC=16.6
after the 4th month:	ESR=26; CRP=26; WBC=11.1

As we can see, after the right agent is found, a strictly aimed therapy is applied resulting with success. Therapy contained the following antimicrobial agents: rifampycine, claritromycine and co-trimoxazol.

Nontuberculosis mycobacterial infections (NTM) are not usually exceptable at immunocompetent patients and their diagnosis is often very late.

HPS-P-051

MYCOBACTERIUM FORTUITUM (MF IN FURTHER TEXT): UNUSUAL AGENT OF PNEUMONIA AT IMMUNOCOMPETENT PATIENT

V Rosovic-Bazijanac, V.R. Rozmanic, V.A. Ahel
University Hospital Center Croatia

We would like to show an unusual case of pneumonia caused by *Mycobacterium fortuitum* at immunocompetent patient. Pulmonary diseases with suspect on fast growing *Mycobacterium* (Mf) are difficult to recognize clinically from pulmonary tuberculosis. The immunocompromised patients (AIDS) are the most exposed to this disease.

The 15 years old, 3A syndrome (achalasia, adrenal insuff. and alacrimia) suffering patient, is received on the cardiopulmological department of Paediatric Clinic of Rijeka.

First diagnosis: Pneumonia. Clinical picture: non-productive cough, apnoea, severe hypoxia, high temperature and lost of the bodyweight (55 to 45 kg).

RTG: bilateral extensive infiltrate.

Lab report: ESR=75; CRP=262; WBC=10.2

Empirically, antimicrobial therapy is applied: ceftriaxone, amikacine, imipeneme, kinolone. After the first week, like after the full month of antimicrobial therapy there was no positive response.

Bronchoscopy and BAL is made during the first month, but the response was negative because of low quantity of secrete.

Acidoresistant microbiological test result was negative.

Two months later, after the third trial of bronchoscopy and BAL there was a positive Mf result.

Lab reports during four months after the first report:

after the 1st week:	ESR=97; CRP=256; WBC=7.5
after the 1st month:	ESR=36; CRP=134; WBC=14.5
after the 2nd month:	ESR=67; CRP=112; WBC=12.2
after the 3rd month:	ESR=38; CRP=43; WBC=16.6
after the 4th month:	ESR=26; CRP=26; WBC=11.1

As we can see, after the right agent is found, a strictly aimed therapy is applied resulting with success. Therapy contained the following antimicrobial agents: rifampycine, claritromycine and co-trimoxazol.

Nontuberculosis mycobacterial infections (NTM) are not usually exceptable at immunocompetent patients and their diagnosis is often very late.

HPS-P-050

HOSPITALIZATION EFFECT DECREASING PROCEDURES IN PRESCHOOLERS AND SCHOOLARS

V Rosovic-Bazijanac, I.F. Francula, I.V.C. Vlastic Cicvaric, I.B. Bacic, V.P. Pupacic
University Hospital Center Croatia

In the 1999 the «For children smile in hospital» action was launched in the University Clinic of Pediatrics. The hospital has 117 beds polyclinic service with daily hospital, school and kindergarden.

The aim of the study was to show the procedure undertaken to decrease the stress in preschooler and schooler children.

We took the poll in the years 1999 and 2004 to show the success in humanization in hospital care among the preschoolers (1999 – 33 and 2004 – 30 persons), schoolers (1999 – 84 and 2004 – 103 persons) and their parents (1999 – 84 and 2004 – 103 persons).

The children had positive attitude about their hospitalization (1999 – 56% and 2004 – 65%). The children think the nurses are the most devoted to them: preschoolers (1999 – 87% and 2004 – 94%) and schoolers (1999 – 27% and 2004 – 45%).

The schoolers had experienced hospitalization negatively because of the separation from their parents (1999 – 45% and 2004 – 36%). The percentage is decreased because the parents are allowed to stay in hospital the whole day.

The same at the schoolers (1999 – 64% and 2004 – 66%). Making new friendships is experienced as the most positive effect of hospitalization, preschoolers (1999 – 50% and 2004 – 52%) and schoolers (1999 – 27% and 2004 – 26%).

The patents evaluate most positively both years (1999 and 2004) possibility to contact the nurses and the child and most negatively hospitalization itself.

The most important achievement:

1. Staff education
 2. Preparing the medicals most acceptive for children
 3. Daily hospital establishing
 4. Possibility for nursing mothers to stay in hospital with their children as well for parents to stay the whole day with their children and participating in daily activities
- This is the preliminary study about global perception of hospitalization at children.

HPS-P-052

MACULOPAPULAR SKIN RASH ASSOCIATED WITH GLICLAZIDE

M.S. Lu, J. D. Chen, W. S. Liou
Tri-Service General Hospital China Taiwan

OBJECTIVE: To report a case of maculopapular skin rash associate with gliclazide.

CASE SUMMARY: A 63-year-old woman with type 2 diabetes mellitus and mixed hyperlipidemia, suffered from B-Streptococcus group A-related cellulitis at right lower leg and foot. She was in hospital and treated with ceftazidime 1.0 gm IV, q8h and clindamycin 600mg IV, q8h for 7 days. She took clindamycin, acetaminophen, sennosides and gliclazide when she was discharged from hospital. After 3 days oral medicine treatment, the maculopapular skin rash was occurred. She was injected with a stat. dose of betamethasone to cease the skin rash, and her oral medicine was discontinued. She was given new prescription with prostaphlin, acarbose, and loratadine. The skin rash was vanish in few days.

DISCUSSION: Skin rash happened to patient during an antibiotics treatment often made people assume it's caused by antibiotics and ignore other factors. In this case, clindamycin was routine used during hospitalization and never make any allergic reaction. When she was discharged, her clindamycin treatment was changed from injection to oral form. And the dose of clindamycin was smaller than it was used in hospital. More interested is that the patient with gliclazide for diabetes mellitus was not taken before, just start after discharged from the hospital. Skin rash and pruritus have occurred occasionally during gliclazide therapy, and such cutaneous reactions were reported in 0.7% in one large series of diabetic patients (n= 727).

CONCLUSIONS: The adverse reaction of gliclazide noted by care workers mostly is hypoglycemia. Gliclazide also can cause the cutaneous reaction, but it's easily ignored or judged by other drug causing. For diabetic patients it should be assessed more carefully to figure out which is the reason causing skin rash.

HPS-P-053

CASE REPORT: DRUG THERAPY PROBLEMS IN A GERIATRIC PATIENT WITH HYPERTENSION, OSTEOPOROSIS AND PARKINSON'S DISEASE

P.S. Araújo¹, R. Martins², A. P. Miranda³, A. Rabelo³, E. Gonçalves³
¹FTC/UNIME Brazil ²FTC-Pharmacist and Professor Brazil ³FTC - Students of Practice V of College Brazil

AIMS: Describe and evaluate Drug Therapy Problems (DTP) in a geriatric patient. **METHODS:** Patient care process consisted of the following steps: 1) assess drug-related needs, in order to assure an indicated, effective, safe and convenient drug therapy; 2) identify and categorize DTP; 3) develop care plan with the necessary interventions to achieve therapeutic outcomes and solve DTP; 4) follow-up evaluation. The DTP categorization adopted the Pharmacotherapy Work-up® format. Consent form signed. **CASE DESCRIPTION:** Women, 74 years, BMI 22,6 g/m², in captopril 12,5 mg 12/12 irregularly for Hypertension (180x120 mmHg); in alendronate 10 mg/day for Osteoporosis; in biperidene 2 mg/day for Parkinson's Disease (PD). Presented at the service without control of tremors and blood pressure (BP). Used biperidene after lunch, complained about sleepiness, body tremors and didn't adhere to hypertension treatment. History of levodopa/benserazide (L/B) 100/25 mg once at bedtime, but had it substituted for biperidene because she couldn't access the medicine. Declared that when using L/B felt better, confidence with treatment and controlling tremors. **RESULTS AND DISCUSSION:** DTP identified: a) effectiveness-ineffective drug-another drug is more indicated-change biperidene for L/B; b) compliance - noncompliance - doesn't comprehend directions/orientations - captopril irregular use. With the therapeutic goals of controlling PD symptoms and maintain BP <= 140x90 mmHg, the patient's doctor was suggested biperidene interruption and L/B reintroduction, and patient was again oriented for BP control, comprehending the treatment and therapeutic objectives. Patient presented controlled and with no complaints. **CONCLUSION:** The geriatric patient is vulnerable to chronic-degenerative diseases and belongs to a group population more sensible to drugs. This involves more chances to experience DTP, being mandatory a pharmacotherapeutic follow-up. **Acknowledgement:** CREASI/SESAB.

HPS-P-054

CASE REPORT: PATIENT WITH PARKINSON'S DISEASE AND METABOLIC SYNDROME

P.S. Araújo¹, R. Martins², M. Adriano³, M. Barbosa³, T. Teixeira³
¹FTC/UNIME Brazil ²FTC-Pharmacist and Professor Brazil ³FTC - Students of Practice V of College Brazil

AIM Describe Drug Therapy Problems (DTP) in a geriatric patient. **METHOD** Patient care process: 1) assess drug-related needs (assure an indicated, effective, safe and convenient drug therapy); 2) identify/categorize DTP; 3) develop care plan; therapy goals and interventions to solve DTP; 4) follow-up evaluation. The DTP categorization adopted the Pharmacotherapy Work-up® format. Consent form signed. **CASE DESCRIPTION** Man, 69 years, in levodopa/carbidopa (L/C) 250/25 mg ½ tablet 3/3 hours for Parkinson's Disease (PD); in hydrochlorothiazide (HCT) 50mg/day and nifedipine retard 20 mg BID for Hypertension; in glybenclamide 5 mg/day BID and metformine 850 mg/day for type 2 Diabetes; in atorvastatine 20 mg/day for Hypercholesterolaemia; in Almeida Prado® and had prescribed soluble fibers for Constipation. Declared hyperlipidic and hypercaloric diet, not using hypolipemiant and irregular use of HCT. Complained constipation, rigidity while walking and tremors. Lab exams: post glu 437, fasting glu 175, total cholesterol 256, triglycerides 271, LDL 152 **RESULTS/DISCUSSION** DTP identified: a) safety-undesirable effect-L/C-constipation; b) indication-needs additional drug therapy-synergistic effect with L/C-introduce pramixepole; c) indication-unnecessary drug therapy-duplicity-fibers and Almeida Prado® for constipation; d) safety-dosage too high-inappropriate dose-hydrochlorothiazide 50 mg; e) compliance-noncompliance-patient doesn't comprehend orientation-hypolipemiant use. **Therapeutic goals:** control PD's symptoms; control intestinal flow in 2 days; fasting glycemic index 70-100 mg/dL; total cholesterol < 200 mg/dL; triglycerides < 150 mg/dL; LDL < 100 mg/dL; BP £ 130x85, specific suggestions were made to the prescriber and patient was oriented. **CONCLUSION** Geriatric patients are susceptible to present associated diseases and polytherapy is frequent, therefore a therapeutic follow-up is required. **Acknowledgement:** CREASI/SESAB.

HPS-P-055

CASE REPORT: CONTROL AND CONSEQUENCES FOR YOUNG PATIENTS WITH PARKINSON'S DISEASE IN LEVODOPE

P.S. Araújo¹, R. Martins², M. S. Machado³, M. O. B. Machado³
¹FTC/UNIME Brazil ²FTC-Pharmacist and Professor Brazil ³FTC - Students of Practice V of College Brazil

AIMS: Describe Drug Therapy Problems (DTP) in a young patient in levodopa. **METHODS:** Patient care process consisted of the following steps: 1) assess drug-related needs, to assure an indicated, effective, safe and convenient drug therapy; 2) identify/categorize DTP; 3) develop care plan with the necessary interventions to achieve therapeutic goals and solve DTP; 4) follow-up evaluation. The DTP categorization adopted the Pharmacotherapy Work-up® format. Consent form signed. **CASE DESCRIPTION:** Man, 56 years, Parkinson's Disease (PD) for 8 years and treating for 6, with no associated disease. Used amantadine and selegiline at beginning of treatment, entered the service using levodopa/carbidopa (L/C) 250/25 mg 8/8 and biperidene retard 4 mg 12/12. Had the biperidene substituted by entacapone 200 mg 8/8 due to 'wearing off' effect. Patient declared that entacapone didn't improve symptoms. **RESULTS AND DISCUSSION:** DTP identified: effectiveness-sub dosage-inappropriate L/C dose and frequency. The patient's doctor was contacted and a dose adjustment procedure initiated for the levodopa, maintaining daily dose, but adjusting the frequency for half the dose 4/4. Patient was oriented and reassessed after one week when declared that the intervention resulted in reducing the tremors, but not it's stop them. New communication with the prescriber was done, now suggesting an increase at the daily dose of L/C to 1 tablet 6/6, interrupting entacapone, reintroducing biperidene retard 4 mg 12/12 and including a dopaminergic agent to the drug therapy. One week later the patient was reassessed, the interventions were accepted and patient affirmed interruption of tremors sustained until the next dose. **CONCLUSION:** Treatment of PD in patients younger than 70 years with levodopa is pierced with dilemmas; in despite of it's therapeutic efficacy, it's use must be retarded and maintained in minimum dose to avoid therapeutic failure and motor complications. **Acknowledgement:** CREASI/SESAB.

HPS-P-056

GENDER-SPECIFIC LIPID-LOWERING EFFECT OF PRAVASTATIN AND ATORVASTATIN

S. Yamamura¹, T. Chiba¹, K. Harada², K. Hamada², K. Fukuda²
¹Toho University Japan ²Nippon Med. School, Chiba-Hokusou Hosp. Japan

Purpose: We conducted a retrospective investigation of the gender-specific lipid-lowering effect of two HMG-CoA reductase inhibitors, namely, pravastatin and atorvastatin.

Method: The candidates in this study were patients (51 males and 105 females in the pravastatin group and 43 males and 75 females in the atorvastatin group) who were diagnosed as hyperlipemic and had started HMG-CoA medication. The patients' data (sex, age and laboratory data) were retrospectively collected after obtaining the approval of the IRB of Nippon Medical School, Chiba-Hokusou Hospital. The change in serum lipid levels was monitored for 6 months after the start of medication.

Results and Discussion: After the administration of HMG-CoA, its lipid-lowering effect on total serum cholesterol (TC) was found to be gender specific. In the pravastatin group, the decrease in the TC levels was larger in the female patients than in the male patients. The decrease in serum LDL and HDL levels was not gender specific. Interaction between age and gender was observed based on statistical analysis; the lowering of TC levels in female patients decreased after menopause. These results suggest that the lipid-lowering effect was influenced by changes in the sex hormone levels of the patients. In the atorvastatin group, there was no interaction between age and gender. Since atorvastatin is a more potent lipid-lowering agent than pravastatin, the potency of atorvastatin could blind its gender specificity.

HPS-P-057

SULPIRIDE INDUCED ADVERSE DRUG REACTIONS

H.-Y. Chien
Wanfang hospital China Taiwan

OBJECTIVE

Sulpiride has been widely prescribed in gastrointestinal disorders and schizophrenia, but reported some adverse drug reactions (ADR) related to the function of central nervous system, hyperprolactinemia and galactorrhea. Here we reported a series of ADR caused by sulpiride in order to pay more attention to the infrequent problems.

METHOD

The cases were found through the real-time ADR reporting system in Taipei Municipal Wan-Fang Hospital. Causality, preventability and severity of the ADR were assessed by following Naranjo questionnaire, and WHO recommendation published in 2000.

RESULT

Case 1: A 42 y/o male had taken sulpiride 50 mg twice daily for functional gastrointestinal disorder (FGID) over 5 months. He complained about left nipple swollen tenderness without remarkable change of skin color that was diagnosed as gynecomastia. The lesion progressively resolved after discontinuing the drug in a month.

Case 2: A 27 y/o female took sulpiride 50mg at bedtime for frequent midnight epigastric discomfort. Seven days later, she experience abnormal galactorrhea, so she withdrew the medicine under the doctor's suggestion, then the problem subsided.

Case 3: A 34 y/o female took sulpiride 50mg twice daily for peptic ulcer disease. She suffered from abnormal galactorrhea and had reduction of menstrual period (from 4 weeks to 2 weeks). After adjusting the dose to 50mg at bedtime, galactorrhea gradually disappeared and the period returned to normal. The mechanism of sulpiride-induced menstrual disorder had been commented that sulpiride stimulated the production of prolactin, which in turn suppressed the surge of luteinizing hormone (LH), as a consequence, disarranged the secretion of plasma estradiol-17 β and progesterone, and irregular menstruation ensued.

CONCLUSIONS

Because of effects on autonomic nervous system, sulpiride was widely used in GIFD and in adjuvant therapy for peptic ulcer disease. The real-time ADR reporting system, reminded the clinician and pharmacist of the ADR that was seldom encountered.

HPS-P-058

ADVERSE DRUG REACTION RELATED TO DRUG-DRUG INTERACTION

H.-Y. Chien, H.-J. Liu, Y.-H. Yen, H.-Y. Chen
Wanfang hospital China Taiwan

OBJECTIVES

Drug-drug interaction could be related to administration route, timing, kinetics or pharmacological effect between drugs. However, the adverse drug reaction (ADR) caused by drug-drug interaction (DDI) could be prevented if we pay more attention to the drug use.

METHOD

We identified two ADR caused by DDI and Causality, preventability and severity of the ADR were assessed by following Naranjo questionnaire, and WHO recommendation published in 2000.

RESULT AND DISCUSSION

Case I: an 80 yr female who has been treated daily with 2.5 mg warfarin for one year with stable INR developed right arm swelling and ecchymosis as well as spontaneous bleeding after taking 200 mg fenofibrate per day for one month. Her INR was 16.42, aPTT 122.7 sec. (control 35sec.), PT 116.6 sec. (control 13.1sec.), and bleeding time 4.5 min.. There had been no significant changes in dieting and other food supplements when the bleeding episodes occurred. Warfarin and fenofibrate were discontinued and vitamin K administered, the INR returned to normal 2 days later and the patient discharged five days later.

Case II: a 68 yr female took carvedilol 6.25mg and irbesartan 300mg once daily for HTN and 50 mg sertraline per day for major depression. One week later, she felt dizziness and fell down (BP 100/50). At the time of hypotension, EKG was normal without arrhythmia or AV block. After stopping carvedilol, the hypotension resolved and the patient was been stable in blood pressure. Then, the patient maintains used irbesartan and sertraline to control HTN and depression. Certain selective serotonin reuptake inhibitors may inhibit the metabolism of certain β -blockers and potentiate the effect of β -blockers, thus the hypotension occurred.

These two cases highlight the importance of DDI and ADR which is related to the pharmacodynamic, pharmacokinetic and pharmacologic properties between drugs. According to these effects, not only the desired therapeutic effect may not achieve but also the severity of side effects may be potentiated. Moreover, adverse drug effects may be happened.

HPS-P-059

METFORMIN-INDUCED VITAMIN B12 DEFICIENCY AND MACROCYTIC ANEMIA: A CASE REPORT

YC Chiang, YT Tseng, HY Chen
Wanfang Medical Center China Taiwan

Metformin is a widely used antidiabetic agent. The incidence of metformin-related vitamin B12 deficiency was 7-9% and megaloblastic anemia was rare. The current article was reporting a case of metformin-related symptomatic macrocytic anemia.

This 76-year-old female diabetic patient taking metformin entered the emergency room of Wan-Fang Medical Center on December 10, 2005 for a sudden onset of slurred speech and dizziness. She was admitted and hemogram showed macrocytic anemia. Additional laboratory tests ordered included serum level of homocysteine, anti-parietal cell antibody, folic acid and cobalamin. The severity, causality, and preventability of this adverse drug reaction (ADR) were also evaluated.

The hemoglobin, mean corpuscular volume (MCV), and reticulocyte were 6.0 g/dL, 127.1 fL, and 1.4% on the date of admission. The cobalamin and folate level were 156 pg/mL (subnormal) and 9.62 mg/mL (normal). Metformin was discontinued due to the possibility to induce vitamin B12 deficiency while other possible causes were ruled out (non-vegetarian, anti-parietal cell Ab 20x, and non-parasitism.) Hemoglobin, MCV, and reticulocytes improved (10.4 g/dL, 108.2 fL, 3.8%) after a 5-day therapy of intramuscular cobalamin (500 mg qd.) The patient was discharged with oral cobalamin (500 mg bid) and biphasic isophane insulin therapy. During the entire episode, no blood transfusion was performed. The evaluation was a moderate, preventable ADR with Naranjo causality score of 5 points (probable).

Metformin may decrease the absorption of cobalamin, which may happen in about 3-6 years after a complete depletion of cobalamin storage. Routinely monitoring of serum cobalamin level every 2-3 years was recommended.

HPS-P-060

A CASE OF SUSPECTED TIBIAL OSTEOMYELITIS ASSOCIATED MENINGITIS WITHIN THE ENVIRONMENT

Z. Lee, PY Lee, ST Deng
Chang Gung Memorial Hospital China Taiwan

STUDY DESIGN: A case report. **OBJECTIVES:** To report and discuss a case of suspected tibial osteomyelitis associated meningitis in a 39-y-o man. He injured his right leg which became worse after having cleaned a birdcage. **METHODS:** This patient hurt his right leg by a scooter, and his leg wound deteriorated shortly after he cleaned the birdcage. He was then diagnosed to have tibial osteomyelitis by a positive wound culture, and radiographic changes. He received treatment. Diagnosis of meningitis was made several weeks after osteomyelitis had been treated. Significant improvement of clinical symptoms from meningitis was achieved with appropriate antimicrobial treatment. **RESULTS:** This patient's complaints and clinical symptoms were resolved completely. **CONCLUSION:** To the authors' knowledge, this is the first reported case of suspected tibial osteomyelitis associated meningitis within the environment.

Hospital Pharmacy Section - Poster Session

HPS-P-061

RETROSPECTIVE STUDY OF PHARMACEUTICAL OPINIONS IN A FRENCH PSYCHIATRIC HOSPITAL

R Lautridou¹, Surugue²

¹CHS de la SARTHE France ²European Association of Hospital Pharmacists France

Aims :

To show the qualitative and quantitative evolution of pharmaceutical opinions on a 15 years period and demonstrate the increasing role of the hospital Pharmacist in this activity in a French psychiatric hospital.

Method:

All pharmaceutical opinions have been collected since 1991 and classified according to their nature

Results:

1 584 pharmaceutical opinions were sent to the hospital prescribers since 1991. Their number dramatically increased along the years. 700 of them concern exceeded posology, 517 concern potential torsadogenic cardiotoxicity of associated antipsychotic drugs, the rest spreads on a variety of potential further risks.

Conclusion :

The provision of pharmaceutical opinions has increased in our hospital together with additional human resources (allocation for new positions for pharmacists) and the development of informatic tools (access to Internet data banks, availability of bibliographic scientific supports through Internet.). At present, 100% of the hospital prescriptions are screened by the clinical pharmacists.

This grants the hospital pharmacist as therapeutic counsellor for an improved collaboration with the medical prescriber, a major role specially for drugs that have a narrow therapeutic margin, drugs reserved for hospital use, or association of drugs, which is often the case in psychiatric hospitals.

HPS-P-063

MEDICATION REVIEW CLINIC TOOLS: AN EXAMPLE OF THEIR USEFULNESS IN PRACTICE AND TEACHING

M Zolezzi¹, S Mirkov², M Fonteles³, P Seghal², N Kheir⁴, M Zolezzi¹, P Ball⁵

¹The University of Auckland New Zealand ²Counties Manukau District Health Board New Zealand ³Federal University of Ceara Brazil ⁴Qatar Petroleum Health Services Qatar ⁵Charles Sturt University

Introduction: The care for patients with chronic conditions is complex and requires interventions by all members of the multidisciplinary team to optimize therapeutic outcomes. The clinical pharmacist can contribute developing individualized pharmacotherapeutic plans for these patients. In this process, the development of instruments to register the information and its systematization is extremely important.

Objective: To present the tools utilized by clinical pharmacists for running medication review clinics (MRCs) for dialysis and respiratory patients within a tertiary care setting, and to provide an example of the potential benefits to patients of such services.

Methodology: A descriptive study of the procedures and tools utilized to run MRCs by clinical pharmacists. The referral process, the steps involved in the review and documentation, as well as the instruments utilized in each step are presented.

Results: The Medication Review Pathway (Mirkov S. et al. JPPR 2003) was designed to enable the structured medication reviews in both clinics. It consists of 15 sections for the Dialysis MRC and 13 sections for the Respiratory MRC, summarizing clinical, laboratory data and medications used. The pathway represented the tool for patient assessment, provided the summary of drug-related problems for pharmacist-physician consultation, and recommendations accepted.

Conclusions: Medication Review Clinic Pathways facilitated structured medication reviews and reduced the gap between evidence-based protocols and guidelines, and current practice. It represented the tool for patient assessment and prompted the pharmacists to perform comprehensive clinical medication review. The forms can be used as training tools for clinical pharmacists and for auditing purposes.

Support: CAPES- Brazil; Auckland University and Middlemore Hospital – Auckland, New Zealand

HPS-P-062

H2-BLOCKER INDUCED DELIRIUM – A CASE REPORT

YC Huang, YM Lin, TS Chan, HY Chen, CS Hsu
Taipei Municipal Wanfang Hospital China Taiwan

OBJECTIVES

Delirium, mental confusion and disorientation have been reported during H2-blocker therapy in elderly patients with renal function impairment. The present case was a renal impaired patient with H2-blocker induced delirium after using of famotidine and ranitidine.

METHOD

Naranjo questionnaire was used to assess the probability of the ADR. The questionnaire proposed by Edwards in 2002 was used to assess the severity of the ADR. The questionnaire proposed by Schumok G in 1992 was used to assess the preventability of the ADR.

RESULT

A 77-year-old female with no allergic history has a past medical history of major depressive disorder. She was admitted from ER with chief complaint of abdominal pain and vomiting with coffee-ground material. Diarrhea was noted for more than 1 week. Serum creatinine was calculated 7mg/dL and creatinine clearance was 57mL/min on admission. Intravenous (IV) famotidine 20mg every 12 hours was given on hospital Day 1 to 2. IV omeprazole 40mg every 12 hours was given on Day 3 and 4, and the patient exhibited conscious change on Day 4. Mirtazapine 30mg before sleep was administered on day 5. Because she was still with delirium and insomnia on day 8, quetiapine 50mg before sleep was administered and then ranitidine was switched to pantoprazole. After 3 days, her delirium feature improved.

DISCUSSION AND CONCLUSION

The Naranjo score was 3 points. The causality assessment was possible. The severity assessment was moderate. The patient's age and renal impairment were noted as additive risk factors. When patients with renal impairment receive H2-blocker therapy, dose adjustment should be assessed. Because the dosage of this patient was inappropriate, this case was thought to be a preventable ADR.

HPS-P-064

THE ANALYSIS AND MANAGEMENT FOR PREVENTING DISPENSING ERROR IN A REGIONAL TEACHING HOSPITAL

Y Hsieh, YH Chen, LW Chen, HS Tai, ST Deng
Chang-Gung Memorial Hospital China Taiwan

Purpose:

Our study analyzed cases of dispensing error before handing out medication to patients in a regional teaching hospital. Our study also shared the scheme of improvement hoping to decrease human error in dispensing process.

Methods:

Data was collected for one year (2005/1/1-2005/12/31) in the out-patient and in-patient pharmacy departments. The pharmacists designated for checking order and dispensed medication recorded any errors they encountered in the 'Internal Dispensing Error Record sheet'. The items listed in the sheet include description of cases, types of error (wrong medication, wrong dose, wrong dispensing quantity/ number of days, wrong dosage form etc...) and reasons for error (same ingredient with multiple strength, sound-alike, look-alike etc...).

Result:

Among 3,059 cases collected, the types of error were ranking respectively as 'wrong medication' (53.19%), 'wrong dispensing quantity/ number of days' (18.54%), and 'wrong dose' (6.08%). And reasons for error were ranking respectively as 'pick the wrong position medication' (27.28%), 'error at counting' (17.59%), '(same ingredient with multiple strength)' (13.5%), and 'sound-alike' (9.43%). The medication in combination encounters many errors. The main reason for these errors is the similarity of medication name or ingredient. Therefore, for those look-alike or sound-alike medication, we can use system improvement to prevent those errors. Other than this, for those errors related to multiple strength, we can change or emphasize label to show different strength. The simulate tests can also be used to prevent those most occurred cases or personnel.

Conclusion:

As IOM originated in 2000, -To err is human-, errors are only the beginning of improvement. How to prevent errors before it occurred and provided safer health environment are the first priority we are working on. Our evaluation hope can remind pharmacists those errors that occurred easily and decrease the rate of dispensing errors.

HPS-P-065

INFLUENCE OF CARBAMAZEPINE AND VALPROIC ACID WITHDRAWAL ON LAMOTRIGINE CONCENTRATION-TO-DOSE RATIO DURING VEEG

M.M. Caramona, A.M. Almeida, A.C. Falcão, F. Sales, F. Leitão, J. Santos
Coimbra University Portugal

Aim: Tapering of the antiepileptic drug (AED) dosage is a common clinical approach during video-EEG (VEEG) monitoring. The aim of the present study was to evaluate the effect of carbamazepine (CBZ) or valproic acid (VPA) withdrawal in the lamotrigine (LTG) trough serum levels of those patients receiving LTG combined to CBZ or VPA therapy.

Methods: The study included 49 patients (27 patients receiving LTG and CBZ and 22 patients with LTG and VPA). The analysis was accomplished by comparing LTG concentration-to-dose (C/D) ratio obtained during daily monitoring in the first three days after CBZ/VPA dosage discontinuation. LTG serum levels were determined by high-performance liquid chromatography. CBZ and VPA samples were analysed by fluorescence polarisation immunoassay.

Results: No significant change in LTG concentration levels was observed in the first three days after the inducer or the inhibitor withdrawal. There was no significant increase in LTG C/D ratio, as it might be expected if a rise in LTG concentrations was achieved in consequence to the interruption of the inducer dosage. Similarly, there was no significant decrease in C/D ratio of LTG due to the withdrawal of VPA dosage as it might be expected by stopping VPA dosage.

Conclusion: The results suggest that it takes more than three days to produce a significant change in LTG concentration levels after the withdrawal of an inducer or an inhibitor agent. These data may constitute a small part but relevant information in helping to clarified seizure occurrence interpretation in correlation studies involving those AEDs.

Supported by FCT

HPS-P-066

SUCCESSFUL TREATMENT OF CRYPTOCOCCUS MENINGITIS BY VORICONAZOLE IN A LIVER TRANSPLANTATION PATIENT

H.L. Chen, W.C. Lee, S.T. Deng
CGMH China Taiwan

Objective: To report a liver transplantation patient suffered from cryptococcus meningitis and successfully treated by voriconazole.

Case presentation: A 52-year-old male patient had a deceased liver transplantation for hepatitis-B related liver cirrhosis and hepatocellular carcinoma in June, 2003. He also has nephrotic syndrome which is controlled by prednisolone. He had frontal headache with throbbing sensation and came to emergency room on Feb. 27, 2005, twenty months after liver transplantation. He also had nausea, vomiting, chillness, dysarthria, slurred speech and bilateral hand tremor. Computed tomography and magnetic resonance of the brain did not show any abnormalities. However, the cerebrospinal fluid (CSF) had high levels of protein and lactate and a borderline decreased of sugar. The cryptococcus antigen titers were 1:2048 in the CSF and 1:512 in the serum. The cultures from CSF and blood showed *Cryptococcus neoformans*. Once upon the diagnosis was made, all the immunosuppressive agents, including tacrolimus, mycophenolate and prednisolone, were discontinued and voriconazole was prescribed. After administration of voriconazole, hand tremor and slurred speech were improved rapidly, and headache was resolved within 6 days. Voriconazole was discontinued after 7 weeks treatment because all the symptoms of meningitis disappeared and tacrolimus, 0.5 mg q12h, was reintroduced. However, headache came back 10 days after voriconazole was discontinued. Therefore, voriconazole was re-administrated for a one-year treatment. Now, the cryptococcus antigen titer is 1:8 in the serum. Liver function is normal. No adverse effects related to the drug are found.

Conclusion: A long-term treatment is necessary for cryptococcus meningitis until all the symptoms of meningitis are resolved and serum cryptococcus antigen is negative. Voriconazole can be applied to treat selected and critical patients successfully although amphotericin B plus flucytocine is the first consideration for cryptococcus infection.

HPS-P-067

SULPIRIDE INDUCED ADVERSE DRUG REACTIONS

H.-Y. Chien, Y.-M. Lin, M.-S. Wu, Y.-H. Yen, H.-Y. Chen
Wanfang hospital China Taiwan

OBJECTIVE

Sulpiride has been widely prescribed in gastrointestinal disorders and schizophrenia, but reported some adverse drug reactions (ADR) related to the function of central nervous system, hyperprolactinemia and galactorrhea. Here we reported a series of ADR caused by sulpiride in order to pay more attention to the infrequent problems.

METHOD

The cases were found through the real-time ADR reporting system in Taipei Municipal Wan-Fang Hospital. Causality, preventability and severity of the ADR were assessed by following Naranjo questionnaire, and WHO recommendation published in 2000.

RESULT

Case 1: A 42 y/o male had taken sulpiride 50 mg twice daily for functional gastrointestinal disorder (FGID) over 5 months. He complained about left nipple swollen tenderness without remarkable change of skin color that was diagnosed as gynecomastia. The lesion progressively resolved after discontinuing the drug in a month.

Case 2: A 27 y/o female took sulpiride 50mg at bedtime for frequent midnight epigastric discomfort. Seven days later, she experience abnormal galactorrhea, so she withdrew the medicine under the doctor's suggestion, then the problem subsided.

Case 3: A 34 y/o female took sulpiride 50mg twice daily for peptic ulcer disease. She suffered from abnormal galactorrhea and had reduction of menstrual period (from 4 weeks to 2 weeks). After adjusting the dose to 50mg at bedtime, galactorrhea gradually disappeared and the period returned to normal. The mechanism of sulpiride-induced menstrual disorder had been commented that sulpiride stimulated the production of prolactin, which in turn suppressed the surge of luteinizing hormone (LH), as a consequence, disarranged the secretion of plasma estradiol-17 β and progesterone, and irregular menstruation ensued.

CONCLUSIONS

Because of effects on autonomic nervous system, sulpiride was widely used in GID and in adjuvant therapy for peptic ulcer disease. The real-time ADR reporting system, reminded the clinician and pharmacist of the ADR that was seldom encountered.

HPS-P-068

TOXIC OPTIC NEUROPATHY ASSOCIATED WITH ETHAMBUTOL: A CASE REPORT

C.H. Lee, S.T. Deng
CGMH China Taiwan

Ethambutol, a bacteriostatic antimicrobial agent, has been used as first line agent in the treatment of *Mycobacterium tuberculosis*. Although ocular toxicity is the most serious potential adverse effect of ethambutol, most cases in medical literature are reversible. The basis of ethambutol-related ocular toxicity is not known.

We describe a 82-year-old woman who was suffering ethambutol-induced optic neuropathy. The patient was admitted for poor appetite and shortness of breath. The bronchoscopy was performed. Acid Fast stain was positive (3+) and *Mycobacterium tuberculosis* complex was found in her bronchial wash. She was prescribed three-combined anti-tuberculosis medications including ethambutol 800mg/day since 2005/9/20. Bilateral blurred vision suddenly occurred 5 months after the start of ethambutol treatment, and progressed visual impairment despite discontinuing ethambutol.

In conclusion, the incidence of toxic ocular effects with ethambutol is low under conventional dosages. However, the adverse reaction may be unpredictable and catastrophic, and there is the possibility of irreversible. The overall risk of toxicity with ethambutol can be minimized if dosing is controlled and the patient is carefully monitored. Physicians should be aware of ethambutol-induced optic neuropathy and ethambutol should be used cautiously.