Original Article

Comparative study on teaching and non-teaching staff of MITGI campus regarding knowledge, attitude and understanding (KAU) of prescription: A survey based cross-sectional study

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ABSTRACT

This study was to assess all the factors age, education, knowledge, attitude, awareness and understanding of prescription in the patients and its correlation with education. A prevalidated questionnaire based study was conducted amongst 130 subjects in MIT campus. The duration of study was three months and the cross-sectional questionnaire based observation study. The study concluded that the average weight and waist circumference of teaching staff is greater than the non-teaching staff, P-value <0.0001. The maximum number of subject belongs to the Hindu group. The prevalence of male subjects (66.15%) were more as compare to the female subject (33.84%) P-value <0.0001. The number of post-graduate teaching staff (70.76%) was more as compared to non-teaching staff (36.84%). The non-teaching staff (28.07%) was more hypertensive as compared to teaching staff (20%) P-value <0.0001. The occurrences of normal weight (65.51%) & underweight (8.62%) subjects were more in non-teaching staff and overweight subjects (40%) in teaching staff, P-value 0.1148. All the factors i.e. age, education, knowledge, attitude and awareness directly affects the perception of prescription. Due to splendid analytical knowledge of teaching staff makes them understand the prescription in a better way as comparison to non-teaching staff. Although teaching staff average BMI exceeds the normal ranges. The non-teaching staff was not aware regarding their health they were suffering from hypertension, which was found at the time of study. The right information and education may improve the quality of patients.

1. INTRODUCTION

A drug prescription is often the endpoint of a patient's visit to a medical practitioner. As an instruction from a prescriber to a dispenser, it is considered to be a medicolegal document that should be written legibly, accurately and completely. Prescribing physicians as well as those involved in the execution of the prescription hold legal responsibility for the prescription. Although the prescription format may vary slightly from one country to another, most countries agree on the core elements that should be included in the prescription order. These are: prescriber's name, address, telephone number and signature; patient's name, address, age and weight (important at the extremes of age); prescription date; drug name (preferably generic), formulation, strength, dose, frequency of administration, quantity prescribed, reason for prescribing and instructions for use. A prescription is a

health-care program implemented by a physician or other medical doctors in the form of instructions that govern the plan of care for an individual patient [1]. Prescription writing comprises (a) communication of prescription information, which denotes the act of transmitting prescription information e.g. drug name, dose, or dosage form etc., and (b) transcribing, which is the act of copying information in writing from one document to another. Errors in prescription writing are comprised of (a) failures to communicate essential information and (b) transcription errors [2]. The National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as "any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging,

and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use" [2-3]. Prescription errors are the most prominent type of medication errors [4]. Almost 70% Medication errors are born due to the wrong prescriptions and prescription mistakes. Poor hand writing in prescriptions, drugs with similar packing are the system errors leading to medication administration errors [5]. Rational use of drug is important for correct prescription; it should fulfill SANE criteria, which means Safety, Affordability, Need, and Efficacy of the drug should always be consider before prescribing it to the patient [6]. Smallest mistake in Heath Care sector have catastrophic implications. It is very important to establish a system which will provide non-commercial, independent, unbiased source of medicine information [7]. Education program feasibility was dependent on patient feedback. Recent study provides evidence that the RxEd program is feasible and improves arthritis self-efficacy and other outcomes [8]. Recently, it was also demonstrated that diabetes education and self-management for newly diagnosed patients have better long-term clinical outcomes and cost effectiveness in the United Kingdom [9] and Korea [10].

This study will define the basic difference between the two groups i.e. first is teaching staff and second is non-teaching staff, in respect to the health. This study is mainly in the view of education and understanding of these groups, and this study will give answers to many question e.g. Is education improves health system? Or Does it affect health? Or if education program will run, then will it improve health? Or What is the role of pharmacist in improving healthcare system in India? So this types of question will be answered by this study.

2. MATERIALS AND METHODS

The study was carried out at MIT (Moradabad Institute of Technology) campus. The Duration of study was three Months. Study type was Cross Sectional Questionnaire Based Observational study. The total number of Subjects was 130 i.e. 65-Teaching staff and 65-Non-Teaching Staff.

(a) Inclusion criteria

1. Only MIT campus staff (teaching & non-teaching) above 18 years of age.
2. Non-teaching staff who understand Hindi or English.
3. Subjects, who gave consent.

(b) Exclusion criteria

1. Other than MIT Campus staff.
2. Subjects, who didn't give consent.
3. Psychiatric subjects.
4. Subjects, who does not understand Hindi or English.

Validation of Questionnaire was done by Delphi method. After taking the informed consent, individual was asked to fill the questionnaire comprising of 20 questions. The data obtained was tabulated and expressed in percentage of teaching and non-teaching subject answering the questions in a specific way. Data was analyzed using Fishers exact test to determine the impact of education on the answers.

3. OBSERVATION AND RESULTS

In this study total 130 subjects were interviewed and data was collected on pre-tested questionnaire based proforma. Each group contained 65 subjects. The study concluded that the average weight and waist circumference of teaching staff is greater than the non- teaching staff, P-value <0.0001 [Fig. 1]. The maximum number of subject belongs to the Hindu group [Table 3]. The prevalence of male subjects (66.15%) were more as compare to the female subject (33.84%) P-value <0.0001 [Fig. 2]. The number of post-graduate teaching staff (70.76%) was more as compared to non-teaching staff (36.84%) [Table 1]. The non-teaching staff (28.07%) was more hypertensive as compared to teaching staff (20%) [Table 2] P-value <0.0001. The occurrences of normal weight (65.51%) & underweight (8.62%) subjects were more in non-teaching staff and overweight subjects (40%) in teaching staff, P-value 0.1148 [Table 3].

Statistical Analysis

Performed using Fisher exact test. No significant difference was observed in seven Questions (**Questions nos. 2, 3, 5, 6,7, 13, 14, 15, 18**) in the teaching and non-teaching population with P>0.05. Whereas only in eleven questions showed (**Questions no. 1**, **4, 8, 9, 10, 11, 12, 16, 17, 19, 20**) significant difference in the responses was observed with p<0.0001(Table 5).

After detailed study of the data the following results were recorded about teaching staff i.e. 87.69% understands the prescription, 80% aware about their diagnosis, 90.76% ask question from the physician regarding the diagnosis, 72.30% searched on the internet regarding their diagnosis/disease, among of them   44.61% before going to doctor and 27.64 after going to doctors, 70.76% teaching and 77.58% of non-teaching staff preferred allopathic medical practitioner first, 26.15% tried polyphonic and 60% have a family Doctor. On the other hand, among the non-teaching staff 53.44% showed medicine to the doctor after purchasing it, 54% non-teaching staff cost affects their prescription and compliance, 65.51% were not aware the same drug with same combinations is available at different trade names with different cost, 86.20% don't understands physician writing, 77.58% non-teaching staff did not aware about generic medications and branded medicines and 75.86% ignored their diseases.

According to 52.30% teaching and 87.93% non-teaching staff Ayurvedic medical system is side effect free, 66.15% teaching and 72.41% non-teaching staff take medicine from the chemist/ pharmacist without the prescription.

Table 1. Education-wise distribution of volunteers

Education	Teaching	Non-Teaching
High school	00	16
Graduation	19	21
Post-Graduation	46	21
P-value	<0.0001	
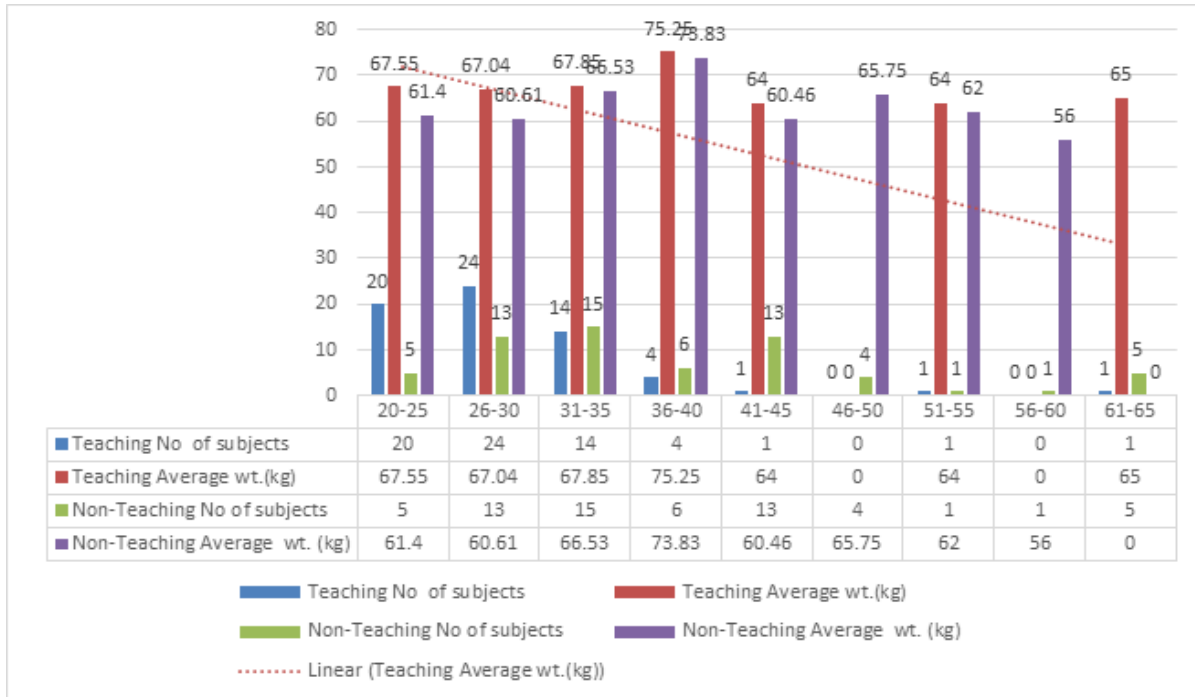
Fig. 1. Age wise distribution (p-value <0.001)

Table 2. Gender wise distribution

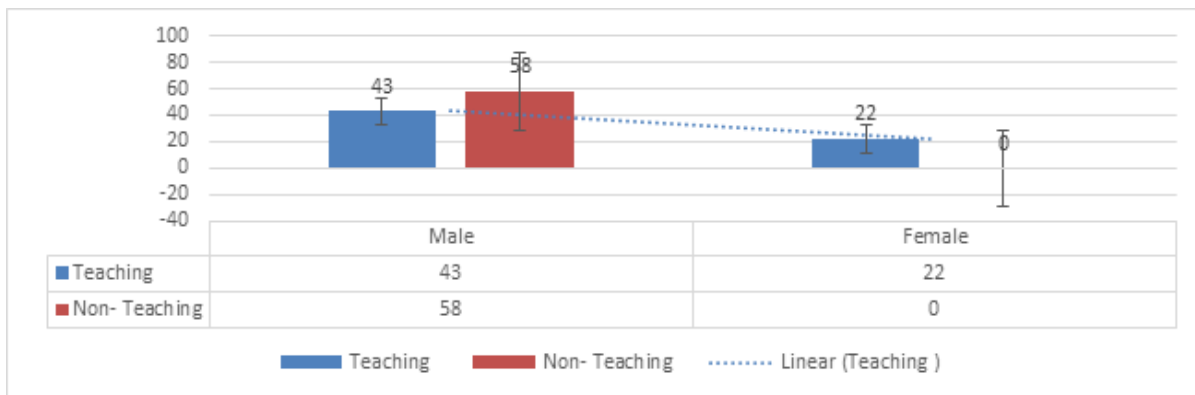| Gender	Teaching	Non- Teaching
Male	43	58
Female	22	00
Total	65	65
P-value	<0.0001	

Fig. 2. Gender-wise distribution (P-value <0.0001)

Table 2. Blood pressure-wise distribution of volunteers

Blood pressure	Teaching	Non-Teaching
<120/80	05	07
120/80- 125/80	47	35
< 130/80	13	16
P-value	<0.0001	

Table 3. BMI-wise distribution of volunteers

BMI	Teaching	Non-Teaching
Underweight = <18.5	03(4.61%)	05(8.62%)
Normal weight=18.5-24.9	32(49.23%)	38(65.51%)
Over weight=25-29.9	26(40%)	12(20%)
Obesity=BMI of 30 or greater	04(3.07%)	03(5.1%)
P-value	0.1148	

Table 5. Question-wise distribution

Questions	Teaching 65	Non-Teaching 65
Questions.1	Do you understand the prescription?	
Yes 63.84%	87.69%	40.00%
No 36.15%	12.30%	60.00%
Question.2	Do you think that OPDs are very crowded and Doctor does not have sufficient time to explain the prescription?	
Yes 56.09%	61.53%	50.00%
No 43.90%	38.46%	50.00%
Question.3	Do you think that chemist/Pharmacist have sufficient time to explain the prescription to you.	
Yes 78.04%	72.30%	84.48%
No 21.95%	27.69%	15.51%
Question.4	Do you show the drug to the Doctor after purchasing it?	
Yes 45.52%	38.46%	53.44%
No 54.47%	61.53%	46.55%
Question.5	Do you always buy the whole dose of the prescribed by the Doctor?	
Yes 79.67%	76.92%	82.75%
No 20.32%	23.07%	17.24%
Question.6	Do you purchase the drugs of same brand prescribed by the Doctor?	
Yes 79.67%	75.38%	84.48%
No 20.32%	24.61%	15.51%
Question.7	Dose cost affects your prescription and compliance?	
Yes 42.27%	38.46%	54.00%
No 57.72%	61.53%	53.44%
Question.8	Are you aware the same drug with same combinations is available at different trade names with different cost?	
Yes 47.15%	58.46%	34.48%
No 52.84%	41.53%	65.51%
Question.9	Do you understand the physician writing?	
Yes 25.20%	35.38%	13.79%
No 74.79%	64.61%	86.20%
Question.10	Are you really aware about your diagnosis?	
Yes 66.66%	80.00%	51.72%
No 33.33%	20.00%	48.27%
Question.11	Do you ask question from the physician regarding the diagnosis?	
Yes 78.04%	90.76%	63.79%
No 21.95%	09.23%	36.20%
Question.12	Have you ever searched on the internet regarding your diagnosis/disease? Y/N 1- Before going to the Doctor. 2- After going to the Doctor.	
Yes 51.21%	72.30%	27.58%
No 48.78%	27.69%	72.41%
Before going to doctor	44.61%	06.89%
After going to doctor	27.69%	20.68%
Question.13	Which type of medical practitioner you prefer first. 1- Allopathic 2-Homeopathic 3- Ayurvedic 4- Unani medicine	
1	70.76%	77.58%
2	15.38%	08.62%
3	10.76%	12.06%
4	00.00%	00.00%
5	03.07%	01.72%

Questions	Teaching 65	Non-Teaching 65
Question.14	Which type of medical system is side effect free according to you? 1-Allopathic 2-Homeopathic 3-Ayurvedic Unani medicine 5- Home Remedies	4-
1	01.53%	00.00%
2	40.00%	12.06%
3	52.30%	87.93%
4	03.07%	00.00%
5	03.07%	00.00%
Question.15	Do you take medicine from the chemist/pharmacist without the prescription?	
Yes 69.10%	66.15%	72.41%
No 30.89%	33.84%	27.58%
Question.16	Are you aware about generic medicine and branded medicine?	
Yes 39.83%	55.38%	22.41%
No 60.16%	44.61%	77.58%
Question.17	Do you have any relative from medical or paramedical field?	
Yes 50.40%	64.61%	35.71%
No 49.59%	35.38%	65.51%
Question.18	Have you ever tried it polypharmacy?	
Yes 22.76%	26.15%	18.96%
No 77.23%	70.58%	81.03%
Question.19	Have you ever ignored your diseases?	
Yes 64.22%	53.84%	75.86%
No 35.77%	46.15%	24.13%
Question.20	DO you have family Doctor?	
Yes 49.59%	60.00%	37.93%
No 50.40%	40.00%	62.06%

4. DISCUSSION

Overall 60% non-teaching staff didn't understand the prescription. Understanding of prescription by the patient is as important as correct prescription by the prescriber. The success of treatment depends on the right drug, dose, route, frequency, duration that is called as rational use of drugs. Statistical analysis showed significant difference in understanding of prescription in teaching and non-teaching population. In our country there is one doctor for 1,722 people, heavy work load leads to insufficient explanation of prescription to individual patient, and many queries remain unanswered which lead ineffective and irrational use of drugs [11]. Average weight and waist circumference of teaching staff is greater than the non- teaching staff, as we all aware about the working style of teaching and non-teaching persons. The teaching profession does not include intensive physical work but on the other hand the non-teaching group is mostly indulge in physical work, this is the reason for aforesaid statement [12]. The non-teaching staff (28.07%) was more hypertensive as compared to teaching staff (20%) and 90.76% teaching staff ask question from the physician regarding the diagnosis, the education is the basic reason behind the above results, because the awareness and knowledge about self-disease were recorded more in teaching staff [13]. No significant difference observed in opinion of teaching and non-teaching population regarding crowded OPDs and unanswered queries both by doctors and chemist. Overall 45.52 % showed

the drug to the doctors after purchasing it. Showing drugs to the doctors may solve many problems such as regarding differentiation, doses, frequency [14], and it is patient right to have complete information about the drugs they are consuming effects as well as adverse effects in this regard significant difference was observed in teaching and non-teaching population. 54% non-teaching people buying incomplete dose of the drug but the teaching people have good compliance.

The teaching staff are more cyberchondriac as comparison to non-teaching staff, 72.30% teaching staff searched on the internet regarding their diagnosis/disease, among of them 44.61% before going to doctor and 27.64 after going to doctors, looking for information about symptoms and illnesses on the Internet is common and often serves useful purposes. However, a number of people who are overly distressed or anxious about their health perform excessive or repeated health-related searches on the Internet, only to become more distressed or frightened – a pattern defined here as cyberchondria. This behavior, which can also be construed as a form of reassurance seeking and occurs as a manifestation of health anxiety and hypochondriasis [15]. The 70.76% teaching and 77.58% of non-teaching staff preferred allopathic medical practitioner first. The allopathic medicine system is well known and most trustable system in illiterate and educated people [16]. The 26.15% teaching staff tried polypharmacy, polypharmacy continues to increase and is a known risk factor for important morbidity and mortality [17]. The 65.51%

non-teaching staff were not aware the same drug with same combinations is available at different trade names with different cost, 86.20% don't understands physician writing, 77.58% non-teaching staff did not aware about generic medications and branded medicines and 75.86% ignored their diseases. All the above results shows the ignorance and unawareness due to low education level. The disease is increasingly discriminating against illiterate and poor people [18]. Over all 42.27% individuals feel cost affect their prescription and compliance among of them 54% was non-teaching staff. Causes of irrational use include lack of knowledge, skills or independent information, unrestricted availability of medicines, overwork of health personnel, inappropriate promotion of medicines and profit motives from selling medicines. Vigilant assessment of the risks and benefits of medicines promotes patient safety and promote correct prescribing [19]. Medicine Information OPD , where pharmacologist and pharmacist will work together to solve patient queries , guide them about how to take drug, regarding storage, give then a slight idea about adverse effect and precaution, will definitely will lead to Rational Drug prescribing and cost effective treatment [20-21].

5. CONCLUSION

All the factors i.e. age, education, knowledge, attitude and awareness directly affects the perception of prescription. Due to splendid analytical knowledge of teaching staff makes them understand the prescription in a better way as comparison to non-teaching staff although teaching staff average BMI exceeds the normal ranges. However teaching staff was more concerned about their health, contrary to that non-teaching staff even was not aware regarding that they were suffering from hypertension, which was found at the time of study. The right information and education may improve the quality of patients. Some government programs may lead to improvise health outcomes. There is a critical role of clinical pharmacist to give counseling the patients which will save time of physician and ameliorate the health care system.

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