Assessment of Patients' Understanding on Prescribed Medications at Outdoor Patient Department of Tertiary Care Hospital in Central Gujarat, India

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Article Info

Abstract

Medication is an important part of a patient's treatment by clinicians and is one of the measures taken by them during the entire period of treatment. This descriptive cross-sectional study aims to assess patients' understanding about prescribed medication obtained after consultation with clinicians at the outdoor patient department of a tertiary care hospital in central Gujarat, India. 184 patients from different clinical departments were interviewed after their consultation with the clinician. Majority of the subjects (45.5%) were 25-44 years of age, while the rest ranged from 45-54 years of age group. Furthermore, 55.5% of the subjects were female, 20.4% were Illiterate people, and 32.5% were educated up to primary level. The results showed that 84.3% of the patients were informed about proposed treatment duration, while 13.9% were informed about diet relation. Therefore, the patients had fair knowledge about the disease they were suffering from and proposed duration of treatment, but they were not aware of about the line of treatment. In conclusion, patients need to be educated about the correct use of medications by clinicians.

INTRODUCTION

Medications are an important part of treatment of patients by clinicians in addition to other measures to be followed by the patients during the entire period of treatment (Hendrayana, et al, 2017). They also prevent further deterioration of body thereby prevent future complications from the ongoing disease. Without having adequate knowledge about the use of medications, the patients cannot be effective partners in management of their own care, consequently, failure to comply with medication instructions commonly leads to serious adverse outcomes (Shani, et al, 2000).

A study by Segev Shani, Tal Morginstin and Amnon Hoffman in Israel to evaluate patients' perceptions of drug counseling by health professionals – the prescribing physician and dispensing pharmacist found that 60.4% were counseled by both physician and pharmacist, 33.6% by their physician only, and 4.2% were counseled by the pharmacist only. They also found that information on the medication's indication for use was given to 93.7% by the physician compared to 13.1% by the pharmacist (Shani, et al, 2000).

The physician, a trained registered nurse, or a health educator needs to spend time on explaining

the nature of the disease(s) and why he or she has selected the specific medications, even though the patient may be asymptomatic as with hypertension or diabetes (Mroueh, et al, 2018). The physician should also list the more important side effects as well as measures to resolve that side effects. This should be done in an empathetic manner (McLachlan, et al, 2019). Asking the patient to repeat these directions is important and may be enlightening.

Currently there is no system for verifying the understanding of medications after providing prescription by clinician and dispensing of the prescribed medications by the pharmacist (Bashiri, et al, 2019). The present study was conducted to assess patients' understanding about prescribed medications by the attending clinicians at outdoor patient department of Sir Sayajirao Gaekwad General Hospital (SSG Hospital) of Central Gujarat, India.

METHODS

This was a descriptive cross-sectional study. It was conducted in 2015 at Sir Sayajirao Gaekwad General Hospital (SSG Hospital) Vadodara which is a tertiary care regional hospital attached with Medical College catering the inflow of patients from Vadodara district and neighbor districts as well as neighbor states of Madhya Pradesh and Rajasthan, India. Approval of Ethical committee (IECHR, Medical College Baroda & SSG Hospital) was taken before starting the study (Reference No. ECR/85/Ins/GJ/2013). The permission was also taken from Superintendent of the institute before the initiation

of data collection. A pre-designed and pre-tested, semi-structured questionnaire was used. The questionnaire was developed by the authors with the help of available literature search and was reviewed by Institutional Scientific Committee, Medical College Baroda in January 2015.

The population of this study was all patients attending Outdoor Patient Department (O.P.D.) at SSG hospital. This hospital had mean daily patient flow of 883 new cases and 621 old cases during the last year preceding the study period. From previous studies (Davis, et al, 2006) 51.6% patients revealed errors in medication dosages, we assumed 50% of the patients understands the medication ingestion schedule. Taking this into consideration, P=50%, q=50% and power= 90%, we calculated the sample size of 384 (at 95% confidence level z=1.96), assuming 20% non-response rate we came to the sample size of 460 patients for enrolment into our study. Since pharmacists are responsible for dispensing prescribed medications to the patients, they have the key role for explanation of medications to them. So, we decided to interview 460 patients from the Pharmacy window, results of which already have been published. We decided 40% (purposive) of that sample size -184 patients from different clinical outdoor departments as described in Table 1 for exit interview after their consultation with the clinician. We ended the study for the said objectives with enrollment of 191 patients for exit interview after their visit to the clinician. The selection process of patients is shown in Figure 1. The clinical departments contributing
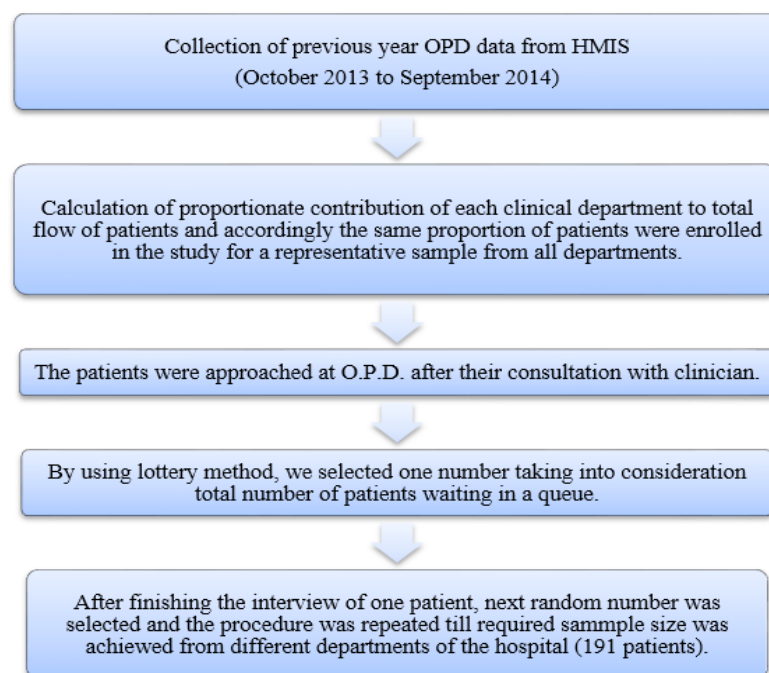

Figure 1. Procedure for enrollment of patients in study

less than 5% of patient load were excluded from the sampling as the sample proportion would carry very a smaller number of study subjects. Lottery method was used for selection of patients for interview from a queue.

We approached the patients at their exit from O.P.D. after they have finished examination by the clinician and gone through the investigations and prescribed medications. They were explained about nature of the study and then they were asked to participate in study. The patients were interviewed after taking their informed verbal consent. The socio-demographic details were taken and then they were asked about if the clinician explained them about the disease process they are suffering from, its line of management, duration of prescribed medication and brief about how to take medication, diet relation and diet modification to be taken with prescribed medication and about follow up visit. Any doubts of the patients were solved after this and their suggestions were taken for improvement of services given by clinician. The filled-up data collection forms were checked for completeness and accuracy according to the responses of the study participants on same day of data collection. Data entry was done in MS Excel sheet and after data cleaning it was analyzed by using Epi. Info™7.0.8.0. software. We used proportion of variables for calculating frequency of various variables. The duly filled data collection forms were protected from unauthorized access during entire period of the study. The data entry file and folder were kept password protected.

The term "Clinician" was used for a doctor qualified in the clinical practice of medicine, as distinguished from one specializing in laboratory or research techniques or in theory (definition by Merriam-Webster). The term was used for the doctors treating the patients in various clinical departments like general medicine, pediatrics, general surgery, orthopedics, ophthalmology etc.

RESULTS AND DISCUSSION

We approached the patients at their exit from O.P.D. after they have prescribed medications. The patients were selected from different clinical departments according to the proportion of registration during previous year from HMIS as described in methodology.

Almost equal number of patients were interviewed from new and follow up or old cases making a sample representative of new and old cases. Majority of the subjects (45.5%) were belonged to 25-44 years age group, followed by 45-54 years of age group. Senior citizens were almost 10% of the study subjects. Females were more in proportion as the study participants from obstetrics and Gynecology departments were exclusively females and mothers were usual care takers of children attending Pediatrics and other clinical departments. Majority of subjects (32.5%) were educated up to primary level. Illiterate people were 20.4% of the interviewed patients (Table 2).

Table 3 shows that majority of the patients (69.1%) were informed about the disease they were suffering from. Patients were not explained about possible line of management in more than half of interviewed patients. Majority of patients (84.3%) were informed of proposed treatment duration

Table 1. Distribution of patients according to clinical departments for exit interview

Specialist	Calculated Sample Size	Interviewed	Percent
Skin and Venereal Diseases	28	28	15.3%
Orthopedics	27	28	14.9%
Surgical	14	15	8.2%
Obstetrics-Gynecology	20	21	10.6%
Ophthalmology	9	13	5.0%
Pediatrics	15	15	8.4%
ENT	15	15	7.8%
Medical	56	56	30.0%
Total	184	191	100.0%

Table 2. Profile of interviewed patients

Characteristics	f	Percent
Patient Status:		
New case	90	47.1%
Follow up or old case	101	52.9%
Age Distribution (Years):		
15-24	28	14.6%
25-34	51	26.7%
35-44	36	18.8%
45-54	33	17.3%
55-64	26	13.6%
65 and above	17	8.9%
Gender Distribution:		
Male	85	44.5%
Female	106	55.5%
Educational Status:		
Illiterate	39	20.4%
Primary	62	32.5%
Secondary	56	29.3%
Higher Secondary	22	11.5%
Graduate and above	12	6.3%
Total	191	100%

Table 3. Explanation received by patients on various components of management by treating clinician

Management Component	Explained	Not Explained	Not Applicable
Disease Process	132 (69.1%)	59 (30.9%)	-
Line of Management	89 (46.6%)	102 (53.4%)	-
Duration of Treatment	161 (84.3%)	30 (15.7%)	-
Relation of food with medication	22 (13.1%)	146 (86.9%)	23 (12.0%)
Precaution in Diet	36 (26.7%)	99 (73.3%)	56 (29.3%)
Method of Use for Topical Formulations	43 (62.3%)	26 (37.7%)	122 (63.9%)
Follow up advice	166 (86.9%)	25 (13.1%)	-

which was informed by their attending clinician, but 15.7% were not aware about the same. Majority of patients (86.9%) were not explained whether the medicines had to be taken on empty stomach or after meals. Only 13.1% of them were given advice for diet relation of medications by the attending clinicians. 73.3% of the patients were not explained any diet related precaution or modification to be taken while on treatment by their treating clinician. Although majority of patients were not explained about tablet formulation, the advice regarding method of use for Topical applications was given by the

prescribing clinicians. The topical formulations were mainly prescribed by the dermatology, ophthalmology, and ENT specialists. The patients were informed about when to return after the initial visit in 86.9% of cases.

Half of patients said that clinicians spent 1 to 5 minutes for examining them, while 37.8% of them were examined in 6 to 10 minutes by clinicians. More than 10 minutes were taken in only 12.2% of patients.14.1% of patients were not even examined by clinicians; they were just asked about illness and medicines were prescribed based on it (Figure
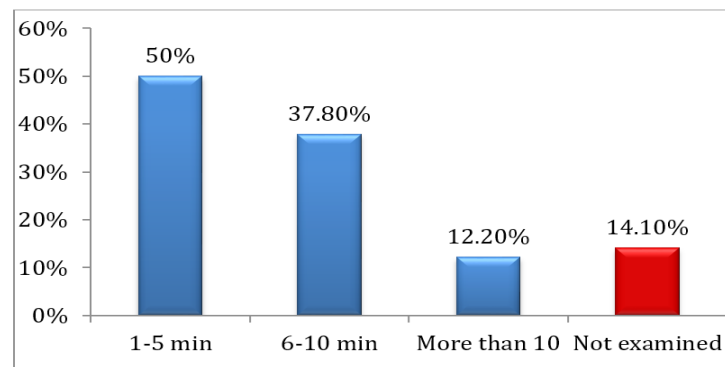
Figure 2. Average Time spent by the clinicians for Examination to their patients

2). 73.3% of the patients were not provided any information regarding the consumption of prescribed medicines; rather they were told that the medications will be explained at Pharmacy window by the pharmacists. The patients were devoted 5 minutes or less time for imparting information about use of medicines. 58 out of 90 new patients (64.44%) were not given any instructions for use of medicines (Figure 3).

Patients were interviewed after their consultation with clinicians. 39.8% study participants in this study were more than 44 years. It was found that the elderly comprised an increasingly larger portion of the population and consume 2 to 3 times more medication than the general public. They are also more likely to have lower literacy skills (Kutner, et al, 2006). Thus, large pill burden and old age pose the elderly people to the risk of misunderstanding the instruction regarding use of medications (Lee, et al, 2018).

In study by Derjung M. Tarn et al found that physicians stated the specific medication name for 74% of new prescriptions and explained the purpose of the medication for 87%. Adverse effects were addressed for 35% of medications and how long to take the medication for 34%. Physicians explicitly instructed 55% of patients about the number of tablets to take and explained the frequency or timing of dosing 58% of the time in that study (Tarn, et al, 2006).

The food may delay or decrease the absorption of that drug. This is the reason why some medicines should precede the food and can be taken on an empty stomach. On the other hand, some medicines are easier to tolerate when taken with food. It is always advised to ask the doctor or pharmacist whether it is correct to take the medicine with a snack or a meal or whether it should be taken on an empty stomach (Williams, et al, 1996).

Some patients said that they will ask their family friends or other known doctor for solving their confusion about medications. Some also find it difficult to ask for repetition of instructions due to the presence of large number of patients in a queue waiting for their turn. A study (Nair, et al, 2002) in three regions of Canada using focus group discussion with patients, pharmacists and doctors found that patients wanted to ask their doctors about treatment but often found doctors were difficult to access or did not have the time to discuss what patients wanted to know.

Wiederholt, Clarridge, and Svarstad reviewed relevant literature and reported that the proportion of patients who received no verbal consultation
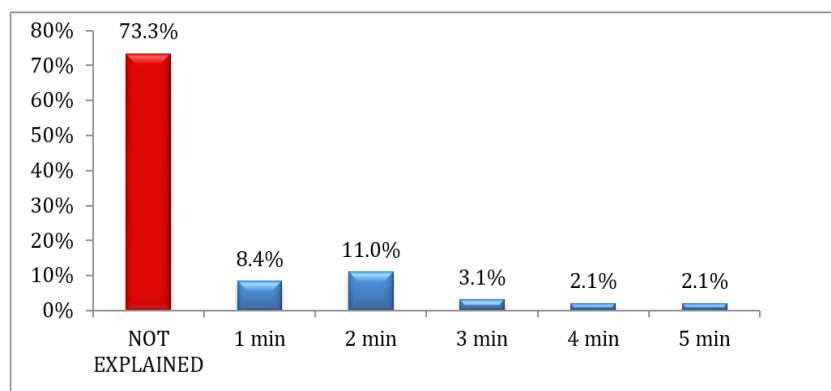

Figure 3. Average Time spent by the Clinicians for Explanation of Medications to their Patients

for original prescriptions ranged between 17% and 30% for physicians in the studies they reviewed. In this study it was found that 64.44% of new patients in their exit interview reported that they did not get any information by clinicians regarding use of medications (Wiederholt, et al, 1996).

Marie T. Brown and Jennifer K. Bussell suggested using the teach-back approach (i.e., asking patients to repeat the important points) and asking patients to read and interpret the medication label are ways in which the physician can confirm that patients understand all aspects of their new medication, which in turn increases adherence (Brown & Bussell, 2011).

It was described in editorial article of Mayo Clinic proceedings (Maxon, et al, 2011) that the physician, a trained registered nurse, or a health educator needs to spend time explaining the nature of the disease(s) and why he or she has selected the specific medications, even though the patient may be asymptomatic as with hypertension or diabetes. The physician should also list the more common important side effects of medicines to the patients. This information should be provided in an empathetic manner (Rodenas, 2017). A trained volunteer who speaks the patient's language, similar to visits by a social worker or visiting nurse, could enhance patient compliance, improve the family situation, motivate the patient, and result in a reworking of the dismissal plan to minimize setbacks in the patient's health status (Rosenow, 2005).

73.3 % of patients in this study were not given any instructions regarding use of medicines by clinicians. According to Kimminau et al. (1996), older participants in their study reported that they did not receive any counseling from health care providers regarding their prescription medications (Kimminau et al, 1996). A similar finding was published by Morris, where 72% of those surveyed said they had received no information about their medication from the pharmacy (Morris, 1982).

A study by Kalpana Nair et al. (2002) in three regions of Canada using focus group discussion with patients, pharmacists and doctors concluded that Patients wanted both general and specific information when considering medication treatments. They wanted basic information about the medical condition being treated and specific information about side effects, duration of treatment, and range of available treatment options (Nair et al, 2002).

This study had some limitations which are being suggestion for the next researchers. Limitations in this study were: (1). Real conversation between the patient and clinician was not observed, so whether the instruction was not provided, or the patient or his caretaker does not remember it cannot be ascertained, and (2). Knowledge for medications may be due to previous experience with the same or different medications prescribed to the patient himself or his known family member, this was difficult to predict and so it was not considered while analyzing the data.

CONCLUSION

Majority of the patients did not get any conversation about medications by prescribing doctor and 14.1% of the patients were not even examined by the clinicians. Two third of patients were explained about the disease they were suffering from and 84% were explained proposed duration of treatment, but 46% of them were not informed of about the line of treatment. Most knew about their next visit to the hospital. Diet precautions were not explained in more than three forth of cases by the clinicians.

Recommendations from this study were: (1). The responsibilities of clinicians need to be specified for explaining medications to the patients, and (2). The additional health care providers like staff nurses and social workers can be trained for educating patients and their care takers about use of medications. Involvement of NGOs and volunteers such as retired employees can be explored.

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