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A CROSS SECTIONAL STUDY ON PREVALENCE OF SELF MEDICATION

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ABSTRACT

Background: To study the prevalence of self-medication among the general population in Hyderabad, and the proportion who self-medicated. Study objective is to assess the prevalence of self-medication, predisposing factors that lead to the practice of self-medication, to assess different classes of drugs used in self-medication. **Methods:** The study was designed as a cross-sectional among the adult population in hyderabad to appraise the proportion of individuals practicing self-medication. By using a structures questionnaire, 1059 samples have collected. Collected data is analyzed and reported as frequency and percentages. **Results:** Self-medication was practiced by 62.7% of subjects. Where the main reasons to practice self-medication are patients have prior knowledge of the medication (62.6%), and minor illness (46.2). Analgesics (48.5%), antibiotics (31.9%) and anti-histamines (31.5%) are majorly used medications for self -medication. **Conclusions**: The data procured from this study substantiate a high prevalence of self-medication. The variables corresponding with self-medication are age and region. Health awareness camps must be conducted aware people of the harms and benefits of self-medication practice. Authentic legislation ought to be enforced by the regulations to promote rational use.

KEYWORDS: Self-medication, Prevalence, Over-the-counter.

INTRODUCTION

Medication usage has become a topic of discussion in society, and epidemiological research on medicine usage is peculiarly relevant for developing pertinent and effective health policies to put a stop to drug misuse. Every day, we use self-medication as a form of medical assistance. Many people believe that genuine medication use, but also reasonable medication use, can help with a patient's recovery.

WSMI's 13th Common conference in Berlin capital of Germany, about the "self-care, an imperative component of safety approach in exclusion of the possible hazards afflicted with Self-medication. An Organization of Pharmaceutical Producers of India (OPPI) an over-the-counter committee functioning towards the advancement of responsible self-medication to evolve the OTC segment. The health system, alone or in conjunction with WSMI, has produced important articles on self-care and self-medication.[1]

Self-medication, according to the WHO, it is a significant aspect of the healthcare system. This perspective arose from an understanding of an individual's responsibility for their consciousness and health, as well as the judgment that professional treatment of minor issues is unnecessary. In many countries, improvements in education, general knowledge, and socioeconomic standing had provided a reasonable basis for a favorable outcome.

The World Health Organization describes self-medication as "individual opinion and drug use to alleviate conscience ailments or indications, and so it is an element of self-care." Self-care, which includes the health-related behaviors and decision-making of individuals, families, friends, and coworkers, is the most essential resource of health in health care.[2]

Self-medication is frequent among individuals all ages; however, generality it varies by region and individual. It might once thought to be meaningless, but nowadays, appropriate self-medication is considered the most significant in our lives. Self-medication that is unreasonable or irresponsible, besides, shouldn't be promoted since it harms patients by causing ADRs or medication-related problems (MRPs), furthermore increasing direct costs, treatment costs, hospital admission expenses, and other expenditures. Self-medication transforms and is not limited to procurement of non-prescription medication it also include the using of leftover prescription medicine and dispensation of medicine among family and friends in continuity to put to-use of old prescriptions and change the dosage of prescribed drugs. In numerous cases, patients have similar symptoms, but pathology of underlying

disease is different. Patients who not consider and practice self-medication endanger of developing major Drug-Related Problem (DRP) such as therapeutic failure or toxicity. In several nations, improvement in people's education levels, general knowledge, and socio-economic standing are primary factor for successful self-medication. For government organizations, the changes in therapy of insignificance through self-medication cuts expenses and allows health professionals to heart on significant health concerns. To allocate an answerable self-medication plan, pharmacist guidance and familiarization with self-medication are necessary.

Various countries have reclassified drugs of specific pharmacological actions, such as non steroidal anti inflammatory compounds (NSAIDs), H2-receptor antagonists, and nicotinic preparations to quit smoking, from prescription to non-prescription. There isn't large amount of distinction involving self-medication and prescription medications; change in indications and/or dose are minor. Ibuprofen, for example, given to treat arthritis at larger doses and headaches and mild discomfort at lower amounts. Self-medication is handy for patients to utilize and can afford positive outcomes, but when done wrong, it result in substantial affliction such as digestive hemorrhage, bacterial resistance, drug withdrawal symptoms, dependence, and hypersensitivity reactions and have a hazard of tumor. In accordance to The National System of Toxic-Pharmacological Information Medicines, non-selective use of medicines raises the danger of intoxication.

In accordance to the World Health Organization, "rational use of drugs" is described as "a condition in which patients obtain adequate pharmaceuticals for clinical need, at proper dose, for correct duration, and at low cost to patient and the community."

Individuals have necessity to be mindful of the manifestations they are being treated for, choose acceptable self-medication items, evaluate whether their diseases are suitable to self-medication, and follow product labeling requirements. There are hazards linked with it, including the handling of high drug dosages and misdiagnosis, misuse of resources, taken for a longer duration, and increase resistance to pathogens.

METHODOLOGY

The study was designed as a cross sectional among the adult population in Hyderabad to evaluate the proportion of individuals practicing self-medication. Study site is an online survey platform. This study was proposed to be conducted over 6 months. A total of 1059

samples have been taken for the study. Inclusion criteria for this study was subjects willing to participate female and male subjects of age between 18 – 60 years and exclusion Criteria was subjects who not cosigned the consent to participate ,Subjects who answered incomplete questionnaires. Subjects taking medication while staying in the hospital, pediatrics and geriatrics, bed ridden, sick patients and patients undergone surgery.

Data from data collection forms filled by the testifiers is collected from who signed informed consent. Data collection form has two sections includes both open ended questionnaire and closed ended questionnaire, where first section is questionnaire about demographic details, second section is questionnaire about illness resulting self-medication, medicine products patients took as self-medication, reasons behind practice self-medication, SM for chronic disease, awareness concerning adverse effects collected by an online base survey platform questionnaire. The respondents are assured about confidentiality and information regarding the purpose of the study.

The protocol, including introduction, need for the study, aims and objectives, data collection form, the methodology was submitted to the principal, GEETHANJALI COLLEGE OF PHARMACY, CHEERYAL, After the approval from ethics committee members, the study was approved by the institutional ethics committee GCP/IEC/NOV2020-21/B05.

Initially, a bunch of questionnaires was framed, appropriate options were specified. A data collection form is framed in an online based survey platform. Thus, the prepared data collection form is distributed in social platform for individuals met with specified inclusion criteria.

The complete data collected from the form is transferred to Microsoft Excel sheet. The details acquired were further evaluated utilizing statistical analysis and responses were assessed for prevalence of self-medication.

Practice of SM in previous 3 months is outcome of the study. Respondents are organized into two groups on basis who practiced SM and the one who did not practice. Chi-squared test is used for evaluation of differences in between two groups. The data acquired by the study were entered and analyzed using SPSS, version 25.0. P is considered as significant.

RESULTS AND OBSERVATION

BACKGROUND CHARACTERISTICS

The study questionnaire was retorted by 1059 members. They were predominantly 18-59 years (897). Of these, 536(50.6%) were males and 513(48.4%) ranked by females and 10(0.9%) selected prefer not to say. The pluralities of respondents are students (62.51%), employees (37.48%) residents of rural (224), urban (586), and metropolitan (249) regions of Hyderabad. Demographic particulars are as shown in Table. 6.1.

Table 6.1: Frequency and percentage of demographic details.

AGE	FREQUENCY	PERCENTAGE
13-18	162	15.3%
19-59	897	84.7%
GENDER		
Male	536	50.6%
Female	513	48.4%
Prefer not to say	10	0.9%
REGION		
Rural	224	21.2%
Urban	586	55.3%
Metropolitan	249	23.5%

SELF-MEDICATION PRACTICES: Among 1059 respondents, some taken self-medication in former 3 months were 664(62.7%), represented as pie-chart in fig. 6.1., where 357(53.8%) are females and 300(45.2%) are males and 7(1%) were respondent who not revealed their gender.

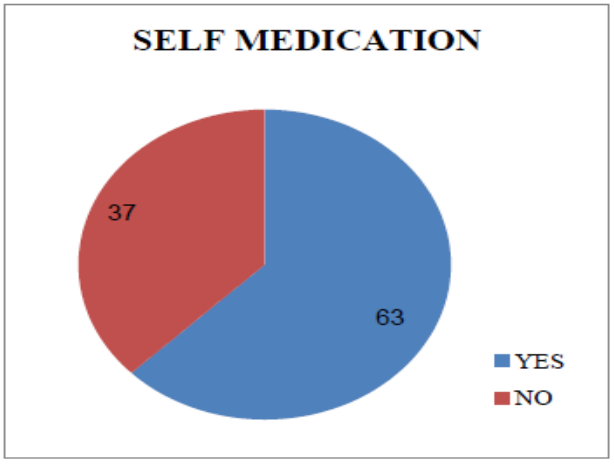

Figure. 6.1: Pie chart representing percentage of practiced self-medication.

The patients who practiced self-medication once are 341(51.3%), twice are 215 (32.4%) and multiple times are 108(16.3%) in former 3 months as representing in fig. 6.2.

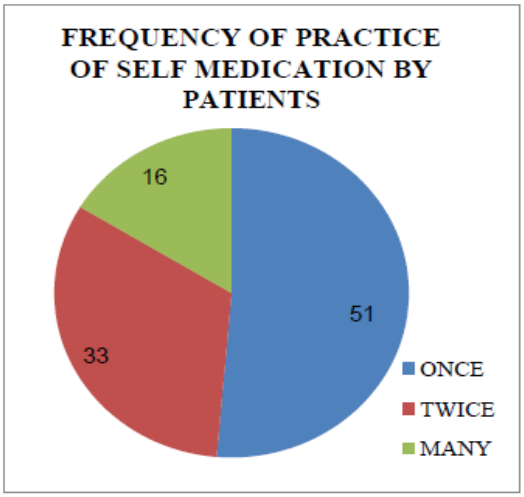

Figure. 6.2: Pie chart showing frequencies of self-medication.

The intensions for which the patients have taken self-medication are in fig. 6.3. As shown in the that fig. 6.3., some of patients has chosen multiple options as they have multiple explanations to take self-medication, from 664 patients 62.6% (416) took because they have some prior knowledge, 17.01% (113) took as they are acquirable, 10.5% (70) felt it's time-saving, 46.2% (307) categorized disease as minor illness, 12.6% (84) taken advice from pharmacists.

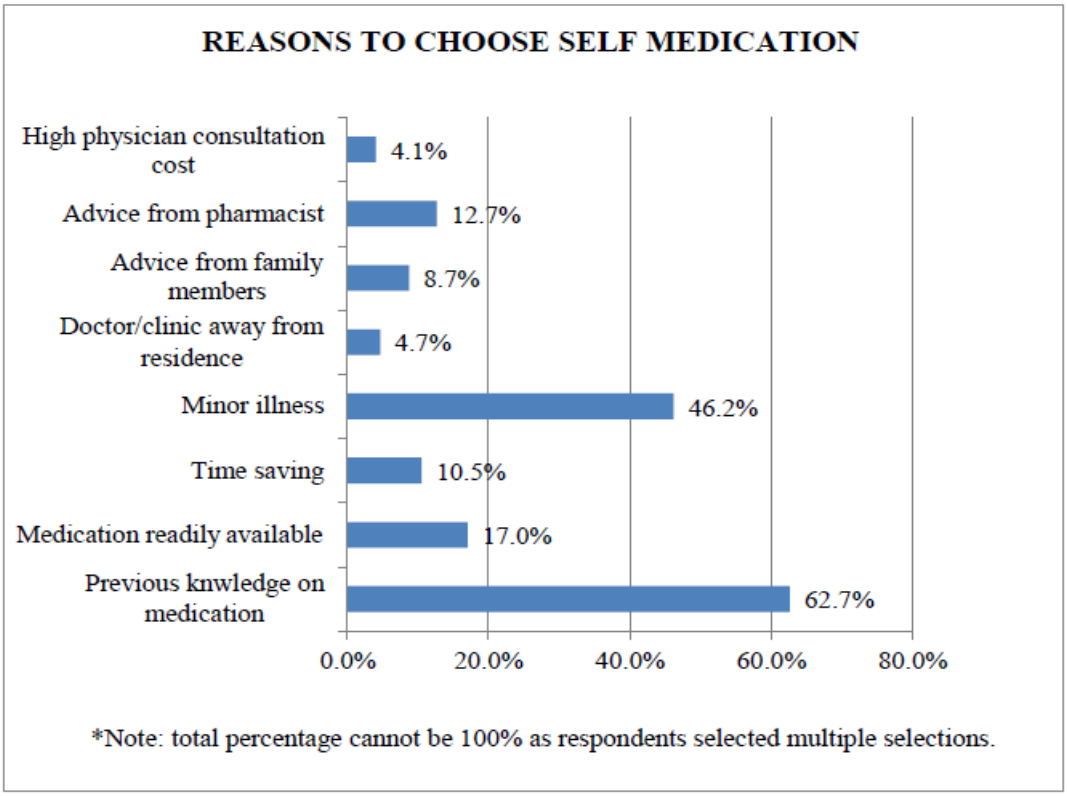

Figure. 6.3: Bar diagram representing reasons for self medication.

Major symptoms which the patients exercise self-medication is presented in the bar diagram, headache (45.2%), fever (39.6%), body pains (29.1%), cough (24.3), acidity (16.41%), allergy (10.1%), weakness (6.6%), muscle cramps (7.3%), diarrhea (7.0%), and vomiting (5.89%) are represented in fig. 6.4: Patients different medications, 212 took analgesics (48.5%), 75 took antacids (31.9%), 209 taken antihistamines (31.5%), 144 taken supplements (21.7%), proton-pump inhibitors (14.1%), antacids (11.3%), anti-diarrheal (8.1%), antiemetic (4.7%), smoking stoppage drug (0.6%), and antifungal (3.6%). 98% (657) of practicing had over-the- counter (OTC) drugs alone, where 1% (7) of them took prescription-only medication, % (5) took both over-the-counter (OTC) and prescription-only medicines; represented in fig.6.5.

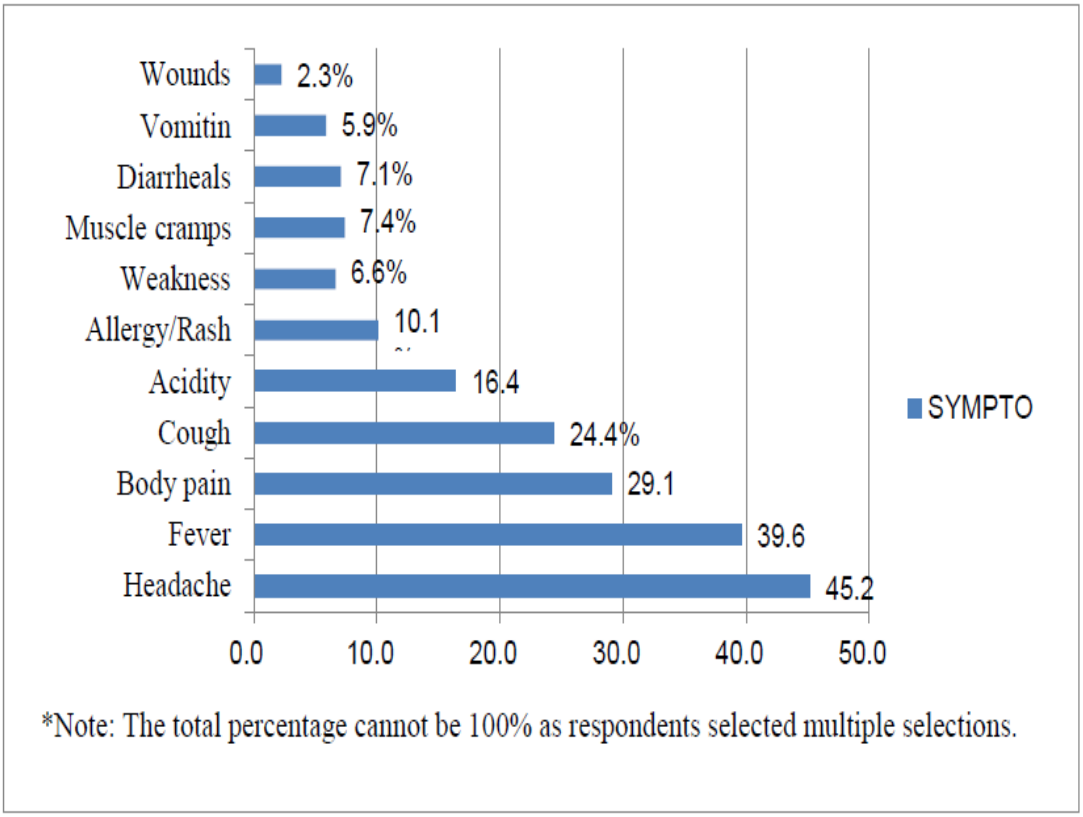

Figure. 6.4: Bar diagram representing symptoms that lead to self-medication.

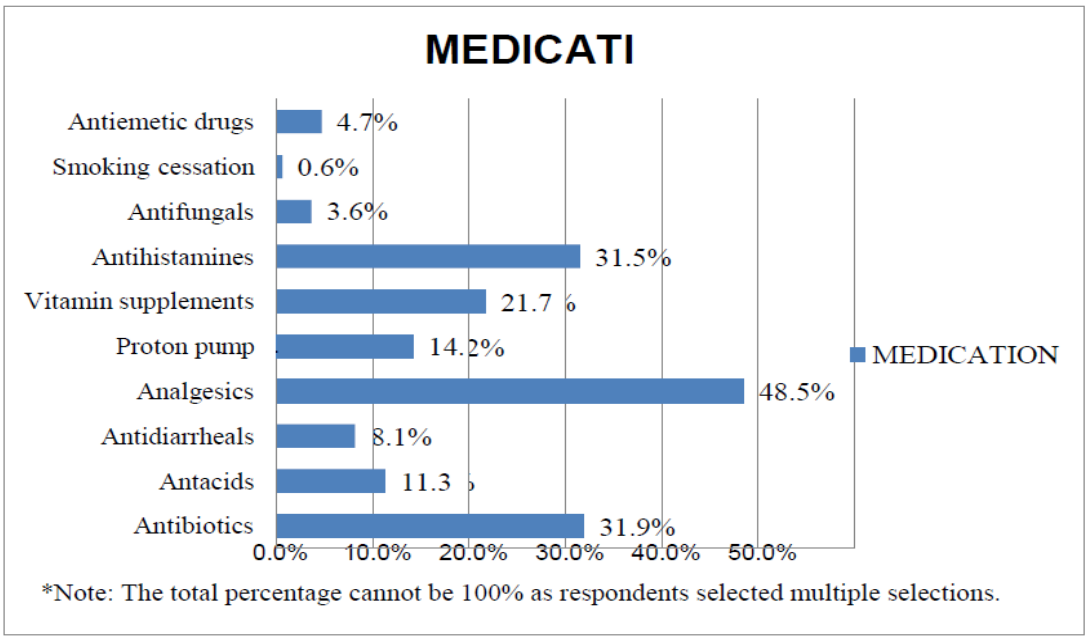

Figure. 6.5: Bar diagram representing medication usage for self medication.

Selection of particular brand for SM responses are as presented in fig. 6.6., 52% selected bottomed on previous experiences (346), 33.6% patients responded old prescription of a physician/doctor (223), 30.2% responders took pharmacist recommendations (200), 12.1% responded suggestions/pieces of advice by friends/family members (80) and 2.4% responded advertisements (16).

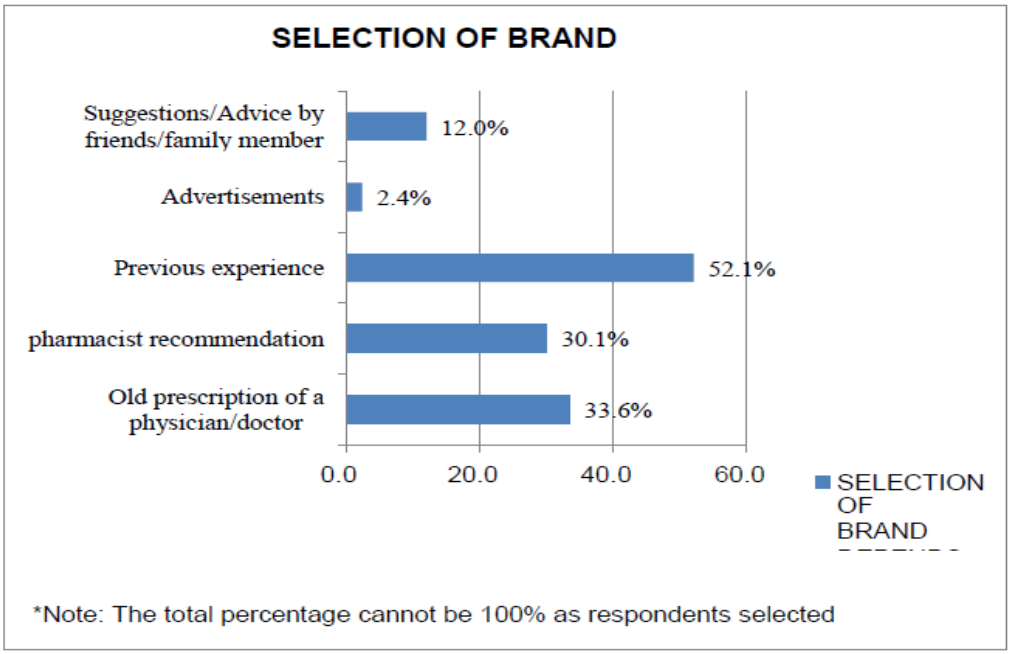

Figure. 6.6: Bar diagram representing reasons for selection of particular brand Self-medication.

The respondents are knowledgeable of the adverse effects and the respondents who faced the adverse effects by virtue self-medication are 7.8%, where as 81.2% did not expose to any adverse effect due to self-medication. 11% are doubtful whether they got expose to side effects.The fig. 6.7., Shows 46(6.9%) patients practiced self-medication for chronic disease, the majority are males (27) than females (19).

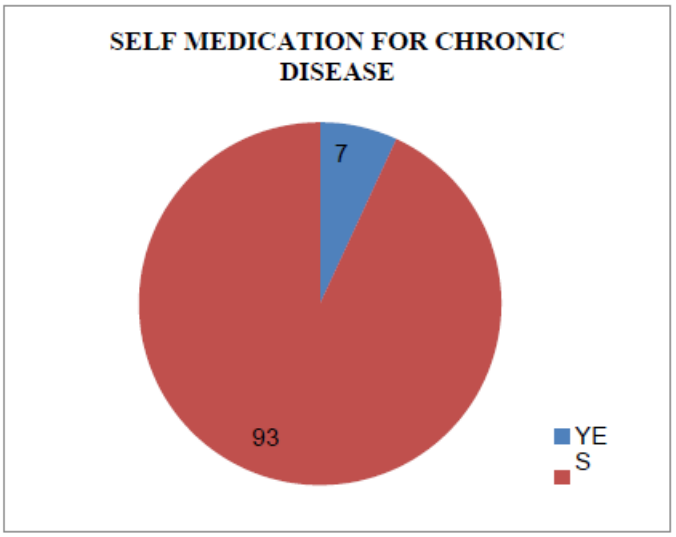

Figure. 6.7: Pie chart representing patients owing to chronic disease condition.

CHARACTERISTICS OF PATIENTS USED SELF MEDICATION

Table 6.2, shows the correspondence in between socio-demographic characteristics and self-medication behavior for 3 months. Results indicate that females are active in self-medicating than counter parts (p value<0.000027). A considerably higher rate was reported by adults than younger adults (67.4% versus 36.4) (p value <0.00001). Students are gone through self-medication in large number than counter group (53.5% versus 59.7%) (p value 0.22).

Respondents in urban region are more active in the use self-medication than the rural and metropolitan region respondents (p value 0.625). The odds ratio (OR), 95% confidence interval (CI) that quantify association between independent variables and the outcome variable estimates obtained through logistic analysis states that respondents of age group 19-59 years are 0.28 times more self-medicated than counter group (OR= 0.28, 95% CI: 0.19-0.39) (p <0.00001).

Table 6.2: Demographic profile according to the utilization of self-medication in past 3 months by respondents.

SELF MEDICATION					χ^2	P value
	YES	%	NO	%		
AGE						
13-18	59	36.4	103	63.6	53.06	<0.00001
19-59	605	67.4	292	32.6		
GENDER						
Male	300	56	236	44		
Female	357	69.6	156	30.4		
Prefer not to say	7	70	3	30	20.1	<0.000027
OCCUPATION						
Student	420	63.5	242	36.5		
Employee	237	59.7	160	40.3	1.479	0.22
REGION						
Rural	137	61.2	87	38.8		
Urban	375	64	211	36	0.937	0.625
Metropolitan	152	61.0	97	39		

DISCUSSION

Self-medication varies in prevalence from country to country and region. It was about 62.7% of total responders are self-medicated in the previous 3 months. A variation in the rates is due to variation in demographics, Sample details, methodology followed, tools of collecting data. Recent researches conducted in countries like the United Kingdom(UK)[17], the United States(US)[18], Germany[19], Spain[20], Mexico[21], France[22], Pakistan[23], Turkey[24], Singapore[25], Kuwait[26], Jordan[27], Sudan[28], and Egypt[29] differ in their estimation, the frequency is about 13% to 92%in practicing SM. Comparing the outcomes of the present survey with other literature is difficult, because differ in their self-medication definitions and methodologies and perceived role of pharmacists, different cultures and health-care systems. However, these all studies assess about insecurity of self-medication, efforts by health care specialists and decision-makers to restricting the problem, self-medication rates.

The results of this study give that, female is major into self-medication than males More than fifty percent of answers (i.e., 51.3%) are self-medicated only once in the 3 months. Patients who practiced SM are questioned about, the rationale for practicing in the previous 3 months. Among them 62.3% of the answerers taking self-medication as they have prior knowledge on medication for practicing self-medication. 46.2% of the answerers categorized their state of disease as a minor and is relevant to take self- medication. 17.01% took self-medication seeing that the suitable medicine is quickly accessible at home, 12.6% got guidance from

pharmacists to take medicine, and 10.5% of the patients felt it's time-saving through self-medication.

In this study, the execution of self-medication was performed for manifestations like headache, fever, body pains, cough, acidity, diarrhea, general weakness, and vomiting. Whereas, headaches, fever, body pains, cough, and acidity. Analgesics, antacids, antihistamines, vitamin supplements are major divisions of medicines exercised by study respondents in self-medication. 657 participants who took self-medication took over-the-counter (OTC), 7 participants took prescription-only medications while practicing, and 5 respondents took both over-the-counter (OTC) and prescription-only medicines.

Selection of particular brand for SM majorly on basis of previous encounters of the participants, 223 respondents follow the past prescription of a physician/doctor which states that effective counseling in the consultation can regulate the self-medication performed by assisting the patient education, 200 responded that they took pharmacist recommendations indicates that pharmacist plays the principal role in enhancing self- medication practice, 80 responded suggestions/pieces of advice by friends/family members states that by pertinent education can promote self-medication and 16 responded advertisements. 46 patients oriented to self-medication meant for chronic disease, the males are predominant than females.

The interconnection between demographic properties and self-medication nature in patients in 3 months study is the significantly higher rate in the harness of self- medication was reported by adults than younger adults, students exercise self-medication greater than counter group, respondents of the urban region exert self-medication than the rural and metropolitan region respondents. 95% confidence interval (CI) and odds ratio (OR) quantify association in between age and SM harness in previous 3 months. Estimates attained from logistic regression analysis states that answerers of age group 19- 59 years are 0.28 folds self-medicated to resolve their problems. The out-turn of the present investigation is the basis of self-reported information and consequently subjective.

In this survey, respondents have several impetuses for practice, categorization as minor illness, shortage of to attend health facility, and have prior awareness on medicine. Few questions are left unsolved, whether patients are well informed about what constitute a minor illness? Longer awaits is acceptable? How patients figure out the health facilities, accessibility, to the public.[30]

In this examination, high use of analgesics is reported. A full-scale exploration is obligatory to utilize analgesics. Antimicrobial resistance is a principal concern worldwide, predominantly in the case of budding countries in which antibiotics are available without a valid prescription. This problem can be figured out with instructions about Utilizing and making acquirable to people. Hence, the government shall take obligatory steps to manage responsible self-medication. In India, it's quite common to ascertain self-medication carried out and prominent provocation of health care specialists. Some government authorities consider it as an emerging challenge to health-care providers is. Some other government authorities are majorly encouraging the self-care or illness, additionally self-medication which succor to demote down the treatment cost, traveling time, and consultation count.

Drug and health managerial authorities should inspect and render time to ratchet up heed in people on privileges and hinderers of SM, which can heighten attitude props self-medication. By adding to student's curriculum, people's education, pharmacists can custom self-medication in a regulated path. Strict legislative enforcement must position to render the acquirer of drugs sans prescription. The pharmacist shall cognizant of medico- legal aspects, the consumer protection act, and human rights.

COUNCLUSION

It is proclaimed that 63% of the study population exercised self-medication and might not beget to enthrallment of health specialists. Practicing over-the-counter (OTC) drugs is momentous part. The frequencies of analgesic, antibiotics, and antihistamines are further supplemented than other divisions of drugs. Our study reported an amplified harness of analgesics. The desperate quotidian rationales for self-medication are 'previous awareness on medication' and 'minor illnesses'. Self-mediation is weighed as inappropriate when incorrect diagnosis and ill-treatment are done. To ameliorate the persuasiveness of self- medication, specialists of healthcare and pharmacists must be exceptionally operational in policing self-medication and furnishing patient education.

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REFERENCES

1. Bennadi D. Self-medication: A current challenge. J Basic Clin Pharm, 2013; 5(1): 19-23. DOI: 10.4103/0976-0105.128253, PMID 24808684.
2. Kumar N, Kanchan T, Unnikrishnan B, Rekha T, Mithra P, Kulkarni V, Papanna MK, Holla R, Uppal S. Perceptions and practices of self-medication among medical students in coastal South India. PLOS ONE, 2013; 8(8): e72247. DOI: 10.1371/journal.pone.0072247, PMID 24015223.
3. Kumar V, Mangal A, Yadav G, Raut D, Singh Saudan. Prevalence and pattern of self-medication practices in an urban area of Delhi, India. Med J DY Patil Univ. Patil University, access on January-February, 2015; 8(1): 16-20. DOI: 10.4103/0975-2870.148828.
4. World Health Organization. Guidelines for the regulatory assessment of medicinal products for use in self-medication. World Health Organization; 2000. Available from: https://apps.who.int/iris/handle/10665/66154.
5. Hughes CM, McElnay JC, Fleming GF. Benefits and risks of self-medication. Drug Saf, 2001; 24(14):1027-37. DOI: 10.2165/00002018-200124140-00002, PMID 11735659.
6. Ruiz ME. Risks of self-medication practices. Curr Drug Saf, 2010; 5(4): 315-23. DOI: 10.2174/157488610792245966, PMID 20615179.
7. Subashini N, Udayanga L. Demographic, socio-economic and other associated risk factors for self-medication behavior among university students of Sri Lanka: a cross-sectional study. BMC Public Health. Access on, 2020 (1): 613. DOI: 10.1186/s12889-020-08622-8, PMID 32366238.
8. Aronson JK. A prescription for better prescribing. Br J Clin Pharmacol, 2006; 61(5): access on may:487-91. DOI: 10.1111/j.1365-2125.2006.02649.x, PMID 16669839.
9. Voelker R. Prescription drugs switched to OTC. JAMA, March 17 2020; 323(11): 1034. DOI: 10.1001/JAMA.2020.2548, PMID 32181836.
10. Jahan S, Hakim Z, Rana S, Saleemi I, Khan M, Khan MA. Irrationalities in the use of commonly prescribed medicines. Isra Med J, 2018; 10(5): 276-80.
11. Teixeira Kde H, Barbosa Ade Lde O, Santana AL, Silva DIS, dos Santos RVC, de Souza VCGB, Farias JVC. A.L. Dos S. Costa, and I.C.C. Farias. Self-medication A study on motivational factors and consequences of this practice. Res Soc Dev, 9(8, June): e161985608. doi: 10.33448/rsd-v9i8.5608.
12. World Health Organization. The Role of the pharmacist in self-care and self- medication: report of 4th WHO Consultative Group on the Role of the Pharmacist, The Hague, The

Netherlands, 26-28 August 1998. World Health Organization; 1998. Available from: https://apps.who.int/iris/handle/10665/65860.

13. Joint statement by the International Pharmaceutical Federation and the world self-medication industry [cited Feb 27, 2013]. Available from: http://www.fip.org/www/uploads/database_file.php?id=241&table_id.
14. Ocan M, Obuku EA, Bwanga F, Akena D, Richard S, Ogwal-Okeng J, Obua C. Household antimicrobial self-medication: a systematic review and meta-analysis of the burden, risk factors, and outcomes in developing countries. BMC Public Health, august 1 2015; 15: 742. DOI: 10.1186/s12889-015-2109-3, PMID 26231758.
15. Dror DM, Chakraborty A, Majumdar A, Panda P, Koren R. Impact of community- based health insurance in rural India on self-medication & financial protection of the insured. Indian J Med Res, 2016; 143(6): 809-20. DOI: 10.4103/0971- 5916.192075, PMID 27748307.
16. Crum RM, Mojtabai R, Lazareck S, Bolton JM, Robinson J, Sareen J, Green KM, Stuart EA, La Flair L, Alvanzo AA, Storr CL. A prospective assessment of reports of drinking to self-medicate mood symptoms with the incidence and persistence of alcohol dependence. JAMA Psychiatry, 2013; 70(7): 718-26. DOI: 10.1001/jamapsychiatry.2013.1098, PMID 23636710.
17. Oborne CA, Luzac ML. Over-the-counter medicine use prior to and during hospitalization. Annals of Pharmacotherapy, 2005; 39: 268–273.
18. Bent S. Herbal medicine in the United States: review of efficacy, safety, and regulation: grand rounds at University of California, San Francisco Medical Center. Journal of General Internal Medicine, 2008; 23: 854–85.
19. Uehleke B, Steinhoff B. Self-medication in Germany. International Journal of Clinical Pharmacology and Therapeutics, 2001; 39: 484–48.
20. Carrasco-Garrido P et al. Predictive factors of self-medicated drug use among the Spanish adult population. Pharmacoepidemiology and Drug Safety, 2008; 17: 193– 199.
21. Balbuena FR, Aranda AB, Figueras A. Self-medication in older urban mexicans: an observational, descriptive, cross-sectional study. Drugs and Aging, 2009; 26: 51–60.
22. Orriols L et al. Evaluation of abuse and dependence on drugs used for self- medication: a pharmacoepidemiological pilot study based on community pharmacies in France. Drug Safety, 2009; 32: 859–873.
23. Zafar SN et al. Self-medication amongst university students of Karachi: prevalence, knowledge and attitudes. Journal of the Pakistan Medical Association, 2008; 58: 214–217.

24. Gül H et al. Nonprescription medication purchases and the role of pharmacists as healthcare workers in self-medication in Istanbul. Medical Science Monitor, 2007; 13: PH9–PH14.
25. Chui WK, Li SC. Advice-giving on self-medication: perspectives of community pharmacists and consumers in Singapore. Journal of Clinical Pharmacy and Therapeutics, 2005; 30: 225–231.
26. Awad A, Al-Rabiy S, Abahussain E. Self-medication practices among diabetic patients in Kuwait. Medical Principles and Practice, 2008; 17: 315–320.
27. Sawair FA et al. Assessment of self-medication of antibiotics in a Jordanian population. Medical Principles and Practice, 2009; 18: 21–25.
28. Awad A, Al-Rabiy S, Abahussain E. Self-medication practices among diabetic patients in Kuwait. Medical Principles and Practice, 2008; 17: 315–320.
29. Sallam SA et al. Pharmacoepidemiological study of self-med-30. ication in adults attending pharmacies in Alexandria, Egypt. Eastern Mediterranean Health Journal, 2009; 15: 683–691.
30. S.A. Alghanim. Self-medication practice among patients in a public health care system Eastern Mediterranean Health Journal, 2011; 17: 409-416.