Patient's Comprehension of Prescriptions at Municipal Urban Health Centre, Mumbai

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ABSTRACT

Introduction: Patient's often fail to follow the prescription given by the doctor. Patients understanding of the prescription play an important role in completion of treatment and quick recovery from the illness. The understanding of prescription is dependent on factors which could be both patient and doctor related. These factors need to be studied in order to improve the therapeutic outcome.

Aim: Hence this study was undertaken to identify the various factors which affect patient's comprehension of prescription.

Materials and Methods: Observational, cross-sectional study based on exit interviews were carried out for 370 patients at Cheeta Camp Urban Health Centre, Mumbai over a period of 15 working days of OPD and 25 patients were selected randomly on each day. For data analysis, SPSS 15.0 with Chi-square test were used as test of significance.

Results: In the present study it was found that in the patients above 45 years, 19.4% have not understood the prescription completely compared to 5.8% below the age of 45 years. The difference was statistically significant. There is no difference between gender and understanding of prescription. Among the illiterate patients it was found that 16.3% have not completely understood the prescription compared to 5.6% of the literate patients. Also, socio-economic status was significantly associated with patients understanding of prescription. There was no significant difference associated with number of prescription and understanding of prescription.

Conclusion: The patient related factors play an important role in understanding of prescription. It was found that patient's comprehension of prescription was significantly associated with age, socioeconomic status and Education.

INTRODUCTION

Patients often fail to follow doctor's complete advice regarding prescription. It is important for the patient's well being and fast recovery that the prescribed medications are taken correctly – in right doses and at the right time as prescribed by the doctor in order to achieve the right outcome. Thus patient's comprehension of prescription is vital. The comprehension of prescription is dependent both on the doctor as well as patient, but more accountability and on us is with the doctor. The doctor's efforts of explaining the prescription often comes to a naught.

It is found that immediately after leaving the physician's office, patients were able to recall 50% or less of information just given to them [1]. The major factors contributing to this could be both factors related to the patient or to the doctor. The patient related factors could be those associated with literacy, age, gender, socioeconomic status or whether the patient has previously visited the centre. The doctor related factors could be the work load and the lack of communication skills. The outcome of the treatment is dependent ultimately on the medications taken by the patient and therefore it is important that the patient understands the prescription completely. If the prescription is not understood correctly it could lead to poor adherence and worse health outcomes. The doctor may take for granted that patient has understood the prescriptions but seldom any efforts made to countercheck their comprehension. Numerous studies [2-6] have found various factors which affect the understanding of prescriptions which directly affect the outcome of the treatment.

AIM

Therefore it was decided to conduct a study to assess the proportion of patients understanding prescriptions in an urban health centre with high outpatient load and also identify various factors which affect the understanding of prescriptions, which might help improve the therapeutic outcomes.

MATERIALS AND METHODS

It is an observational, cross-sectional study based on exit interviews of the patients attending outpatient at Cheeta Camp Urban Health Centre, Mankhurd, Mumbai and was conducted between the period Jan – Mar 2014.

The centre has an average daily OPD of more than 300, wherein the patients were assessed and prescriptions were written by the resident medical officers and teaching faculty posted in the Urban health centre. The prescribed medications were then dispensed by the interns under the supervision of a qualified staff nurse and pharmacist.

A study conducted at two primary care clinics and one federally qualified health centre in Shiverport, Chicago and NewYork, patient's understanding of prescription labels varied from 53% to 89% [7]. This study is used as a reference as Indian studies have not been found.

By using the lower prevalence of this study the sample size was calculated as follows:

Formula used for cross-sectional studies - $4pq/l^2$ where p = prevalence, q=1-p, l = allowable error taken as 10% of p with 95% C.I as 48% - 72%. The total number of patients to be selected was 355 and with an additional 5% to account for missing data if any, the total sample size calculated was 370. The data was collected over a period of 15 working OPD days with 25 patients selected each day randomly using random allocation table.

The method of exit interview with a pre-designed and pre-tested questionnaire was used for data collection. The questionnaire had two sections with first section eliciting demographic information viz. Age, Gender, Educational level and Per capita income. The second section included two questions that were concerned with the patient's comprehension about the prescription:

1. Does the patient know the dosage schedule of his/her medications?

2. Does the patient know for how many days he has to take the medications for?

Among the two questions if the person has answered both correctly for all the given prescriptions, then he has completely understood the prescription. If he has answered any one question correctly out of all the given prescriptions, then they have partially understood the prescription and if he has not answered any question correctly that means he has not understood the prescription. The answers given by them were confirmed with the prescription.

All the study procedures were approved by the Institutional Ethics Committee.

STATISTICAL ANALYSIS

Data was checked for completeness. The data was entered in Microsoft Office Excel. The data was filtered, processed and edited. The data was then analysed using SPSS 15.0 statistical analysis software. Appropriate tests like Chi-square and Multivariate analysis were applied.

RESULTS

The total number of patients interviewed was 370, out of which, 234 had one prescription, 96 had two prescriptions and 40 people had three prescriptions with them. The number of prescriptions is related to the number of patients accompanied by one person to collect the medications from the doctor.

[Table/Fig-1] shows that out of those interviewed, 308 (83.2%) were below the age group of 45 years, and 316 (85.4%) were females. 284 (76.8%) patients interviewed were literate, while only 56 (15.1%) belonged to Socioeconomic class I & II, according to modified B.G. Prasad classification [8].

[Table/Fig-2] predicts the patients understanding of prescription according to age, gender, literacy, socioeconomic status and the number of prescriptions with them. It is observed that 19.4% patients above the age of 45 years have not understood the prescriptions at all, while in comparison this proportion is lower viz. 5.8% in patients below 45 years of age. This difference is statistically significant. While there is no significant difference observed in understanding of prescriptions according to Gender.

Furthermore, it is evident that 16.3% illiterate patients have not understood the prescriptions at all compared to 5.6% of literate patients. There is statistically significant association which exists between literacy and understanding of prescription. The socio-economic status is also a significant factor associated with understanding of prescriptions. A 92.9% (52 out of 56) patients

	N	%
Age		
<=45years	308	83.2
>45 years	62	16.8
Gender		
Male	54	14.6
Female	316	85.4
Education		
Illiterate	86	23.2
Literate	284	76.8
Socio economic status		
Class I & II	56	15.1
Class III, IV & V	314	84.9
Number of Prescriptions		
One	234	63.2
Two	96	35.9
Three	40	10.8

[Table/Fig-1]: Socio –demographic profile of patients.

	Prescription understood			Total	Chi-square value	p-value
	Not understood	**Partially understood**	**Completely understood**			
Age						
<=45 years	18	68	222	308		
	5.8%	22.1%	72.1%	100.0%	7.798	0.020*
>45 years	12	6	44	62		
	19.4%	9.7%	71.0%	100.0%		
Total	30	74	266	370		
	8.1%	20.0%	71.9%	100.0%		
Gender						
Male	4	10	40	54		
	7.4%	18.5%	74.1%	100.0%		
Female	26	64	226	316	0.075	0.963
	8.2%	20.3%	71.5%	100.0%		
Total	30	74	266	370		
	8.1%	20.0%	71.9%	100.0%		
Education						
Illiterate	14	10	62	86		
	16.3%	11.6%	72.1%	100.0%		
Literate	16	64	204	284	6.577	0.037*
	5.6%	22.5%	71.8%	100.0%		
Total	30	74	266	370		
	8.1%	20.0%	71.9%	100.0%		
Socioeconomic status						
Class I & II	2	2	52	56		
	3.6%	3.6%	92.9%	100.0%		
Class III, IV &V	28	72	214	314	7.307	0.026*
	8.9%	22.9%	68.2%	100.0%		
Total	30	74	266	370		
	8.1%	20.0%	71.9%	100.0%		
Number of Prescriptions						
One	24	36	174	234		
	10.3%	15.4%	74.4%	100.0%		
Two	6	26	64	96		
	6.3%	27.1%	66.7%	100.0%		
Three	0	12	28	40	6.234	0.182
	0%	30.0%	70.0%	100.0%		
Total	30	74	266	370		
	8.1%	20.0%	71.9%	100.0%		

[Table/Fig-2]: Factors associated with patients understanding of prescription.
* Statistically Significant (p< 0.05)

from Class I & II understood the prescriptions completely, while only 68.2% (214 out of 314) patients from Class III-V understood the prescriptions completely. It is also seen that there is no significant difference observed in understanding of prescriptions depending on the number of prescriptions. Overall, 266 patients (71.9%) understood the prescriptions completely, 74 (20.0%) understood the prescriptions partially and 30 (8.1%) patients did not understand the prescription correctly. Thus, the number of prescription and Gender were not the factors associated with understanding of prescriptions but Age, Literacy and Socio-economic status play a major role in understanding them completely. It can therefore be postulated that in this centre, the patient factors play an important role in understanding of prescriptions.

DISCUSSION

Many studies have been conducted globally as well as in India to ascertain the quality of prescriptions by the doctors but studies for comprehension by patients are few and none found in India.

In this study it was found that there is significant relation between age group and patients understanding of prescription. Similar findings were found in the study by Marks et al., where on multivariate analysis they have reported that there is a positive association of younger age, highest grade of education and female sex with Medical Knowledge Score (knowledge of drug name, dose, indication, and a potential side effect for each of their medications and then averaged) [2].

In this study it was found that there is no significant association between gender and patients understanding of medications, Similar findings were found in the study by Burge S et al., [3] but contradictory to the findings by Lindquist et al., where it was found that males were more likely to have discrepancy with the prescriptions [4].

In this study it was found that literacy was significantly associated with patients understanding of prescription. Similar findings were seen in the study conducted by Alkatheri et al., where it was found that the population that did not receive any education were 59 out of which 13 (22.8%) could not recognize the medications compared to only 2 (9.5%) of those having primary education and all those having higher education have understood the prescription [5]. Similarly regarding dosage schedule it was found that in the illiterate group 13 (22.4%) did not understand the dosage schedule compared to 1(4.8%) in those with primary education while all having higher education have understood the dosage schedule. It proves that education is significantly associated with understanding of prescription. Similar findings were also found in the study by Burge et al., that those who had trouble reading labels of medication were associated with low level education [3]. Those who reported a lot of trouble reading labels had on average a fourth-grade education. In another study by Davis et al., it was found that patients educated below sixth grade were not able to understand all the instructions correctly regarding prescription [6].

In this study it was found that 70.7% of the patients, inspite of having low literacy levels correctly stated the instructions while only 34.7% could demonstrate the number of tablets taken daily.

Our study shows that socioeconomic status plays an important role in understanding the prescriptions however there were no studies found correlating to this finding.

LIMITATIONS

In this study, doctor factors were taken into consideration but it was found that both the doctors and the patients were comfortable with the language i.e. Hindi. Doctors spent enough time with the patients and it was a subjective record. Therefore, doctors factors could not be clearly concluded in this study.

CONCLUSION

It can be concluded that the number of prescriptions and gender played no role with patients understanding of prescriptions, but patient's understanding of prescription is dependent on patient related factors like age, socioeconomic status and education.

REFERENCES

[1] Ong L, Haes JD, Hoos A, Lammes F. Doctor-patient communication: a review of the literature. *Soc Sci Med*. 1995;40:903-18.

[2] Marks JR, Schectman JM, Groninger H, Plews-Ogan ML. The association of health literacy and socio-demographic factors with medication knowledge. *Patient Educ Couns*. 2010;78:372-76.

[3] Burge S, White D, Bajorek E, Bazaldua O, Trevino J, Albright T, et al. Correlates of medication knowledge and adherence: Findings from the residency research network of South Texas. *Family Med*. 2005;37:712-28.

[4] Lindquist LA, Yamahiro A, Garrett A, Zei C, Feinglass JM. Primary care physician communication at hospital discharge reduces medication discrepancies. *J Hosp Med*. 2013;8(12):672-7. doi: 10.1002/jhm.2098. Epub 2013 Nov 1.

[5] Alkatheri MA, Albekairy MA. Does the patients' educational level and previous counselling affect their medication knowledge? *Annals of Thoracic Medicine*. 2013;8(2):105-08.

[6] Davis TC, Wolf MS, Bass PF, Thompson JA, Tilson HH, Neuberger M, et al. Literacy and misunderstanding prescription drug labels. *Ann Intern Med*. 2006;145(12):887-94. Epub 2006 Nov 29.

[7] Davy TC, Federman AD, Bas PF, Jackson RH, Mark M, Parker RM, et al. Improving patient understanding of prescription drug label instructions. *J Gen. Intern Med*. 2009;24(1):57-62.

[8] Mangal A, Kumar V, Panesar S, Talwar R, Raut D, Singh S. Updated BG Pasad socioeconomic classification, 2014: A commentary. *Indian J Public Health*. 2015;59:42-44.

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