Dysphagia was the main problem for medicines administration (86.5%), while other factors such as blinded medicines (7.7%) or enteral tube feeding (5.8%) were less frequent.

The specialist pharmacist made 135 recommendations and prescription adaptations of which 94 (69.6%) involved changes on drug administration: crush tablets (42; 44.7%), change dosage forms (30; 31.9%), dissolve tablets and oral forms (11; 11.7%), change of therapeutic agent (9; 9.6%) and withdrawal of medicine (2; 2.1%). Acceptance among physicians and nurses of medicines administration guides for all 52 patients was high (98.9%).

Conclusions Pharmacists play an important role in adapting treatments of patients with dysphagia and feeding disorders, therefore ensuring safe administration of drugs. The implementation of individualised medicines administration guides supports individualised care and is generally well accepted.

No conflict of interest.

CPC-021 **ASSESSMENT OF PATIENT KNOWLEDGE IN A REHABILITATION WARD AND CREATION OF A TEACHING AID IN THE TREATMENT OF PAIN**

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Background The management of pain is one of the priorities of our hospital, which specialises in follow-up and rehabilitation care. A lack of knowledge about the pain and its treatment can limit the patient's adherence to painkillers and lead to side effects or overdose.

Purpose To create a teaching aid on the treatment of pain. It was written with the cooperation of two doctors. A questionnaire was developed to assess patients' knowledge of the painkillers they had been prescribed.

Materials and Methods A list of open questions about painkillers was developed:

- name of their painkiller (International Nonproprietary Name (INN), trade name),
- the dosage, when to take the drugs, the maximum daily dose/time interval between doses,
- the meaning of 'sustained-release drug' and 'orodispersible',
- side effects and how to avoid them, contraindications, possible drug interactions,
- how to use painkillers depending on the intensity of the pain,
- withdrawal from tramadol and codeine,
- alternatives to pain treatment.

Eleven patients were interviewed.

Results Overall, patients knew the trade name of their painkiller (72%) but only 9% of patients knew the INN. 72% could quote the exact dose. 54% of patients knew the maximum daily dose and the period of time between doses. Nearly all patients didn't know the meaning of 'sustained-release drug' and 'orodispersible' (81% and 91%). The use of painkillers depending on pain intensity was well reported in 5 cases (45%). Side effects and how to avoid them, contraindications and possible drug interactions, were not well known subjects. Finally, 27% of patients quoted alternatives to pain treatment.

Conclusions This assessment enabled us to target patients' lack of knowledge about painkillers and to develop a booklet providing all the information required. This leaflet has been checked by doctors. Patients who were part of this study gave feedback on the booklet, which will now be distributed to patients.

No conflict of interest.

CPC-022 **ASSESSMENT OF THE RELEVANCE OF FLUOROQUINOLONE PRESCRIPTIONS IN THE INTERNAL MEDICINE DEPARTMENT AND IMPACT ON ANTIBIOTIC STEWARDSHIP**

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Background In our hospital, the consumption of fluoroquinolone (FQ) antibiotics has increased since 2004. Moreover, the development of quinolone-resistant strains of Escherichia coli and their spread have become a worrying issue. The FQs available in our hospital are norfloxacin (Nor), ofloxacin (Oflo), ciprofloxacin (Cip), levofloxacin (Levo). Cip and Levo access are restricted by the hospital formulary. The Antimicrobial MultiDisciplinary Team (AMDT), composed of the pharmacy resident and a clinical microbiologist, reviews all prescriptions daily before dispensing.

Purpose To assess the relevance of FQ prescriptions in the department of Internal Medicine and then to initiate a thoughtful consideration of non-restricted fluoroquinolones.

Materials and Methods Over a six-month period, all cases of FQ prescriptions for acute infections were analysed by both a pharmacy resident and a bacteriologist. Appropriateness of prescriptions was determined by using a therapeutic suitability index, which investigated relevance of FQ and drug prescribed, dosage adjustments, duration of treatment and route of administration.

Results Forty-three prescriptions were assessed. Ofloxacin was the most prescribed FQ representing 72% of the prescriptions, followed by ciprofloxacin (16%), levofloxacin (7%) and norfloxacin (7%). Fewer than 33% of prescriptions adhered to guidelines for all items. Another antibacterial family should have been prescribed in 11% of cases (3 Oflo and 2 Nor). The drug prescribed was judged debatable in 25% of cases (9 Oflo and 2 Cip). Dosage was not adapted to renal function in 4 prescriptions. Route of administration was justified for all prescriptions.

Conclusions These results were presented to the antibiotic control committee. Because of the overuse and misuse of ofloxacin, it has been decided to restrict its access, which will lead to improve quality of fluoroquinolone usage.

No conflict of interest.

CPC-023 **ASSESSMENT OF THE WHOLE INTERCEPTIVE AND POST-FERTILISATION EFFECTS OF POSTCOITAL LEVONORGESTREL**

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Background Taking into account the whole interceptive effect, anovulatory potency and timing of administration, it's possible to calculate what proportion of interceptive (contraceptive±contragestive) effects of levonorgestrel take place as anovulatory action. However, we don't know the actual interceptive effect, because clinical trials didn't use a placebo group.

Purpose To discover the interceptive effect after a single dose of levonorgestrel, and then calculating the proportion of its anovulatory and possible post-fertilisation effects.

Materials and Methods A recent systematic review pulled data from 6,794 women. Levonorgestrel administered the fifth day after intercourse showed a probability of pregnancy of 5.2%, slightly lower than the 6–8% calculated by an estimation method. Using this cohort as a control group, we estimated the interceptive effect

and extrapolated it in Mikolajczyk & Stanford's graph (2007) to find out what proportions result from anovulatory or post-fertilisation effects.

Results The pregnancy rate was 1.0% taking the pill 1–4 days after intercourse (66 pregnancies in 6,564 women), and 5.2% if it was taken on the fifth day (12 in 230 women). It shows a minimum reduction in the probability of pregnancy of 80.7% (IC95 64.9–89.4%).

In a conservative approach, administering the pill 24 h after intercourse, we obtained an anovulatory effect of 50%. However, taking into account epidemiological data showing lack of effect on pregnancy rates at a population level, we could assume an actual decrease that could be in the lower top of the confidence interval (64.9%). Extrapolating this effect, we obtained a contribution of 65% for the anovulatory mechanism.

Conclusions As an alternative pre-fertilisation effect is unlikely, we postulate at least 35% post-fertilisation effects for post-coital levonorgestrel. This is statistically compatible with the previous contradictory Noe et al's data, as they observed only 35 women.

No conflict of interest.

CPC-024 **ASSESSMENT OF WARD-BASED CLINICAL PHARMACY SERVICES IN JIMMA UNIVERSITY SPECIALIST HOSPITAL, ETHIOPIA: THE CASE OF INTERNAL MEDICINE**

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Background Patient-centred clinical pharmacy practise has developed internationally to expand the role of a pharmacist well beyond the traditional roles of compounding, dispensing and supplying drugs, though it is poorly developed in Africa. Implementation of patient-centred practise is an important goal for maximising the utility of the profession. But, studies on the work done by pharmacists in inpatient wards in resource-constrained settings are scarce.

Purpose To assess ward-based clinical pharmacy services in an internal medicine ward of Jimma University Specialist Hospital.

Materials and Methods The study was carried out on the internal medicine ward from March to April, 2011 at Jimma University Specialist Hospital. It was a prospective observational study. Clinical pharmacy interns providing pharmaceutical care to inpatients twice per week over a 2-month period were documented. Interventions optimising rational drug use and their acceptance were recorded. The clinical significance of interventions was evaluated by an independent team (1 internist, 1 pharmacologist). Results of the study were reported in the form of findings and percentages.

Results A total of 149 drug-related interventions for 48 patients was documented. Of these, 133 (89.3%) were clinical pharmacy intern-initiated interventions and 16 (10.7%) were interventions initiated by another health care professional. The most frequent drug-related problems (DRPs) underlying interventions were unnecessary drug treatment 36 (24.2%), additional drug treatment needed 34 (22.8%) and noncompliance 29 (19.5%). The most frequent type of intervention was change of dose/instruction for use, 23 (15.4%). 68.4% of interventions were fully accepted and 29.3% were partially accepted. Interventions with major and moderate clinical significance numbered 46 (49.5%) and 25 (26.9%) respectively.

Conclusions A clinical pharmacist contributes to improved inpatient treatment, even with a modest contribution such as

participation in the pre-round meeting and the ward round twice per week.

Abstract CPC-024 Table 1 Characteristics of interventions documented by clinical pharmacists, JUSH, Ethiopia, March–April 2011

Category of drug-related problem*	Interventions, n (% of total)
Unnecessary drug treatment	36 (24.2%)
Additional drug treatment	34 (22.8%)
Ineffective drug	4 (2.7%)
Dose too low	18 (12.1%)
Adverse drug reaction	16 (10.7%)
Dose too high	12 (8%)
Noncompliance	29 (19.5%)
Total	149 (100%)

*Classification according to Polle et al, 2004

No conflict of interest.

CPC-025 **AVERAGE DURATION OF TREATMENT WITH DIFFERENT TNF INHIBITORS**

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Background Alpha tumour necrosis factor inhibitors (TNF inhibitors) represent an important advance in immune-mediated inflammatory diseases. The first three drugs marketed and most used nowadays within this family are: infliximab, etanercept, and adalimumab.

There is no apparent superiority between any of these drugs and it is known they often loss their efficacy over time. Therefore, it could be of interest to find out if any of them (under usual clinical conditions) has a longer period of time without loss of efficacy.

Purpose To compare the different treatments with TNF inhibitors, in order to find out which has the longest average duration (in days) before loss of treatment response finally requires a change in the treatment.

Materials and Methods All patients who began the treatment with TNF inhibitors between March 2007 and March 2012 and who had a change in treatment were analysed retrospectively with pharmacotherapy management software.

Patients who had stopped the treatment after presenting immediate adverse reactions in the first administration were excluded. The mean durations of treatment were compared using the Student's t-test for unpaired data

Results In total 309 patients were analysed. The three TNF inhibitor drugs most used were etanercept (Average duration 574.47 ± 461.51, N = 125), infliximab (Average duration 470.82 ± 469.64, N = 95) and adalimumab (Average duration 454.92 ± 378.89, N = 95). We found a significant difference between etanercept versus adalimumab (P.value = 0.0412), but not in the case of etanercept versus infliximab (P.valour = 0.0997).

These results are coincident with Dr. Hetland's study in 8074 patients (1). They also agree with the study presented by J.A Markenson in 2418 patients (2). However our study results do not resemble those of G. Lapadula's study (3).

Conclusions The average duration of treatment before requiring a change of drug is higher with etanercept than infliximab and adalimumab, but only is statistically significant with adalimumab. These results should be considered in the design of TNF inhibitor prescribing guidelines.

No conflict of interest.