

Healthcare in Nepal: A Pharmacy Perspective

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Nepal has been ranked amongst poorest countries in the world,¹ which would be reflected in poor health care resources and public health infrastructure compared to other richer nations. In May 2016 the author embarked upon a four-week voluntary pharmacy placement at Manipal Teaching Hospital in Pokhara, the second largest city in Nepal. The placement was arranged by a UK based company, Work The World.

As a pharmacy student at the Leicester School of Pharmacy, De Montfort University, my perspective of healthcare during the placement focused predominantly around the provision of hospital pharmacy services. However, I was fortunate enough to have access to other departments including the wards and operating theatres. Hospital pharmacy at Manipal, Pokhara, has a good reputation for health care in Nepal, though other facilities in less affluent areas may be less well resourced.

Clinical Role of a Hospital Pharmacist

A typical hospital pharmacist at Manipal is responsible for overseeing good operational pharmacy practice, counselling on the use of medication and ensuring pharmacovigilance tasks are carried out. Despite the good reputation of the department, it was evident that the role of a pharmacist at Nepal is much more limited in comparison to the UK. Members of staff in both the outpatient and inpatient pharmacies appeared knowledgeable and competent, yet lacked the opportunity to utilise their clinical skills. In the UK hospital pharmacists are fully integrated into multi-disciplinary teams and tend to have less input into the supply/dispensing function which is largely delegated to pharmacy technicians. Hospital pharmacy practice in Nepal is mostly concerned with the supply function, in a similar way to practice in the UK before the 1980s.

The pharmacists were not involved in what is termed the 'clinical checking' of the prescriptions that they dispensed. Therefore it did not appear to be common practice for pharmacists in Nepal to query with prescribers dosage, strength, form, drug interactions or choice of medication. These are all common activities for UK hospital pharmacists. Most members of staff were limited to picking medicines, and copying dosage instructions on to an envelope in which the medicines were dispensed. Fully qualified pharmacists did usually oversee the pharmacy operation, but sometimes picked or labelled. Even if clinical checks were to be introduced as part of

pharmacy practice at Manipal hospital I observed that poor patient notes in many cases might reduce the effectiveness of such reviews. Pharmacists do not participate in ward rounds and do not have involvement in the prescribing process. Nepalese pharmacists, those who possess a Bachelor of Pharmacy, are undoubtedly able to contribute in a similar way to UK pharmacists. However, they were excluded from wards, perhaps due to professional hierarchy issues. The pharmacy department is however investigating the possibility of sending pharmacists on ward rounds in the future.

There were limited books and other resources visibly present in the premises for carrying out clinical tasks. Some pharmacy students used the Nepalese National Formulary which provides reasonable general information on medicines, but lacks much information that UK pharmacists may consider essential such as directions to patients on the use of their medicines e.g. common warnings, timing with food etc. Staff did appear to counsel patients on the use of medicines although few counselling consultations were observed. Counselling sessions on the use of inhalation devices did appear to be of a good quality when performed.

Pharmacy Qualifications in Nepal

In many developing countries, including Nepal, there is a lack of qualified and skilled pharmacy professionals.² Numbers of pharmacists are growing due to an increase in the number of schools of pharmacy in the country. There exist three tiers of qualifications available for individuals wishing to work in a community or hospital pharmacy. Pharmacists complete a four-year Bachelor degree, assistant pharmacists a three-year diploma and "professionalists" a 72-hour orientation course. All types of pharmacy professionals possess the same authority within a community pharmacy, and can provide the same services. The professionalist orientation training began in the 1980s but was discontinued and no longer available. However, most registered community pharmacies in Nepal are still managed by professionalists.²

The pharmacy educational programs in Nepal, and many developing countries are tailored more towards industrial pharmacy and medicinal manufacture, as opposed to clinical pharmacy. This is the most likely reason for the lack of a clinical role for pharmacists in Nepal.

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Pharmacy regulations

Members of pharmacy staff within the hospital described that pharmacy legislations does exist to support good pharmacy practice but are not fully enforced by the relevant Nepalese authorities. Continuing professional development is also not enforced, however most pharmacists I worked with were generally very interested in recent pharmacy developments so regularly read newly published articles and pharmaceutical newsletters.

Prescribing Trends and Issues

I studied multiple patient notes and drug charts during my time at Manipal and noticed that, almost regardless of the patient condition, a prophylactic antibiotic and PPI were prescribed on admission, generally somewhat inappropriately. Antibiotic resistance appeared to be an issue with an alarming number of patients. Many patients had Enterococcal spp. and Staphylococcal spp. infections resistant to last line antibiotics such as vancomycin. All culture and sensitivity reports I observed showed bacterial resistance to amoxicillin, which explained why it was only available as co-amoxiclav. The availability of antibiotics in high street community pharmacies is likely to be a large contributor to the issue of resistance.

Prescriptions tended to list medicines as brands, as oppose to the generic drugs. This made it very difficult to understand what had been prescribed for students living outside of Nepal. If branded medicines were unavailable, most of the time an alternative was given.

Processes – Medicine Supply

Family members of patients, or patients themselves, were required to take their prescriptions to the inpatient or outpatient pharmacies. In general relatives paid much more of a role in patient care than in the UK. Prescriptions would also detail equipment such as syringes, gloves and catheters that would also need to be collected from the pharmacy.

The pharmacies did utilities a basic computerised patient medication record systems. When a prescription was handed in a member of staff produced a printed document using the computer system listing the items prescribed. A cashier then charged patients accordingly and medicines were picked from the print out and checked against the original prescription for accuracy. Instead of labelling medicine boxes, as is the case the UK, staff at Manipal placed dispensed medicines into envelopes. Sometimes important information was entered on an envelope or written on the packaging, other times the information was relayed verbally.

Due to hospital policy, strips of medication were not permitted to be cut as patients had previously complained when their tablets or capsules did not state an expiry date. Therefore, patients had to purchase full strips of generally either 10 or 15 dosage units. This raised a clear patient safety issue for patients requiring less than the pack sizes available. A pharmacist described to me how a patient was prescribed a single unit dose of a cardiovascular drug, but had to purchase a full 15 tablets. The patient took all the full dispensed strip against clear instruction not to do so resulting in hospital admission.

Medicine Pricing

Residents suggested that medication prices in Pokhara are reasonably affordable. The cost of medication at Manipal was cheaper than other hospitals in the local area as it is a teaching hospital. All services are fairly affordable for working residents. Those with chronic conditions such as diabetics or hypercholesterolaemia generally could afford to maintain a good standard of health using medicines. However, cancer chemotherapy is unaffordable for most residents in Nepal and are therefore rarely dispensed.

Quality Control of Medicines

Pharmacy staff were aware of the possibility of counterfeit and substandard medicines entering the supply chain. They were able to provide information on possible locations responsible for producing poor quality medicines.

A few individuals working within the hospital pharmacies suggested poor quality and counterfeit medicines reached Nepal from India through the open border. Others suggested rogue medication could be bought from markets in Nepal. This demonstrated evident concern and awareness for pharmaceutical quality. One particular pharmacist told of his level of concern when a former patient's ophthalmic antibiotics showed no efficacy, despite testing as sensitive. The pharmacist contacted European associates and sent the suspect eye drops for testing, which later proved to show little or no active ingredient.

Packaging of original containers was generally sufficient to maintain the quality of the dosage unit and relay important information to patients. The pharmaceutical manufacturing industry in Nepal is growing, with about 40% of medicines now produced in laboratories within the country.²

Community Pharmacy

Community pharmacies were abundant in town centres and busy high streets.³ They were generally

clustered together. In a particular area of Pokhara, Mahindra Pal, there was a collection of streets displaying more than 20 pharmacies. Residents and travellers could barter medicine price against the other pharmacies.

There appears to be little control of medicines that would be prescription only in the UK. For instance I asked for atenolol from multiple different premises and in each instance the only question asked was "what strength?"

The range of medicines inside community pharmacies was generally vast. There was little, if any, deviation in brands from pharmacy to pharmacy indicating that they have the same wholesale suppliers.

Equipment and resourcing

Frequent power cuts, which generally occurred twice a day, were perhaps the most alarming result of the economic crisis in Nepal. The few seconds or minutes between power cuts and the start up of the backup generator plunged the whole hospital into darkness. The power cuts meant surgical procedures had to be carried out using torches or mobile phone lights for a short period. Commendably, most healthcare professionals were not phased by power cuts and

continued with their tasks at hand without much disruption.

Resources inside the inpatient and outpatient pharmacies were adequate but outdated by UK standards, though equipped with a computer and a printer. Apart from inside the pharmacies, there appeared to be very few other computers around the rest of the hospital.

General Hospital Facilities and Activities

Hospital wards were very basic but fairly spacious, with no form of air conditioning units present. There were balconies on most wards so rooms were well ventilated, but generally warm. Conditions on the wards appeared hygienic and all professionals and students inside theatres were required to wear full scrubs..

I observed the delivery of multiple new born babies in the obstetrics department over the course of a few days.

Staff informed me that the Nepalese government covers the cost of delivery in a hospital, in a bid to stop pregnant women from delivering in their own homes. There was only a small range of medicines



The Pharmacy Team Manipal

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available on the ward, for use intravenously or intramuscularly. Most patients were given oxytocin to aid contractions and induce labour.

Any form of analgesia was rarely used in childbirth as I was told that it is frowned upon if women showed signs of suffering during childbirth. Episiotomies were performed to all patients as standard. Local anaesthetic was administered before making an incision, but not during the process of re-stitching. The procedure left women in an extreme amount of pain.

Common Causes of Morbidity and Mortality

Mental health is an area for attention in Nepal as was evident from the number of attempted suicide hospital admissions. I spent a significant amount of time in intensive care studying the drug regimes, and noticed every day there were new admissions where patients had purposely ingested an organophosphate fertiliser used in agriculture. The WHO lists self-harm as the 6th top cause of mortality in Nepal, with 5600 deaths per year (statistics taken in 2012). Self-harm results in more deaths than tuberculosis.⁴ Incoming prescriptions in the outpatient pharmacy rarely listed antidepressant medication such as SSRIs.

A significant proportion of prescriptions detailed medication for respiratory conditions such as COPD. Pollution emerging from vehicles in the busy roads of Pokhara was problematic, but much worse in the capital city Kathmandu.

Impressions and Opinions

Clinical pharmacy practice in Nepal is under developed. However, I do not believe that is in any part due to the competencies or attitudes of pharmacists, or members of pharmacy teams. I feel healthcare professionals in Nepal work to the best of their ability with the resources available to them, even if that means using a torch during surgery. Most members of staff at Manipal were very passionate and enthusiastic about their field, especially pharmacy professionals.

From an outsider's perspective, the reason behind the lack of clinical checks of prescriptions is probably due to fear of undermining physicians and upsetting the evident natural hierarchy present within the hospital. I feel the next logical steps for improvement to pharmacy practice in Nepal would firstly be to change the training programs, tailoring them to be more clinical. However, providing pharmacists with better clinical knowledge would not be useful until they were accepted as credible healthcare professionals with the ability to add to patient care.

in the UK healthcare system, in Nepal this does not appear to be the case. Rather, different medical professions have their own roles and responsibilities, as oppose to having the shared responsibility to deliver quality healthcare to ultimately improve lives.

In summary, pharmacists have the potential to ensure safer and more efficacious medication usage, but lack the opportunity to do so in hospital settings. I feel this is partly because pharmacists have become accustomed to a role with little clinical responsibilities. I believe professional practice is good considering the severe lack of resources in Nepal.

References:

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Whilst interprofessionalism is an embedded concept