

# How much do patients in Blantyre, Malawi know about antibiotics and other prescription only medicines?

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## Abstract

### Introduction

This qualitative and quantitative exploratory study was conducted to assess patients'/customers' knowledge, beliefs and practices about antibiotics and other prescription only medication (POM) in 10 community pharmacies in Blantyre, Malawi.

### Method

5 out of 10 pharmacies were selected by simple random sampling and 54 participants attending the selected pharmacies were interviewed.

### Results

The major antibiotic drugs frequently requested without a doctor's prescription were Bactrim (Cotrimoxazole) and amoxicillin. Knowledge of these medicines was attributed to the patients' previous medical conditions and doctor's prescription. However this knowledge does not extend to understanding of proper therapeutic indications and dosage regimens for antibiotic therapy. The majority (30 out of 54 participants) did not know about the importance of completing a prescribed course of antibiotics. All 54 participants believed in the efficacy of antibiotics.

### Conclusion

Study participants had wide range of knowledge about antibiotics and other POM from hospital, but the majority had limited knowledge regarding clinical indications and correct dosage schedules.

## Introduction /Background

Prescription Only Medicines (POM) are medicines that are dispensed by a pharmacist under a doctor's prescription<sup>1</sup>. Examples of POM include antibiotics, antifungals, certain antimalarial drugs (e.g. quinine), controlled drugs (e.g. morphine and codeine), antiretroviral and anticancer drugs. Over the counter (OTC) drugs on the other hand, are available to treat minor ailments and are sold without prescriptions. Patients/customers may not understand the difference between 'POM' and 'OTC', and hence treat POMs as if they were OTC drugs. Patients may use POMs correctly – seeking a doctor's prescription, complying with and completing the prescribed regimen – but there are many ways in which POMs are misused – self-medication and sharing medicines with family members who have similar symptoms, among others. It is the duty of the retail pharmacist (by the law) not to sell POM drugs without prescription.

Patients/customers may not be aware that antibiotics and other POM medicines, when not properly handled may become toxic (eg tetracyclines). Storage conditions of these medicines are of pharmaceutical and treatment importance. It has been observed by the first author that patients get these medicines and keep them for so long without considering the expiry date of such medicines. The knowledge, attitude and beliefs about such storage conditions in Malawi have not yet been published.

The reasons why patients/customers in Malawi walk into retail pharmacies and ask for antibiotics and other POM

doctor's prescription are not known. The patients may have certain knowledge, attitudes and beliefs but these have not been ascertained in Malawi. There are few published articles in Africa on this topic, although the number of such articles appear to have been increasing recently e.g. in Tanzania<sup>2</sup>, Nigeria<sup>3,4</sup> and South Africa<sup>5</sup>. A study on self-medication with antibiotics and antimalarials was conducted in 2005 in the community of Khartoum State, Sudan to find the factors leading to the self-medication<sup>6</sup>. However, this study did not examine the patient knowledge, attitudes and beliefs in relation to the practice of self-medication. Self-medication is the treatment of oneself without seeking medical advice, including the use of prescription drugs, over-the-counter products, and home or traditional remedies<sup>7</sup>. It is believed that self-medication is a prevalent phenomenon from the authors' own experiences from retail pharmacies where the patient insists on getting antibiotics or other prescription only medicine for minor ailments. However, the choice of self-treatment may, in some cases, exacerbate or mask symptoms, may affect the laboratory diagnostic results as well as lead to the problem of bacterial resistance.<sup>7</sup> If the products being self-prescribed are narcotics, dependency may become the problem.

Compliance, as part of the patient practice, is the ability of the patients to take the medicines as advised by the health professional. Many patients in Malawi may start taking medicines only to stop and keep the rest after the symptomatic relief. The knowledge, attitude and beliefs about this practice are not known. When pharmacists send patients back to collect the doctor's prescriptions it is believed many do not seek the doctor's prescription and they do not come back. We do not know why this happens. In this study we sought to address this important knowledge gap and bridge it where necessary, in the hope of contributing to the better handling of antibiotics.

## Methods

The main objective of the study was to assess how much patients/customers know about antibiotics and other POM in five community pharmacies around Blantyre, Malawi. Only patients coming to the pharmacy without doctor's prescription and asking for antibiotics or other POM were included. The study was carried out between February and October 2010. It was both a qualitative and quantitative exploratory study. Blantyre had 10 community pharmacies during the time of study. Five pharmacies were selected from ten through simple random sampling method. The sample size calculations resulted in 58 participants to whom semi-structured questionnaires were administered.

Data-collecting assistants were used in the selected pharmacies. They would sit and await a patient who asked for POM without an accompanying prescription. After the interaction with the pharmacist they would then approach the patient, introduce themselves and seek consent to conduct an interview. A semi-structured questionnaire was then used during an interview in a separate room/area.

Data from the 54 study participants' questionnaires underwent description analysis, which involved description of the study population, distribution of participants according to

gender, age, level of education.

The study participants were asked for their consent. Privacy was prioritised as the interviews were conducted in a private place separate from the pharmacy they were first identified in. Pharmacists were also asked for their consent and assured of confidentiality of their interaction with their patients. The College of Medicine Research and Ethics Committee approved the study.

## Results

Out of 54 respondents, 38 were males. 10 of the participants had a primary school background, 29 participants were secondary school goers and those who had studied beyond secondary school were 15.

The antibiotics and other POM that the customers/ patients asked for without the doctor's prescription were recorded and the results were plotted in a tabular form as shown in the Table 1 below.

*Table 1 showing antibiotics and other POM*

Medicines	Frequency	Percent
Amoxicillin	13	24%
Bactrim	14	26%
Erythromycin	1	2%
Penicillin tablets	6	11%
Doxycycline	2	4%
Flagyl	3	6%
Chloramphenical	2	4%
other pom	13	24%

### *Knowledge of POM*

47 of the 54 study participants had acquired knowledge about use of antibiotics and other POM from the hospital. Out of 13 people who used other POM, 5 reported not to know the regimen. Out of 41 participants who were looking for antibiotics, 22 reported not to know the dosage regimen whilst 8 reported to have had knowledge of using antibiotics with correct frequency for a period of less than 5 days. 11 participants had knowledge of using the same antibiotics with correct frequency for period of 5-7 days or more. Out of these 11 participants 6 had knowledge of using cotrimoxazole (Bactrim) at strength of 480mg twice a day for period of a month or more, which is a dosage regimen suitable for infection prevention for people living with Human Immuno Deficiency virus (HIV). Of interest, out of 13 participants who wanted amoxicillin, 9 said it was for dry cough. Out of 14 participants who were looking for bactrim, 12 were seeking treatment for any type of cough. Some study participants had asked for other POM and all who went for glibenclamide said it was for treatment of diabetes mellitus, and those who went for furosemide reported that it was for diuresis. Those for phenytoin and phenobarbital said they were for epilepsy, whilst those asking for quinine said it was for malaria treatment. Patients who went for morphine and codeine said it was any type of cough. 48 out of 54 study participants knew that improper use of antibiotics could lead to bacterial resistance with the majority obtaining this

information from the hospital.

### *Knowledge of side effects*

Out of 54 study participants who reported to have been using antibiotics and other POM, 8 had experienced side effects of whom 2 participants had rash attributed to bactrim. 7 participants did not have any knowledge on how to handle the side effects that they experienced.

51 participants had no knowledge about contraindication of the medicines. Out of 54 participants 24 people had knowledge about medicine substitution. Of interest, those that reported use of amoxicillin and bactrim for treatment of cough said that they would be happy to use a cough syrup instead. 29 said they could not have any substitution because they were used to the medicines that they were asking for. 53 study participants had said the right place to find quality POMs was at the hospital. When asked about what they would do should they fail to buy antibiotics or other POM, 17 indicated they would see a doctor to get a prescription, 9 reported they would purchase an alternative. 10 indicated they would give up and live with the condition. Knowledge on dosage and combination

24 out of 54 study participants reported to have knowledge on drug combinations with other drugs. When asked what kind of combination, 20 participants reported that they could combine paracetamol (PCM) with various drugs. 10 had combined PCM with Bactrim. The main reasons given for such combinations were to alleviate pain. 15 participants out of 20 explained that the pain that could be relieved was caused by the medication they were on and 4 who were taking quinine reported that the pain to be relieved was from malaria parasite infection.

More than half the participants said they read from the internet when they forget the dosage regimen. Most of these indicated they could use the package insert to remember the dosage and the side effects. Fewer participants reported that they could refer to the health passport on the previous doctors prescription. All 54 participants believed that the medicines they were asking for were an effective treatment for their condition.

### *Perceptions on selling of POM*

With regard to whether POM should be sold as OTC drugs, 38 participants disagreed, explaining that the pharmacists have the right to administer those medicines as POM as some medicines need doctor's guidance. 30% of those participants who disagreed explained that the pharmacists are knowledgeable to ask the customers to get doctor's prescription but the illness that they have could force them to think of just buying antibiotics or other POM without doctor's prescription.

65 percent of those that strongly agreed said that they need medicines because they have a problem so there is no need to go to the doctor looking for prescription while they are in pain.

The participants were also asked whether vendors should take an active part in selling antibiotics and other POM. 33 of the participants said "No" with most stating that vendors are not health professionals to sell medicines. Additional reasons were that most of the medicines sold by the vendors are expired and are not stored properly. 19 answered "Yes" with nearly all saying it is a form of employment since Malawi has a problem of unemployment.

On the question of being sent away to get a prescription, of the 54 participating patients 44 said this was reasonable, 10 said it was not fair and 36 said it was time consuming. The majority agreed with this because patients would benefit from proper examination at the hospital by medical personnel when they are getting the prescription. It was also felt that pharmacists need to communicate with the prescribers on what antibiotics or other POM to give depending on the patient conditions.

### ***Practice***

Whether it is time consuming to go to the hospital to get prescription was a question asked to the 54 participants and 18 of these said "No" whilst 36 study participants gave a "Yes" response - that it is time consuming to seek doctor's prescription. Reasons given included long queues at the hospital and bureaucracy with many procedures taking place before receiving medication. Those who said it is not time consuming to seek prescription explained that the cost of proper examination is better than time spent just buying medicines at pharmacy.

Information regarding the practice of sharing medicines with other family members was solicited. 42 participants reported not to have a tendency of sharing the medicines with family members who exhibited similar symptoms.

When asked what action study participants would take should they experience no improvement after taking the asked for medicines, 43 said they would then see a doctor for reassessment of their condition.

### **Discussion**

The results clearly indicate that most of the participants had used antibiotics without prescription. This result also reflects the fact that dispensers have given out drugs without prescription. This finding is similar to the Sudan study by Abdelmoneim et al. where over 74% of the study participants had used antibiotics without prescription<sup>6</sup> indicating a high prevalence of non-prescribed antibiotic use in Africa. The frequent prescription of Bactrim in the private and public hospitals by health personnel could account for Bactrim consumption being found to be slightly higher than that of amoxicillin. Bactrim is likely to be frequently asked for by patients with HIV/AIDS: 6 study participants had requested a dosage regimen that was appropriate for cotrimoxazole prophylaxis therapy (CPT) as used in the national HIV programme.

Our study demonstrated that the majority (30 participants) did not know how to properly use antibiotics, with 8 individuals demanding antibiotics for a period of less than 5 days.

### ***Wrong medication for cough***

Antibiotics such as Bactrim and amoxicillin should not be used for treating dry cough but the study results show that many participants were using them for this indication. Taking amoxicillin or Bactrim for dry cough of unknown cause is not appropriate since the cause could be viral or allergy. Many medicines sold over the counter in the pharmacy could be opted for in the treatment of dry cough, such as cough syrups and codeine.

Many participants were not interested in having medicine substitution, indicating a fixed belief that antibiotics must be better than any thing else. Pharmacists should take the initiative to substitute a non-antibiotic therapy if antibiotics

are requested without a prescription.

### ***Knowledge***

Many participants attribute their knowledge of use of antibiotics to past experience with a doctor's prescription. Most study participants reported no contraindications to their medicine. This could be due to many factors. For example the participants may not know what contraindications are even though the investigator explained them.

Many study participants – all of whom were based in an urban area – had knowledge of bacterial resistance. Whether rural Malawians also have such knowledge remains to be seen from other studies.

### ***Selling of POM***

Participants indicated that street vendors are not a reliable source of the antibiotics. However, it cannot be fully concluded that these participants had negative attitude towards vendors. It is possible that some obtained medication from the vendors so they did not want to disclose this to avoid losing the suppliers. Among participants, there appears to be a significant knowledge of drug combination with other drugs. For example combining pain killers when taking amoxicillin and when treating malaria infection appears logical. Rational knowledge about drug combination has also been discovered in treatment of chronic conditions such as DM and HTN. The reason could be that the participant might have taken such medications for so long and they know how much and when to take their medications and with what sort of combination. However, it is very important that in such cases the participants should not cease to be in regular contact with their prescriber for further investigations and, where necessary, dose adjustment still needs to be done.

### ***Attitude***

Most participants demonstrated a positive attitude about effectiveness of the medication for the conditions. The reasons depended on the outcome that the patients were having upon or after taking such medications. From all this it can be concluded that customers still do have a positive attitude towards the medicines and pharmacists and whatever the pharmacists say is treated as being very important. However, there seems to be a problem concerning the long procedures taking place at the hospital before getting a prescription. Fast procedures and short queues would encourage people to attend hospitals to obtain prescriptions for POMs

### **Conclusions and Recommendations**

The study has shown that most people who use antibiotics and other POMs have some knowledge about these medicines, which can be attributed to their previous medical conditions and doctor's prescriptions. However this knowledge does not include adequate knowledge about therapeutic indications and dosage regimens for antibiotic therapy.

Many people believe that improper use of antibiotics can lead to resistance, despite having just sought antibiotics over the counter without a prescription.

We recommend that health education, utilising radio and newspapers, should continue to educate people, both urban and rural, about the proper use of antibiotics, the need to respect due procedures in the use of POMs, and the dangers of microbes developing resistance to antimicrobial drugs.

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