Original Article

Indian Journal of Public Health Research & Development
Volume 13 Issue 3 July-September 2022
DOI: https://doi.org/10.37506/ijphrd.v13i3.18199

Prevalence and Associated Factors in Practice of Self-Medication in Urban Slums of Southern Rajasthan

Nitesh Mangal[1], Matariswa Samanta[2], Mehul Patel[3], Dilip Kumar L[4], Varghese KA[5], Mansi Sharma[6]

[1,4]Associate Professor,[3]Assistant Professor, [5]Statistician, [6]Senior Resident,Department of Community Medicine,[2]Associate Professor,Department of Pathology, Pacific institute of medical Sciences, Umarda, Udaipur, Rajasthan, India.

How to cite this article: Nitesh Mangal, Matariswa Samanta, Mehul Patel, Dilip Kumar L, K. A. Varghese, Mansi Sharma et al. Prevalence and Associated Factors in Practice of Self-Medication in Urban Slums of Southern Rajasthan. Volume 13 Issue 3 July-September 2022

Abstract

Background: The assessment of prevalence rate, determinants, reasons and major ailments due to self medication is a matter of vital importance for vulnerable social groups like slum dwellers in view of the high risk involved**.**

Materials and Method: A cross-sectional study among 305 randomly selected urban slums adults were conducted at Udaipur, Rajasthan by collecting data using semi-structured questionnaire to analyze the factors, determinants reasons and major ailments for self medication. The descriptive statistical measures, frequencies and chi-square test of significance for association were used.

Results: The estimated overall prevalence of self medication was 59.0% with 69.0% for male and 50.0 % for female of urban slum adults. The sex, age, education level, type of family and family income were found significantly associated with self medication ($p<0.05$). The main sources of information for self-medication were the chemist in medical shops (42.95%) and different forms of advertisements (22.62%). More than 90% practicing respondents felt saving of time, easiness and economical benefit as major reasons for self medication. The common ailments for self medication practices included fever (25.0%), headache (23.33%), cough and cold (17.22%), diarrhea (15.55%), pain (11.11%) and sleeplessness (16.7%).

Conclusion: Community specific strategies with stringent legal measures would be required to encounter the problem of self medication by vulnerable groups like slum dwellers.

Keywords: Self-medication, Prevalence rate, Urban slums

Introduction

Self-medication is defined as the use of medicine by a patient on self initiative or on the advice of a pharmacist or a lay person instead of consulting a medical practitioner.[1] The patient empowerment is considered as important in the development of patient doctor relationship.[2] Self-medication commonly practiced in developing countries is attributable to weak economic infrastructure including poor accessibility to primary health care, increasing trend in cost of medicine and emergence of alternative systems of treatment available in rural areas. Secondly, there are other reasons like poverty, ignorance, cultural and traditional beliefs among people regarding use of medicine for cure of a

Corresponding Author: Dilip Kumar L, Associate Professor,
Department of Community Medicine, Pacific Institute of Medical Sciences, Umarda, Udaipur, Rajasthan, India. Pin: 313015,
Mobile no: +917742903102, E Mail : dilippareek27@gmail.com

disease which has led to high prevalence rate in self-medication mostly in developing countries.[3]

It is also reported that self-medication in countries like India may be due to easy availability of wide range of drugs without valid prescription. Inadequate health services are also reported as a cause for increasing prevalence rate of self-medication. Though sale of antibiotics and certain drugs without valid prescription is banned in India, there is high prevalence of self-medication which include antibiotics also.[4] The self-medication without prescription by using 'over the counter' facility available in supermarkets and other outlets is a matter of serious concern. Even though 'over the counter' concept has no legal entity in India, all those drugs which are not included in the list of drugs are being sold without proper prescription.[5]

The associated risk identified in self-medication include adverse drug reaction, inaccurate diagnosis of disease, increased morbidity, drug interaction, wastage of health care resources, antibiotics resistance and many others.[3] Both in developed and developing countries self-medication has become a serious phenomenon pausing many challenges including drug abuse, drug resistance, polypharmacy, dependence and drug interactions. The educated youth are prone to self-medication with the influence of media and internet. The frequent non-formal advice by the pharmacist is also a threat for self-medication. Studies have shown that self-medication is a common practice even among health care workers and also for the medical practitioner. Therefore, it is argued that the realistic assessment of self medication need a segmented approach.[6]

There are some health care providers who advocate self-medication for short term relief of symptoms even in the case of chronic or recurrent diseases.[7] Few health care providers favor by saying that self-medication for minor ailments and symptoms may not be a major problem. They advocate that for some chronic or recurrent illness, after initial diagnosis and prescription self-medication may be possible with a advisory role of the doctors.[8]

As the ambit of the self-medication is beyond consumption of medicines to treat disorder without consulting medical practitioner, the issues like reuse of retained drugs, direct purchase of drugs which are not the 'over the counter' drugs etc adds to the severity of problems arising due to self-medication. Hence the segmented community-based studies to assess the prevalence rate and factors affecting self-medication is a topic of very high contemporary relevance.[9] Therefore, the present study is aimed to assess the prevalence rate and factors contributing self-medication by a vulnerable group of the society covering urban slum dwellers.

Objectives

1. To ascertain the prevalence of self-medication in urban slums dwellers of southern Rajasthan and
2. To study the determinants of sources of information, common ailments and benefits of self-medication practice.

Methodology

The community based cross sectional study was conducted during October 2021 to January 2022 in the vicinity of Urban Health Training Centre (UHTC) of Pacific Institute of Medical Sciences (PIMS). The sample size of 305 respondents was calculated using the formula $4pq/l^2$ where p is taken as 73.6%.[10] The present study was based on simple random sampling technique with households as unit of sampling. The households were randomly selected till 305 adult respondents were available for the study. The list of urban slum households available with UHTC was used for sample selection. The study population included persons above 18 years of age, both male and female, residing in the selected urban slum areas.

Inclusion criteria: All adults above 18 years of age group residing and available in the selected households who have given the consent at the time of visit for data collection by a team consisting of faculty members, interns and medical social workers were included in the study.

Exclusion criteria: Those adults who have any chronic diseases and pregnant women at the time of data collection were excluded from the study. The subjects who did not give informed consent were also excluded.

The study was conducted after obtaining the ethical clearance from the Institutional Ethical Committee of PIMS, Udaipur. The confidentiality of the data was maintained. The data was collected from each of the selected adult family members using semi-structured questionnaire. The data collected included socio-demographic factors like age, sex, marital status,

type of family, education level, type of occupation, family income, socio-economic status, practice and pattern of self-medication and listed reasons/factors for opting for self-medication. Any person who used medicine without specific prescription from a medical doctor during the last 3 months was considered as one practicing self medication. However, the slightly modified definition of self medication used in the present study is "Self-medication is the selection and use of medicines by individuals to treat self-recognized illness or symptoms without any prescription by a medical practitioner."

Statistical Methods

The collected data was entered on MS Excel sheet with the unique identity for each person included in the study. The estimation of frequencies and other descriptive statistics were calculated using options for statistical functions available under MS Excel. The factors like age, sex, marital status, occupation, education, household income and type of family were assessed for having association with self-medication using chi-square test. $P < 0.05$ was considered to be statistically significant.

Results

Out of 305 study participants, 143 (46.9%) were male and 162 (53.1%) were female**.** Most of the study participants belonged to the age group of 31 to 40 years (28.4%). About one- fourth 22.3% of study participants were illiterate and 77.7% were found literate ranging from primary education up to graduate. The prevalence of self medication was estimated to be 59% in the study area. Among 143 males, 99 (69.0%) and among 162 female, 81 (50.0%) were found practicing self-medication respectively. The gender effect was found statistically significant with self-medication practices. (p =0.0001) (Table1)

The factors like gender (p=0.001), age (p=0.0007), education level (p=0.023), type of family (p=0.008) and family income (p=0.024) were found to have statistically significant association with self medication in the study area. (Table 2)

The sources of information prompting for self medication as reported by the respondents were the chemist in medical shops (42.95%), different forms of advertisements (22.62%), quacks (10.49%), colleagues (9.18%) and neighbors (8.85%) respectively. (Figure 1)

Out of 180 practicing respondents of self-medication, 91.1% felt saving of time, 90.0% felt easiness, 94.5% felt economic and quick relief, 78.9% felt minimum medical procedures and 77.8% felt continuity of routine work. (Table 3)

The common ailments for which the self medication followed were fever (25.0%), headache (23.33%), cough and cold (17.22%), diarrhea (15.55%), body pain (11.11%) and others such as sleeplessness and heartburn which comprises about 7.79% respectively. (Figure 2)

Table1: Prevalence of self-medication according to gender among participants (n=305)

Particulars	Male	Female	Overall
Sample size (no.)	143	162	305
Self medication practioners (n)	99	81	180
Prevalence rate (%)	0.69	0.50	0.59
Calculated 't' value for gender difference	10.55		
p-value	0.001		

Table 2: Factors associated with self-medication by urban slum dwellers (n=305)

Particulars	Characteristics (n)	Self medication		Chi-square value	p-value
		Yes (n=180) n (%)	No (n=125) n (%)		
Age	< 20 (n=31)	24 (77.4)	07 (22.6)	21.41	0.0007*
	21-30 (n=68)	48 (70.6)	20 (29.4)		
	31 - 40 (n=71)	46 (64.8)	25 (35.2)		
	41 - 50 (n=65)	34 (52.3)	31 (47.7)		
	51- 60 (n=54)	23 (42.6)	31 (57.4)		
	> 60 years (n=16)	05 (31.3)	11 (68.7)		
Marital status	Married (n=267)	227 (85.0)	40 (15.0)	0.04	0.757
	Unmarried (n=38)	31 (81.6)	07 (18.4)		
Education	Illiterate (n=68)	44 (64.7)	24(35.3)	11.28	0.023*
	Primary school (n=148)	93(62.8)	55(37.2)		
	Middle school (n=46)	27(58.7)	19(41.3)		
	High school (n=31)	13(41.9)	18(58.1)		
	Graduate & Above (n=12)	03(25.0)	09(75.0)		

Conti..Table 2: Factors associated with self medication by urban slum dwellers (n=305)

Particulars	Characteristics (n)	Self medication		Chi-square value	p-value
		Yes (n=180) n (%)	No (n=125) n (%)		
Occupation	Job & Business (n=11)	05(45.0)	06 (54.5)	1.61	0.80
	Skilled worker (n=63)	37(58.7)	26 (41.3)		
	Unskilled worker (n=146)	90(61.6)	56 (38.4)		
	Student (n=27)	16 (59.3)	11 (40.7)		
	Housewife (n=58)	32 (55.2)	26 (44.8)		
Socio-economic status	Upper (n=21)	10 (47.6)	11(52.4)	1.36	0.50
	Upper- middle (n=59)	34 (57.6)	25 (42.4)		
	Lower middle (n=225)	136 (60.4)	89 (39.6)		
Type of family	Nuclear (n=221)	141 (63.8)	80 (36.2)	6.89	0.008*
	Joint/Three Generation (n=84)	39 (46.4)	45 (53.6)		
Family Income	>5000 (n=221)	134 (60.6)	87 (39.4)	4.17	0.024*
	5000-10000 (n=41)	25 (61.0)	16 (39.0)		
	10000-15000 (n=24)	14 (58.3)	10 (41.7)		
	>15000 (n=19)	07 (36.8)	12 (63.2)		

*Statistically significant with p<0.05

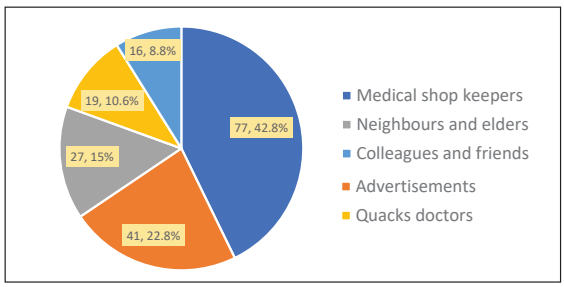

Figure 1: Frequency distribution of respondents according to sources of information for self-medication (n=180)

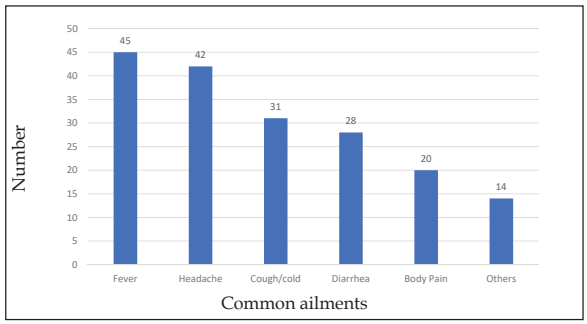

Figure 2: Common ailments for self-medication practiced among respondents (n=180)

Table 3: Perception of respondents on immediate benefits of self medication (n=180)

Factors/ benefits	Strongly Agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
Time saving	121 (67.2)	43 (23.9)	13 (7.2)	2 (1.1)	01 (0.6)
Easiness in availability	98 (54.4)	64 (35.6)	12 (6.7)	04 (2.2)	02 (1.1)
Economical	151 (83.8)	19 (10.6)	05 (2.8)	03 (1.7)	02 (1.1)
Quick relief	116 (64.4)	54 (30.0)	03 (1.7)	03 (1.7)	04 (2.2)
Minimal medical procedures	86 (47.8)	56 (31.1)	18 (10.0)	12 (6.7)	08 (4.4)
Continuation of routine work	79 (43.9)	61 (33.9)	10 (5.6)	12 (6.7)	18 (10.0)

Discussion

The prevalence of self-medication in the current study was 59.02 %. The various studies done by Pranav V et al, Gupta P et al, Vargese SS et al, Borgohain A et al in urban slums of Karnataka, Mumbai, Maharashtra, Assam and showed the prevalences of self-medication as 47.0%, 55.9%, 68.0%, 79.1%, respectively.[8,11-13] The statewise variation in the prevalence of self-medication was due to variation in low level of education, poor socio-economic status, lack of medical facilities and non-availability of drugs. However, the high rate of prevalence of self medication is a common feature among slum dwellers.

The present study found the prevalence of self-medication practice in 99 (69.2%) males and among 81(50.0%) females which is higher among males. Similar results were obtained in the study by Pranav V et al which showed that prevalence of self-medication was significantly more among males (65.2 %) when compared to females (34.8%).[11] On the other hand, the study done by Gupta P et al showed that prevalence of self medication was significantly more in the females (59.8%) compared to males (48.9%).[12] The study done by Dey V et al in West Bengal also showed that females were more dependent on self-medication.[14] Hence the self medication in the slum area appears to be neutral to gender across various regions.

The self medication was more common in slum areas of present study irrespective of age groups. The study conducted by Dey V et al showed that self-medication practice was more common in 30-60 years of age group.[14] The study done by Jain M et al

in Rajasthan showed that self-medication practice was common in younger age group.[11] It is observed that self-medication is higher in less than 30 years age group irrespective of locations.

The self medication in the present study was more prevalent amongst illiterate and people with primary education than the people having education of middle school and above. Similar finding was observed in the study conducted by Borgohain A et al and Vargese SS et al.[8,13] While in contrast the study done by Dey V et al and Kumar V et al showed participant having education of graduation and above had used self-medication more compared to those having education less than secondary and illiterate person.[14,15] Hence the level of education does not show any systematic pattern for self medication in different slum areas.

The present study showed that self medication was more prevalent in nuclear families compared to joint family. Similar results were found in the study done by Borah H et al.[16] The current study found that 159 (88.3%) respondents took self medication whose monthly income was less than INR 10000/-. The study done by Loharkar N et al found that 33% self medication was observed in the individuals whose monthly income was less than INR 10000/-.[17] Therefore, the income level also does not reveal any uniform pattern for self medication in slum areas.

The common sources of information regarding self medication for the study respondents were the pharmacist or medical shops (42.8%). Similar finding were observed in the study done by Pranav V et al and Patrick S et al.[11,18] The study conducted by Gupta P et al showed that the respondents got information about drugs through local pharmacists (42.1%) and previous consultation (25.4%) with doctor for similar complaints, and other sources were friends (13.2%), television (7.1%) and internet (3.5%).[12] In contrast to the present study, the study done by Kumar V et al revealed the other sources of taking self medication were found to be one's own personal experience and doctors' old prescription.[15] In other words, the sources of information for self medication are more or less same with varying degree of influences in different slum areas.

The present study revealed that the immediate benefit/reasons for self medication were time saving (91.1%), easy availability (90.0%), economy (94.5%), past positive results (12.8%), lack of knowledge about complications (6.6%), fear of facing the doctor (8.3%). In studies done by Pranav V et al, Gupta P et al, and Puwar B et al reported self medication cited monetary benefits were (24.1%), (40.5%) and (60.0%) respectively.[11-12,5] The various studies done by Gupta P et al (19.3%), Vargese SS et al. (41.2 %) and Puwar B et al (52.0%) stated that self medication was a time saving approach.[12,13,5] Therefore, it is not possible to generalize one or two specific reasons for practice of self medication. The diverse reason with varying relative importance indicates the need to have location specific strategies to overcome the problem of self medication in different slum areas.

The common ailments for which the self medication taken by the study respondents were fever (25.0%), headache (23.33%), cough and cold (17.22%), diarrhea (15.55%), body pain (11.11%) and others such as sleeplessness and heartburn which comprises about 7.79% respectively. The study done by Puwar B et al revealed that self medication was consumed for problems like fever (42.5%), headache (30.30%) and common cold (24.24%) which is close to our findings.[5] In another study conducted by Pranav V et al observed that the major health conditions for which self-medication practiced were head/body ache (40.3%), common cold (33.3%), fever (20.3%) and cough (14.7%).[11]

The various reasons for self medication were saving time, instant relief from the problem, economy, continuity of work etc. instantly and taking drug on their own were the important findings from the study. It is evident that self medication is practiced in almost all slums for common and minor illness. However, the high prevalence of self medication in slums will have to be discouraged.

Limitations

- The present study was conducted on a small sample and hence the results cannot be generalized.
- Assessment of seasonal patterns of self-medication practice was not taken into consideration.

Conclusion

The prevalence rate of self medication has been found substantially high among slum dwellers of southern Rajasthan, with relatively higher rate for male adults. The factors having significant association with self

medication included gender, age, education level, family type and family income. The sources to receive information about the medicine has been medical shopkeepers, advertisements, quacks, colleagues, etc. The immediate reasons for self medication included time saving, easy availability, economy, sudden relief, past experiences, poor knowledge of risk and fear of meeting doctors. The self medication was largely adapted for minor ailments like fever, headache, cough & cold, diarrhoea, body pain, etc.

Recommendations

Legislative measures and community specific awareness strategies would be required to bring down the problem of self medication among slum dwellers.

Conflict of Interest: Nil

Source of Funding: Nil

Ethical Clearance: Study was conducted after getting ethical clearance from Institutional Human Ethics Committee (IHEC).

References

1. WHO guidelines for the regulatory assessment of the medicinal products for use in self medication, 2000. (n.d.). Last accessed on January 25, 2021. (n.d.). Retrieved from apps.who.int/ medicinedocs /en/d/ Js2218e/.
2. World Health Organization: The role of the pharmacist in self-care and self-medication. Report of the 4th WHO Consultative Group on the role of the pharmacist in health care system 1998. Available from: (n.d.). Last accessed on January 25, 2021. (n.d.). Retrieved from http://www.who.int/medicines/ library/dap/who-dap-98-13/who-dap-98-13. Pdf.
3. Parulekar M, Mekoth N, Ramesh CM, Parulekar A. Self-medication in Developing Countries a Systematic Review. Journal of Pharmaceutical Technology, Research and Management.2016;4(2)103–127.
4. Rajendran A, Kulirankal KG, Rakesh PS, George S. Prevalence and pattern of antibiotic self-medication practice in an urban population of Kerala, India: A cross-sectional study. Indian J Community Med 2019;44:S42-5.
5. Puwar B. Self medication practice among adults of Ahmedabad city. Healthline.2012;3(2):24-26.
6. Mathias EG, Anjalin D, Prabhu S. Self-Medication Practices among the Adolescent Population of South Karnataka, India. Hindawi Journal of Environmental and Public Health Volume 2020, Article ID 9021819, 6 pages https://doi.org/10.1155/2020/9021819.
7. Bennett PJ, Brown MJ; Topics in drug therapy. In: Bennett PJ, Brown MJ, editors. Clinical Pharmacology. 10th ed. New York: Churchill Livingstone, 2008; 5-32. (n.d.). Retrieved from https://www.ncbi.nlm.nih.gov › NCBI › Literature › PubMed Central.
8. Borgohain A, Dev A, Tamuli P. Prevalence and pattern of self medication amongst urban slum dwellers of Jorhat town of Assam. Indian Journal of Applied Research.2017 ;7(6):6-8.
9. Nimitha P, Rakesh PS, Francis PT, Leelamoni K. Prevalence & Practice of Self-Medication in Ernakulum District, southern India. Indian J Comm Health. 2017; 29, 3: 282-286.
10. Jain M, Prakash R, Bapna D, Jain R. Prevalence and Pattern of Self medication Practices in Urban area of Southern Rajasthan. Ntl J of Community Med 2015; 6(4):474-477.
11. Pranav V, Narayanan P, Guddattu V. Self medication practice among urban slum dwellers in Udupi taluk, Karnataka, India. Int J Pharm Pharm Sci 2017;9(6):19-23.
12. Gupta P, Bobhate PS ,Shrivastava SR. Determinants of self medication practices in an urban slum community. Asian Journal of Pharmaceutical and Clinical Research.2011;4(3):54-57.
13. Vargese SS, Durgawale PM, Mathew P. Prevalence of Self Medication in an Urban Slum Area in Maharashtra, Journal of Krishna Institute of Medical Sciences University. 2013; 2(2): 108-110.
14. Dey V, Biswas R. Practice of self medication among adult population in the municipal corporation area of Siliguri, West Bengal, India. Journal of Comprehensive health.2019;7(1):19-23.
15. Kumar V, Mangal A, Yadav G, Raut D, Singh S. Prevalence and pattern of self-medication practices in an urban area of Delhi, India. Med J DY Patil Univ.2015;8:16-20.
16. Borah H, Kakati R, Borah M, Deka C. Self-Medication Practices and its determinants among urban dwellers of Dibrugarh town, Assam. Scholars Journal of Applied Medical Sciences. 2016; 4(8E):3100-3106.
17. Loharkar N, Keche Y, Yegnanarayan R, Dharma M, Bhosale A, Makan A. Self Medication Use in Urban Population of Pune, Maharashtra, India. Scholars Journal of Applied Medical Sciences. 2013; 1(6):732-738.
18. Patrick S, Badyal D. Self-medication practices in patients attending a Tertiary Care Teaching Hospital in Urban North-West India. Acta Med Int 2018;5:44-7.