

EUROPEAN SOCIETY OF CLINICAL PHARMACY

More research needed for optimal pharmaceutical care in elderly patients

The European Society of Clinical Pharmacy held its 4th spring conference in Lisbon, Portugal, from 14–17 May. Dawn Connelly reports

Research in single disease states in outpatient clinics is easier to manage than in community pharmacies

Disease specific pharmaceutical care interventions are easier to manage than generic interventions, as are interventions made by pharmacists in hospital outpatient clinics compared with community pharmacies, said JAMES McELNAY, Queen's University Belfast, Northern Ireland.

During a presentation on pharmaceutical care research in the community setting, Professor McElnay provided evidence of this by sharing with conference participants the results of several international studies into pharmaceutical care interventions.

The first was a community pharmacy-based intervention study in elderly patients with multiple disease states. Health and economic outcomes were measured six, 12 and 18 months after the interventions were made, he explained.

Patients in the intervention group reported better control of their medical conditions and higher levels of satisfaction. In addition general practitioners had a positive opinion of the new approach, and some cost savings were reported as were some improvements in health-related quality of life.

Referring to the latter two findings, Professor McElnay said: "These results were not as convincing as we would have liked, but certainly there were some significant trends in the data." He said that part of

the problem was that a lot of patients had been lost to follow-up, mainly because of their unwillingness to continue or because pharmacies withdrew from the study.

The second study involved a disease specific intervention in patients with asthma in a community pharmacy. Patients in the intervention group had higher peak expiratory flow rates and better health-related quality of life scores than those in the control group. In addition, over the 12-month study period there were no hospital admissions in the intervention group compared with eight admissions in the control group. Professor McElnay pointed out that at 20 per cent the drop-out rate in this disease specific study was about half of that in the generic intervention study.

The third study presented involved patients with congestive heart failure visiting an outpatient clinic. Pharmacists made a number of interventions and patients were followed up at three-monthly intervals. The results show that patients in the intervention group did significantly better in several measures of disease severity. Self-reported compliance with medication and recom-

mended lifestyle adjustments were significantly improved in the intervention group at 12 months. The drop-out rate was minimal.

"This shows that we are much more in control when working in the outpatient rather than the community pharmacy setting," said Professor McElnay. "The results are promising, indicating a significant positive impact of pharmaceutical care, and we have plans to roll out this type of intervention into community pharmacies," he said.

Professor McElnay concluded with some recommendations on the structure, process and outcomes of further research in elderly patients, notably that research should not only be university-led but should involve pharmacists, patient representative groups, statisticians and economists at the study design stage. Studies should not exceed 12 months and patients in greatest need of pharmaceutical care should be targeted using published risk factors. He also said that clinical, humanistic and economic outcomes should be included, but too many outcomes leads to patient and pharmacist fatigue. "Clinical outcomes are more likely to carry weight with programme payers," he added.



James McElnay: clinical outcomes carry more weight

Research should focus on pharmacodynamic changes

Pharmacodynamic changes in elderly patients are difficult to interpret and scarce information is available, said AMILCAR FALCAO, faculty of pharmacy, University of Coimbra, Portugal.

During a plenary session at the conference Professor Falcão explained that whereas age-related changes in pharmacokinetics are well understood, research efforts need to be focused on the relationship between pharmacokinetic and pharmacodynamic changes, particularly in elderly people.

Professor Falcão told participants that pharmacodynamic age-related changes may occur at a variety of sites on the drug-receptor interface. Changes are dependent on receptor number and affinity, signal transduction mechanisms, cellular responses and homeostatic regulation. He said that pharmacody-

amic changes in elderly people can result in greater, or sometimes less, drug sensitivity compared with younger people, and these changes may co-exist with or be independent of pharmacokinetic changes. "Further studies need to be carried out to define new therapeutic windows for elderly people," he added.

Professor HARTMUT DERENDORF, department of pharmaceuticals, University of Florida, United States, also discussed drug therapy in elderly patients from a pharmacokinetic and pharmacodynamic point of view. He said one problem is that it is impossible to assess pharmacodynamic changes in the elderly without also considering pharmacokinetic changes.

He explained that the effects of pharmacodynamic changes can be measured by using surrogate markers. For example, sur-

rogate markers for benzodiazepines could be electroencephalographic parameters or psychometric tests. By measuring these surrogate markers it is possible to assess changes in drug sensitivity in elderly patients.

Professor Derendorf concurred with Professor Falcão that more studies were needed in order to find out if and when dosage adjustments are needed in elderly patients. However, there is no advantage for the pharmaceutical industry to conduct these studies so they are not interested in doing so, he said. "Probably the best leverage to get this type of data is a regulatory initiative," he suggested. If the agencies give an incentive, such as patent extension, as has happened with paediatric drugs in the US, then companies may be willing to invest. "I can see the same logic being applied to the elderly," he concluded.

Include personal accountability in definition of pharmaceutical care

Are we underemphasising the imperatives for personal accountability by blaming systems, asked HENRI MANASSE, executive vice-president and chief executive officer of the American Society of Health-System Pharmacists, United States, in a presentation on safe pharmaceutical care.

He said that Hepler and Strand's definition of pharmaceutical care needs to be extended to include accountability.

He went on to talk about two significant reports from the US that impact on pharmacy. The first was from the National Quality Forum. The report identifies 27 "never events" or serious reportable errors, for example, death or serious injury from medication errors or contaminated drugs. He said that 30 approved safe practices have been issued by the NQF, including safe practice number 5, which says that pharmacists should actively participate in the medication use process, including, as a minimum:

- Consultation with the prescriber
- Preparation of medicines
- Dispensing of medicines
- Administration and monitoring of medicines

The second report he discussed was from the Food and Drug Administration. It lists its efforts to identify, learn from and prevent medication errors. These include:

- Establishing a system of data collection
- Enhancing partnerships between health organisations



Henri Manasse: pharmacists must be compensated for direct patient care

- Developing a communication infrastructure to disseminate new information quickly among providers nationwide
- A new bar code regulation so that all medicines have a machine readable code which, as a minimum, contains the drug name, form and strength

Dr Manasse then discussed the business case for quality and safety. He told participants that the view of the ASHP is that pharmacists must begin to be compensated for direct patient care. Currently they are only paid for the sale and supply of drugs. "We need to move to have the law amended," he said. "A financial incentive would enable a deeper involvement of pharmacists." He proposed that this would incentivise care management and continuity of care.

Skin thickness can predict bone density

Measurement of skin thickness may be used as a simple, low-cost method of screening in community pharmacies in order to identify patients who have a propensity to osteoporosis.

This was the conclusion of ANTHONY SERRACINO-INGLOTT and colleagues, University of Malta, who presented the results of a prospective, case control study involving 223 patients. Forty-seven of these patients were taking hormone replacement therapy and 173 were controls. The average age of the patients was 55 years, all were post-menopausal women and those taking HRT had been doing so for between three months and four years.

The bone density of the subjects' lumbar spine, femoral neck and Ward's triangle were measured along with the skin thickness of their upper arm.

Results revealed that patients in the group receiving HRT showed a higher bone density for the three areas. In addition, there was no change in skin thickness in the HRT group, however in the control group there was a significant decrease in skin thickness with post-menopausal age ($P < 0.05$).

The results show that there is a correlation between bone density and skin thickness ($P < 0.0001$), and that HRT has a positive effect on bone density and skin thickness.

"We wanted a simple indicator for the need for bone therapy," said Professor Serracino-IngloTT. "If skin thickness is reduced then the pharmacist can refer the patient for bone densitometry and if that proves that there is a problem then those patients can be started on HRT."

Accurate drug history crucial in medicines management

Accurate drug history taking is a crucial part of a medicines management programme, according to ANITA HOGG, United Hospitals Trust, Co Antrim, Northern Ireland.

Dr Hogg presented study data as an oral communication at the conference. The study looked at the number and type of discrepancies recorded in prescription lists compiled by hospital doctors on admission compared with those compiled accurately by a clinical pharmacist using various sources of information.

Discrepancies were reported for 91 per cent of medical patients and 90 per cent of surgical patients. A total of 912 discrepancies were recorded from 216 medical patients and a further 170 discrepancies were recorded from 51 surgical patients.

Dr Hogg concluded that an accurate drug history allows the clinical pharmacist to identify and resolve drug-related problems promptly on admission and pre-empt their occurrence throughout the patient's stay.

Role of statins in reducing risk of type 2 diabetes a class effect

The lower risk of developing type 2 diabetes in patients taking statins is a class effect, according to KVETOSLAVA GORECKA, Czech Republic.

Ms Gorecka presented the results of a case controlled study that she conducted while at Utrecht University, the Netherlands. The study involved patients who had received at least two prescriptions for lipid lowering drugs between 1991 and 2001.

Using a Dutch database, comprising pharmacy dispensing records and data on hospital admissions for 450,000 people in eight Dutch cities, Ms Gorecka *et al* identified 772 patients who were new users of antidiabetic therapy and 2,373 controls. These were taken from a cohort of 12,510 patients receiving lipid lowering drugs.

The results of the study show that the use of statins is associated with a significantly

lower risk of starting antidiabetic treatment compared with the use of other lipid lowering drugs. These results support those reported in the WOSCOP trial, where researchers found that pravastatin reduces the risk of developing type 2 diabetes.

The study also showed that the reduction in risk did not differ between statins and Ms Gorecka concluded that this action can be considered a class effect.

In a discussion section following her presentation Ms Gorecka explained that during further research she had discovered that the reduction in risk was only significant for up to two years after starting statin therapy. "After this the results were not that significant," she said. It is possible that statins do not prevent the development of type 2 diabetes but only delay its onset, she suggested.



Kvetoslava Gorecka: statins delay onset of type 2 diabetes