



Patient Perception, Preference and Participation

Patients' understanding of prescription instructions in a semi-urban setting in Cameroon

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ABSTRACT

Objective: This cross-sectional study investigates the factors associated with patient comprehension of frequently used prescription patterns and explores patients' preferences for the various methods.

Methods: We interviewed two hundred and four consenting patients selected consecutively from the waiting rooms of the St. Elizabeth Catholic Hospital-Shisong in the North West Region of Cameroon. We recorded socio-demographic data and their understanding and preference for four prescription modalities: pictograms, written out, symbols and Latin abbreviations. We studied the relationship between these variables in a logistic multivariate analysis.

Results: Understanding was best with symbols (89.7%) and worst when Latin abbreviations (26.9%) were used. Higher levels of education were associated with better understanding of Latin abbreviations (OR 18.87; 95% CI 2.44–142.86), written out prescriptions (OR 58.82; 95% CI 23.25–333.33), symbols (OR 1.47; 95% CI 0.425–50.00) and pictograms (OR 52.63; 92% CI 1.85–142.86) after controlling for confounding. Participants mostly preferred pictograms (40.7%) and written-out prescriptions (30.9%).

Conclusion: Latin abbreviations were the most difficult to understand and should no longer be used. Symbols are more easily understood.

Practice implications: Latin abbreviations should be discouraged. Symbols are better, especially for patients with low levels of education. Prescribing using pictograms and plain text may facilitate understanding in this setting.

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1. Introduction

Poor understanding of prescription instructions is a serious public health problem [1]. It is responsible to some extent for sub-optimal adherence and unfavorable health outcomes [2–4]. It is also responsible for many adverse events in ambulatory care, higher health care costs, hospitalization and death [2,5,6]. The problem is even more important in low-resource settings where literacy rates are low [7,8]. Health literacy has even been described as the missing demographic variable [9]. The problem is centered on three players in the health care system, the prescribing physician, the pharmacists and the patient. Ultimately the patients' understanding of the prescription instructions is a key component of correct compliance in terms of duration, dosing and timing.

Very few papers address the problem of poor patient understanding in sub-Saharan Africa, even though this region of the world has significantly lower literacy rates and a higher disease burden [10,11]. Some of the papers addressing the issue found benefits in using pictograms and visual aids [12,13]. Physicians may assume that patients understand how to take their medication partly because it is explained by the physician, written down on a prescription and explained by the pharmacist (or drug dispenser). This may be the case for single drugs with straightforward instructions. Patients on multiple medications, the elderly, people with cognitive impairments and those with low literacy skills have more difficulties in remembering prescription instructions [7,14,15]. When the patient gets back home, he may not remember the explanations and will need to refer to the prescription to read the instructions. It is critical that the instructions be written or presented in a way that the patients will understand. Unfortunately, there is no standard way for prescriptions to be written. Medicine labels using pictograms have been shown to improve understanding and adherence [16,17], even though they work best as a supplementary presentation and when the images are large [18]. They may have an added advantage if they are culturally adapted [12]. In another Cameroonian study a local artist modified

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published visual aids based on the local environment to create culturally relevant pictograms [12]. Prescriptions must also be written in a clear and concise manner [19]. It would appear that in different contexts, drug label instructions are not clear to patients and that vague dosage frequency and text words are likely to lead to patient misinterpretation [20]. The issue takes an even larger scope when we consider that even pharmacy interpretations of physician prescriptions may vary [20]. Overall, taking the wrong dosage of any medication can inhibit recovery, and cause medical harm or death. Since there are no global standards for prescriptions, the World Health Organization (WHO) emphasizes the need for complete prescriptions that are legible [21].

Our objectives were to determine which prescription patterns are best understood in semi-urban Cameroon and to explore patients' preferences for the various methods and need for assistance at home.

2. Methods

2.1. Study design

We conducted a cross-sectional study at the St. Elizabeth Catholic Hospital using a convenient sample of two hundred and four consenting outpatients who were consecutively selected from the waiting room. Consenting individuals were taken into a separate room where the interviews were conducted by EN (a state registered nurse). On average they lasted 10–15 min. The interviews were carried out on a daily basis for 2 months (10 May 2010–9 July 2010). Ethical consent was obtained from the review board of the St. Elizabeth Catholic Hospital.

2.2. Setting

St. Elizabeth Catholic Hospital is a 350 bed referral hospital located in Shisong on the outskirts of Kumbo in the North West Region of Cameroon – one of the two English speaking regions. It is in a semi-urban setting. Four doctors attend to about a 100 outpatients on a daily basis. Prescriptions are written out on the patients' consultation booklet. They may or may not be explained to the patient. At the pharmacy, the instructions are explained and copied out into the sachet containing the pills. The method of inscription on the sachet may vary from what is in the booklet, but generally, pharmacy attendants try to simplify the physicians' instructions. The drug sachets have pictograms on them, which the pharmacy attendants may or may not use to explain how to take the medication. The hospital staff would speak plain English or Pidgin English to the patients. Pidgin English is the most common means of communication in the English speaking regions of Cameroon.

2.3. Participants

All the adults (aged 21 years or more) found in the waiting room during the period of the study collection were eligible to take part in the study. We also included accompanied minors (aged less than 21 years) from whom we could obtain parental consent. We excluded people who had visual impairments that would prevent them from evaluating the prescription samples and people who declined to participate.

2.4. Variables

We employed a pilot tested questionnaire to collect data from consenting patients. Data collected included basic socio-demographics (age, gender, level of education, residence, and marital status), reason for visiting hospital, understanding and preference of the different prescription patterns and assistance with taking medication. Level of education was categorized as none and primary (low educational level), secondary and university (high educational level). Residence was classified as urban or rural. Marital status was categorized as married, single or divorced. Their reasons for visiting the hospital were categorized as acute (problems likely to resolve within two weeks e.g. malaria, common respiratory tract infections, etc.) and chronic (problems unlikely to resolve in two weeks e.g. diabetes, hypertension, etc.). Understanding of the different prescriptions patterns was the dependent (outcome) variable. The prescription pattern was the independent (predictor) variable. The socio-demographic variables and reason for visiting the hospital were analyzed as covariates.

2.5. Data sources

Patients were shown four samples of different prescriptions patterns: one fully written out, one using Latin abbreviations, one using symbols and other using pictograms (Figs. 1 and 2). They were asked if they could tell how the medication should be taken. For the pictograms they were asked if they could tell what to take and when to take it. All patients were shown the same prescription samples. In order to minimize response bias, interviews were conducted in a separate room by a non-staff member (EN). Understanding was recorded as either yes or no for each of the prescription patterns.

2.6. Data analysis

Univariate analysis between socio-demographic variables and understanding of prescription labels was carried out using the Chi-square test with statistical significance defined at the alpha level of 0.05. We used a multivariate logistic regression model with understanding of the various prescription patterns as the outcome

Medication instruction	Presentation	Sample
Take one tablet two times a day	Written out	<i>Take one tablet two times a day</i>
Take two tablets three times a day	symbols	<i>// // //</i>
Take one tablets three times a day	Latin	<i>One tablet TID</i>

Fig. 1. Prescription patterns shown to participants.

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