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STATISTICAL ANALYSIS ON SELF-MEDICATION PRACTICES IN PATIENTS ATTENDING URBAN HEALTH TRAINING CENTRE OF UDAIPUR DISTRICT, RAJASTHAN, INDIA

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ABSTRACT

Background: Self-medication is described as a double edged sword for its users, because it has both beneficial as well as harmful effects. So this study designed to assess the prevalence of self-medication patterns and practices.
Methodology: A cross-sectional study was done. The sample size was calculated by using the formula $n=pq/d^2$. Interview was carried out by using a pre-designed semi-structured questionnaire.
Result: Out of 400 respondents, 270 (67.5%) had used self-medication and it was more common among male, younger age group, unskilled workers, higher educational level and socioeconomic status. Fever (69.5%) and headache (58.7%) were the most common reason and pharmacists/chemists (46.2%) were the major source of knowledge. Paracetamol (73.7%) was most commonly drug used for self-medication.
Conclusion: Increase prevalence of self-medication is a serious health problem. Further studies need to be carried out to understand the attitude of people towards self-medication and various factors affecting self-medication practices.

KEYWORDS

Self-medication, practice, drugs

INTRODUCTION

Sir William Osler once quoted that "A desire to take medicine is perhaps the great feature which distinguishes man from animals." This desire, however, may play catastrophe when a person starts taking medicines on their own, forgetting that all drugs are toxic and their justifiable use in therapy is based on a calculable risk.[1] According to World Health Organization self-medication is the practice whereby individuals treat their ailments and conditions with medicines that are approved and available without prescription and which are safe and effective when used as directed.[2] It is one of the major public health concerns worldwide which has dramatically increased in last few decades, especially in developing countries like India. The nature and extent of self-medication varies according to culture, social and educational influences.[3]

The factors associated with rising trends to self-medication are intense of self-care, feeling of sympathy towards sick family members, lack of health services, inaccessibility to health services, poverty, ignorance, misbelieve, extensive advertisement and availability of drugs in other than medical shops. Non seriousness of illness, previous experience of similar illness, economic considerations and lack of availability of health care personnel are the other reasons.[4]

Self-medication can be described as a double edged sword for its users, because it has both beneficial as well as harmful effects. The harmful effects are increased resistance of pathogens, wastage of resources and serious health hazards such as adverse drug reactions, prolonged morbidity, drug dependence and paradoxical economic loss. The countries those reported high levels of antibiotic resistance also reported high prevalence of self-medication with antibiotics.[5]

Despite these drawbacks, self-medication is an important component of primary health care. There are some advantages of self-medication like treating minor symptoms and ailments that do not require medical attention and thereby decreasing the burden on delivering health care. However, there are several critical issues that must be explored before promoting the potential benefits of self-medication. Any self-medication product should be safe for use. This implies the availability of appropriate consumer information and avoidance of any delay in diagnosis and treatment of diseases not suitable for self-medication.[6]

The prevalence of self-medication reported 0.1% in Northern and Western Europe, 21% in Eastern Europe, 27% in USA. In developing countries reported prevalence rate are much higher like 84% in Pakistan, 78% in Saudi Arabia, 67% in Nigeria and 79% in India.[7] Antibiotics are commonly self-medicated drugs worldwide with over 50% purchased and used without a prescription.[8]

OBJECTIVE

To assess the prevalence of self-medication patterns and practices amongst patients attending Urban Health Training Center of RNT Medical College, Udaipur, Rajasthan.

METHODS AND MATERIAL

A cross-sectional study was done from August to October, 2019 in the service areas of Urban Health Training Center, Dhanmandi under Community Medicine department attached to RNT Medical College, Udaipur. The sample size was calculated by using the formula $n=pq/d^2$ assuming 50% prevalence of self-medication practice with 10% relative precision. A total of 400 individuals aged 18 years and above were included in our study using simple random sampling method. Informed consent was taken and face to face interview was carried out by using of pre-designed semi-structured questionnaire to collect the data regarding socio-demographic profile, practices and determinants of self-medication. The data was tabulated and analyzed using Microsoft Excel and SPSS version 20. Descriptive results were expressed as frequency, proportion and percentage. Chi-square test was used for statistical analysis and p value of < 0.05 was considered statistically significant.

RESULT

In our study, the prevalence of self-medication were found 270 (67.5%) out of 400 study subjects. There were 53.5% males and 46.5% females in our study. About 72.4% males and 61.8% females were practicing self-medication. The prevalence of self-medication was to be found more in males than females and found be statistically significant (p=0.31). Majority of study population (57.5%) belongs to Hindu community. However, there was no association with religion (p=0.189).

Mostly participants (36.2%) were between 36-55 years age group followed by 56-75 years age group (33.5%). The association between age group and self-medication was significant in our study (p=0.000).

On educational level, 29.5% subjects educated up to higher secondary level and only 9.5% were illiterate. There was significant association

between education level and self-medication. (p=0.120)

According to occupational level, 30% were unskilled workers followed by 26.2% were dependents. The prevalence was more among the unskilled workers (73.3%) followed by professionals (63.5%) and dependents (44.8%) which was highly statistically significant (p=0.000).

According to Socio-economic classification, most of the study subjects were found to be in class IV & class V (59%) followed by class II & III (45%) and only 6% belong to class I. There was significant association found between socio-economic level and self-medication. (p=0.000) There was 66.2% married followed by 18.7% unmarried respondents in our study. The prevalence of self-medication was more among unmarried (89.3%) followed by married (84.9%); however this difference was not statistically significant (p=0.322).

Table 1: Distribution of study subjects according to Socio-demographic characteristics and Self-medication practices

Character	Total (n=400)	Practicing self-medication (%)	Not Practicing self-medication (%)	*p* value
Sex				
Male	214 (53.5)	155 (72.4)	59 (27.6)	x^2 = 4.63
Female	186 (46.5)	115 (61.8)	71 (38.2)	*p* value = 0.031
Age (years)				
18-35	96 (24)	75 (78.1)	21 (21.9)	x^2 = 21.42
36-55	145 (36.2)	102 (70.3)	43 (29.7)	*p* value = 0.000
56-75	134 (33.5)	72 (53.7)	62 (46.3)	
>75	25 (6.2)	11 (44)	14 (56)	
Religion				
Hindu	230 (57.5)	195 (84.8)	35 (15.2)	x^2 = 3.34
Muslim	152 (38)	118 (77.6)	34 (22.4)	*p* value = 0.189
Others	18 (4.5)	14 (77.8)	4 (22.2)	
Education status				
Illiterate	38 (9.5)	22 (57.9)	16 (42.1)	x^2 = 7.32
Primary	87 (21.7)	55 (63.2)	32 (36.8)	*p* value = 0.120
Middle	102 (25.5)	72 (70.6)	30 (29.4)	
Higher Secondary	118 (29.5)	90 (76.3)	28 (23.7)	
Graduate or above	55 (13.7)	41 (74.5)	14 (25.5)	
Occupation				
Dependent	105 (26.2)	47 (44.8)	58 (55.2)	x^2 = 39.77
Skilled worker	88 (22)	37 (42.1)	51 (57.9)	*p* value = 0.000
Unskilled worker	120 (30)	88 (73.3)	32 (26.7)	
Professional	52 (13)	33 (63.5)	19 (36.5)	
Retired	35 (8.7)	9 (25.7)	26 (74.3)	
Socio-economic status				
Class I	24 (6)	7 (29.67)	17 (70.3)	x^2 = 64.613
Class II	50 (12.5)	22 (44)	28 (56)	*p* value = 0.000
Class III	90 (22.5)	58 (64.4)	32 (35.56)	
Class IV	152 (38)	124 (81.6)	28 (18.4)	
Class V	84 (21)	76 (90.5)	8 (9.5)	
Marital status				
Married	265 (66.2)	225 (84.9)	40 (15.1)	x^2 = 4.21
Unmarried	75 (18.7)	67 (89.3)	8 (10.7)	*p* value = 0.322
Widow	42 (10.5)	32 (76.2)	10 (23.8)	
Divorced	18 (4.5)	14 (77.8)	4 (22.2)	

Table 2: Distribution of study subject according to practices of Self-medication

Variable	Frequency (400)	Percentage (%)
Symptoms reported for Self-medication*		
Fever	278	69.5
Headache	235	58.7
Common cold/Cough	195	48.7
Myalgia/Arthralgia	175	43.7
Gastritis	150	37.5
Abdominal problem	135	33.7
Wounds	98	24.5
Dermatitis	115	28.7
Others	85	21.2
Drugs used by the subjects for Self-medication*		
Paracetamol	295	73.7
Analgesics	238	59.5
Cold remedies/Cough	165	41.2
Antibiotics	105	26.2
Antacid	135	33.7
Drugs for Abdominal problems	106	26.5
Anti-allergic	85	21.2
Others	65	16.2
Source of Information about drugs used in Self-medication*		
Pharmacist/Chemists	185	46.2
Old prescription of Doctor	124	31
Own experiences	95	23.7
Family members/Friends	105	26.2
Social media	58	14.5
Advertisement	45	11.2
Reasons for Self-medication		
Mild illness	127	31.7
Easy availability	90	22.5
Emergency use	59	14.7
Lack of time	70	17.5
Others	54	13.5

*Multiple responses

Fever (69.5%) and headache (58.7%) was the most common symptoms for taking self-medication followed by common cold (48.7%) and myalgia/arthralgia (43.7%). Dermatitis (28.7%) was the least cause for self-medication practices.

Among self-medication practices, paracetamol (73.7%) was the most commonly used medicine followed by analgesics (59.5%) and cough/cold remedies (41.2%). The study population got information about drugs practicing in self-medication; most common source was pharmacists (46.2%) and old prescription of doctor (31%) followed by family members/friends (26.2%) and own experiences (23.7%). Advertisement (11.2%) was the least source of information for self-medication.

The most common reason behind self-medication was mild illness (31.7%) followed by easy availability of the medicines (22.5%) and lack of time (17.5%) in our study.

DISCUSSION

In our study, the prevalence of self-medication were found 270 (67.5%) out of 400 study subjects. Keshari et al and Banjara et al found 69% and 80% prevalence of self-medication in their study respectively.[9,10]

Other study conducted by Kumar V et al and Malvi Ritesh et al found 92.8% and 77.3% prevalence of self-medication in their study respectively.[11,12]

This variation may be due to different socio-cultural conditions, educational levels, socio-economic, socio-demographic variables of different regions and different mythologies used for determining self-medication.

In this study, male (72.4%) were practicing more self-medication than female (61.8%). Study by Shankar et al revealed similar findings in which higher proportion of males practicing self-medication that was statistically significant.[13] This is because of males are economically stronger, can easily access medical shops and freely move outside. Females are more dependent on males in our society may be a reason for the relatively low self-medication level seen in females.

Mostly participants (36.2%) were between in age group of 36-55 years and association between age group and self-medication was significant in our study. Our study showed that decreasing prevalence of self-medication with increasing in age. Sridevi et al and Aqueel et al also found similar findings that prevalence of self-medication was more common among younger age group.[14,15] This is because of when a person gets older, he becomes more conscious about health and

consults with the doctors more frequently. Whether younger generation has more awareness about health and want to save money and time. It was found that there was no association between religion and self-medication. Limaye D also found similar result.[16]

Majority of study subjects (29.5%) educated up to higher secondary level. There was significant association between education level and self-medication. Similarly, Kaushal et al and Deshpande SG et al also found that prevalence of self-medication was higher in well educated persons compared to the illiterate or people with low education.[17,18] Education is the major factor which influencing the practices of self-medication so there might be high percentages of self-medication practices among the higher educated people. But Jawarkar AK and Afolbi AO had observed that prevalence of self-medication was higher in illiterate persons.[19,20]

Majority of respondents (30%) were unskilled workers. There was highly statistically significant between occupational level and self-medication practices. The moderate level activity of occupation were found to be significantly associated with higher self-medication in study of Selvaraj K.[21]
Most of the respondents were found to be in class IV & class V (59%) and only 6% belong to class I and there was highly significant association found between socio-economic level and self-medication practices in our study. Jawarkar AK also found highly significant association between socio-economic status and self-medication practices.[19]

Selvaraj et al found that self-medication practices were more prevalent among socioeconomically better off compared with respondents belong to lower socio-economic status.[21]

There was 66.2% married followed by 18.7% unmarried respondents; however this difference was not statistically significant in our study. Jawarkar AK also found same result.[19] Limaye D et al found highly significant correlation found between marital status and self-medication.[16]

Fever (69.5%) and headache (58.7%) was the most common symptoms for taking self-medication. Kumar et al found that fever (59.8%) and common cold (61.6%) was the common symptoms for which self-medication were practiced.[11] Puwar et al also found that fever (42.5%) and headache (30.3%) was the common illness for which self-medication was practiced.[22]

Paracetamol (73.7%) was the commonest drug which used for self-medication followed by analgesics (59.5%) and cold remedies (41.2%) in our study. Kumar et al also found that paracetamol (76.2%) and cough syrup (58.9%) were the most commonly drugs used for self-medication practices in their study.[11]

In our study, pharmacists/chemists (46.2%) and old prescription of doctors (31%) were the major sources of information for self-medication. Shankar et al[13] and Pankaj Gupta et al[23] also found that local pharmacists/health assistance were the most common source of information about self-medication 65.5% and 42.1% respectively but a study by Shyam Sunder et al found that previous doctor's prescription (72.6%) was the major source of self-medication.[9]

The most common reason behind self-medication was mild illness (31.7%) followed by easy availability of the medicines (22.5%) and lack of time (17.5%) in our study. Kaushal et al found that mild illness and unwillingness to go to doctors were the most common reasons for self-medication.[9] Keche et al found that saving time (59%) and being economically (34%), ease and convenience (20%), no need to visit a physician for minor illness (38%) and providing quick relief (24%) were the common reasons for self-medication in their study.[24]

CONCLUSION

Increase the prevalence of self-medication is a serious health problem in our society. Higher percentage of self-medication practices were seen among male, younger age group, unskilled workers, higher educational level and socioeconomic status. Mild illness such as fever, headache and common cold are the most common reason and pharmacists/chemists are the major source of knowledge for self-medication practice. Paracetamol and analgesics are the most commonly used for self-medication.

RECOMMENDATIONS

There should be increased awareness and education to public to prevent misuse and adverse effect of self-medication. Strict regulation of pharmacies for prohibiting sale of drugs without prescription should also be implemented. Health workers also have an important role in educating the people to decrease the prevalence of self-medication practices. Further studies need to be carried out among general population to understand the attitude of people towards self-medication and various factors affecting self-medication practices.

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