International Journal of Community Medicine and Public Health
Singh N et al. Int J Community Med Public Health. 2022 Jun;9(6):2521-2528
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20221529

Original Research Article

Study to determine self-medication pattern and drug use behavior in rural areas of Etawah district

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Received: 14 March 2022
Revised: 07 May 2022
Accepted: 09 May 2022

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ABSTRACT

Background: According to William Osler, a great feature which distinguishes man from animals is the desire to take medicine. Self-medication is an age-old practice. According to world health organization guidelines "Self-medication is defined as use of medicinal products by the individuals to treat self-recognized disorders or symptoms, or the intermittent or continuous use of a medication prescribed by a physician for chronic or recurring diseases or symptoms

Methods: The study population included study subjects from the rural areas of Etawah district. A total sample of 200 was recruited in the study based on 40×5 cluster sampling technique

Results: most of the participants in rural areas 65% belong to the age group 20-39 years. Among the rural participants males were 134/200 (67.0%) and females were 66 (33%). Most of the participants in rural areas were married i.e. 76.0%. Most of the participants (50%) belonged to joint family followed by nuclear family (40%) in rural areas. Most common reason for self-medication practice in rural area most common reason for practice of self-medication was high fee which makes 29% (58) of all respondent and other reasons were Doctor/clinic away from home (27.5%), to save time (20.5%), medicine of family member (6%), no trust in doctor (0.5%) and pharmacist advice (3.5%).

Conclusions: Most common age group indulged in the practice of self-medication was 20-39 year in rural study area.

Keywords: Self-medication, Rural area, 40×5 Cluster sampling

INTRODUCTION

According to William Osler, a great feature which distinguishes man from animals is the desire to take medicine.[1] Self-medication is an age old practice. According to world health organization (WHO) guidelines "Self-medication is defined as use of medicinal products by the individuals to treat self-recognized disorders or symptoms, or the intermittent or continuous use of a medication prescribed by a physician for chronic or recurring diseases or symptoms.[2] Self-medication involves acquiring medicines without a prescription, resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home.[3] The youth are highly influenced by the media and the internet which promote self-medication behavior.[4] The increased advertising of pharmaceuticals poses a larger threat of self-medication to the younger population in general. This raises concerns of incorrect self-diagnosis, drug interaction and use of drugs other than for the original indication.[5] A number of reasons could be

enumerated for the rise of self-medication. One of the reasons being the increase in chronic diseases and their incidence has raised from 30% to 80% in the last 40 years. Other reasons which are responsible for self-medication in developing countries are urge of self-care, feeling of sympathy toward family members in sickness, lack of health services, poverty, ignorance, misbelieves, extensive advertisement, use of drugs from informal sectors such as open markets and quacks, illegal purveyors of drugs (non licensed sellers in the market), etc.[6,7] Some authors are of the view that self-medication can be practiced and they consider it appropriate for short-term relief of symptoms where accurate diagnosis is unnecessary, uncomplicated cases of some chronic and recurrent disease (medical diagnosis having been made and advice given).[8] WHO is promoting practice of self-medication for effective and quick relief of symptoms without medical consultations and reduce burden of health care services, which are often understaffed and inaccessible in rural and remote areas.[9] Self-medication is an important issue, which may delay diagnosis and facilitate the emergence of resistant microorganisms and iatrogenic illnesses.[10] Even if the drugs are used correctly, self-use may be associated with side effects and increased chance of drug interactions, including drug-alcohol interactions. It may also affect adherence to treatment and quality of life.[11] However, people should be properly educated about the practice of self-medication in order to prevent the harmful effects caused by the practice. The increasing self-medication will require more and better education of both the public and health professionals to avoid the complications arising from this practice.[12,13] In recent years there has been increasing practice of using OTC drug, which means over-the counter drug. OTC drugs are non-prescription drugs found in pharmacies and retail outlets.[14] In country like India there is wide range of disease occurrence coupled with inadequate health services resulting in increased use of over-the-counter drugs.[15] In 1995 the WHO expert committee on National Drug Policies stated that self-medication is widely practiced in both developed and developing countries. Medication may be approved as being safe for self-medication by the National drug regulatory authority. Such medications are normally used for prevention or treatment of minor ailments or symptoms which do not justify medical consultation.[16] Self-medication practice offers ease of access to over the counter (OTC) medications at a lower cost, which serves as an alternative to the costly and time-consuming clinical consultations. Safety issues are a major concern as many diseases have similar symptoms. Additionally, the risk of self-medication is increased if the individual does not have knowledge and understanding of the disease. Additionally, this practice is associated with an increased risk of misdiagnosis, ADRs, drug abuse and misuse.[17] India is still predominately rural in terms of its population concentration. Out of a total 1210.2 million Indian population, the size of the rural population is 833.1 million or 69%. There is clear divide between urban and rural areas in terms of socioeconomic factors. Rural India is far behind urban India in every indicator of progress like livelihood, employment, poverty, literacy, gender disparity and health.[18,19]

Rationale

Rationale of the study-considering the fact that, over 52 per cent Indians are indulged in self-medication, a practice bearing severe health risks and a trend that is increasing due to either time constraints or the perception of doing away with the doctors' fees, as per a survey conducted by the NGO Lybrate, which is a doctor-patient end-to-end communication platform[20], this study was planned to analyze the pattern and various determinants of self-medication in the rural community of Etawah district.

Aim and objectives

Aim of the current study was to determine self-medication pattern and drug use behavior in rural areas of Etawah district. Objectives of current study were to assess the self-medication pattern in rural areas of Etawah district to assess the level of knowledge regarding self-medication and to assess the awareness, perception and practices of Self-medication among residents of rural areas of Etawah.

METHODS

Study design, duration and location

Current study is a community based descriptive cross sectional study conducted from January 2019 to July 2020 at rural area of Etawah district.

Study population and tools

The study population included study subjects from the rural areas of Etawah district. A total sample of 200 was recruited in the study based on 40×5 cluster sampling technique. Predesigned, pre-tested and semi-structured questionnaire was used as current study tool.

Inclusion criteria

Inclusion criteria for current study were, person aged 20 years and above, person providing consent for being a part of the study and persons providing a history of self-medication within the last 6 month.

Exclusion criteria

Exclusion criteria for current study were, person less than 20 years, person not giving consent, seriously ill patient and person who are not permanent resident of the study area.

Operational definition of self-medication

Intake of allopathic drug within last 6 months or continuing the old prescription without consultation with a certified doctor.

Presentation of questionnaire

After defining and finalizing the methodology and designing the study tools, a pilot study was conducted among 5% of sample size i.e. 10 study subjects and preliminary analysis was done. Necessary modifications required were done in the schedule before starting the data collection. The participants of the pilot study were not included in the data analysis of main study.

Sampling method

40×5 cluster sampling technique was used. Etawah district has 8 community development blocks namely Badapura, Basrehar, Bharthana, Chakkar nagar, Jaswant nagar, Mahewa, Saifai, Takha with a total of 421 gram panchayats representing the rural area of Etawah district. We have used the 40×5 cluster sampling technique for collecting the data from the study area. At first, line listing of all the 421 gram panchayats of Etawah district was done. Then by simple random sampling using lottery method, 40 gram panchayats were selected from which one village was selected from each selected gram panchayats in rural areas randomly using lottery method, following this a pencil was thrown in air and the starting point was decided for the recruitment of the house according to the direction in which pencil landed on the ground. 5 houses were selected serially from the decided direction. From each of the 5 selected houses one individual was selected who fulfilled the inclusion criteria of the study. If all the individuals from the selected house did not fulfil the criteria then we proceeded to the next house till the decided criteria was met. This process was continued till 5 individuals selected from that specific village. Hence in total 200 study subjects from rural community were interviewed. The purpose of the study was explained to the participants and after taking the written consent, the data were collected by direct face-to-face interview on the predesigned pretested questionnaire. Each interview lasted for at least 20-30 minutes. All necessary precautions were taken to ensure that the respondent understood the questions completely and answers were then recorded straight away.

Data analysis and cleansing

Data entry was done in Microsoft excel worksheet and analysis of the data thus collected was done using SPSS software version-24.

RESULTS

Most of the participants in rural areas 65% belong to the age group 20-39 years (Table 1). Among the rural participants males were 134/200 (67.0%) and females were 66 (33%).

Table 1: Distribution of study subject according to Socio-demographic profile.

Socio-demographic characteristics		Rural participants	
		N	%
Age group (years)	20-39	130	65.0
	40-59	54	27.0
	60-79	16	8.0
	80-99	0	0.0
	Total	200	100.0
Gender	Male	134	67.0
	Female	66	33.0
	transgender	0	0.0
	Total	200	100.0
Marital status	Unmarried	45	22.5
	Married	152	76.0
	Divorced	1	0.5
	Widow	2	1.0
	Total	200	100.0
Type of family	Nuclear	80	40.0
	Joint	100	50.0
	Three generation	20	10.0
	Total	200	100.0
Educational status	Illiterate	36	18.0
	Primary	32	16.0
	Middle school	55	27.5
	secondary	44	22.0
	Graduate	28	14.0
	Post graduate	5	2.5
	Total	200	100.0
Occupation	Unemployed	7	3.5
	Student	25	12.5
	Housewife	52	26.0
	Farming	68	34.0
	Private service	27	13.5
	Government service	8	4.0
	Business	5	2.5
	Others	8	4.0
	Total	200	100.0

Most of the participants in rural areas were married i.e. 76.0%. Most of the participants (50%) belonged to joint family followed by nuclear family (40%) in rural areas. Education level was found to be mixed in rural area, most of the participants (27.5%) were educated upto secondary school followed by higher secondary (22.0%), illiterate (18.0%), primary school (16.0%), graduate (14.0%) and post graduate (2.5%) in rural areas. Regarding occupation it was farming (34.0%) in rural areas. In rural area 31.0% (62) participants know about which drug is prescribed for particular disease (Figure 1). In rural area only 29.5% (59) participants know about the correct dose of drug (Figure 2). In rural area only 24.5% (49) participants knew correctly about duration of drug intake (Figure 3). In rural area most common source was friend (Table 2).

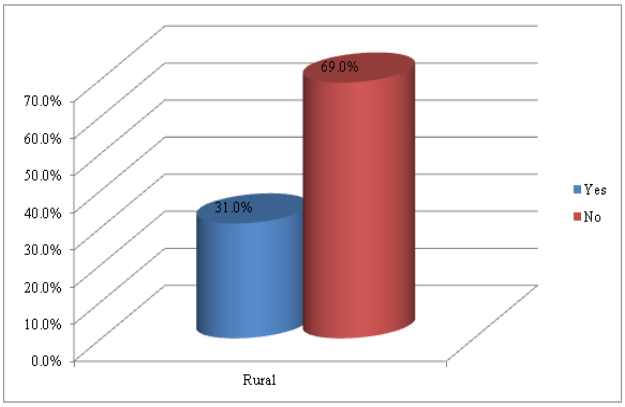

Figure 1: Distribution of study subjects according to knowledge of prescribed drug for a particular disease/symptom/indication.

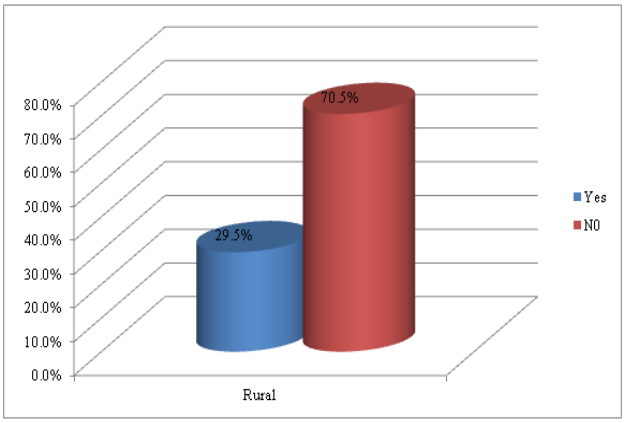

Figure 2: Distribution of study subjects on the basis of knowledge of dose of self-medication drug.

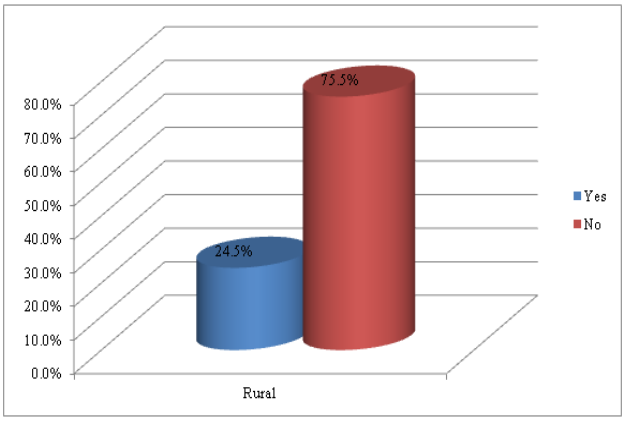

Figure 3: Distribution of study subjects according to knowledge about the duration of self-medication drug intake for the disease/symptom/indication.

In rural area 51.5% (103) participants said that practice of self-medication is wrong (Figure 4). Most common reason for self-medication in rural area most common reason for self-medication was high fee of doctor which was 29.0% (58) and second most common (27.5%, n=55) reason was Doctor/clinic away from home (Table 3). In rural area 28.0% (56) participants said that body pain was the most common symptom which initiate for self medication (Table 4). Most of the participants which is 51.5% (103) in the rural area get their drugs for self-medication from pharmacy shop (Figure 5). In rural areas the most common drug which consumed during practice of self-medication is analgesic (28.0%) followed by antipyretic (27.5%) (Table 5).

Table 2: Distribution of study subjects on the basis of source of knowledge about the dosage of self-medication drugs.

Source of knowledge about the dosage of self-medication drugs	Rural participants	
	N	%
Prescribing information	5	2.5
Pharmacist	10	5.0
Friends	18	9.0
Family	5	2.5
Previous experience	16	8.0
Internet	2	1.0
News paper	3	1.5
Not applicable	141	70.5
Total	200	100.0

Table 3: Distribution of study subjects according to reasons for self-medication.

Reason for self-medication	Rural participants	
	N	%
Doctor/clinic away from home	55	27.5
Saves times	41	20.5
High fee of Doctor	58	29.0
Old prescription	26	13.0
Medicine of family member	12	6.0
No trust in Doctor	1	0.5
Pharmacist advice	7	3.5
Total	200	100.0

Table 4: Distribution of study subjects on the basis of common indications for self-medication.

Common indications for self-medication	Rural participants	
	N	%
Body pain	56	28.0
Fever	55	27.5
Running nose	19	9.5
Infection	4	2.0
Hypertension	15	7.5
Diabetes mellitus	3	1.5
Malaria	1	0.5
Heart burn	10	5.0
Cough	14	7.0
Diarrhea	7	3.5
Others	16	8.0
Total	200	100.0

Table 5: Distribution of study subjects according to the pattern of drug consumed commonly in self medication practice.

Type of drug consumed commonly in self-medication	Rural participants	
	N	%
Analgesic	56	28.0
Antibiotics	11	5.5
Antimalarials	1	0.5
Antitussive	14	7.0
Antihypertensive	15	7.5
Antidiabetic	3	1.5
Anti allergic	19	9.5
Anti pyretic	55	27.5
Antacid	10	5.0
Others	16	8.0
Total	200	100.0

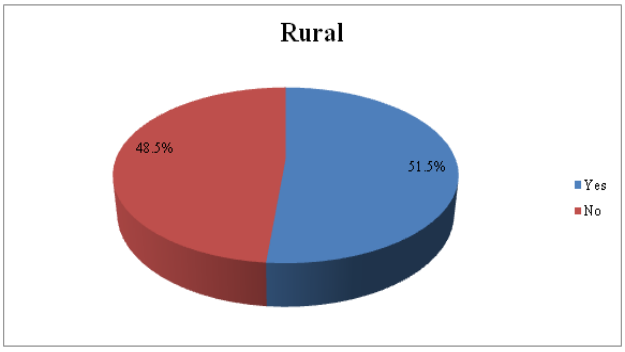

Figure 4: Distribution of study subjects according to knowledge whether self-medication practice is wrong or not.

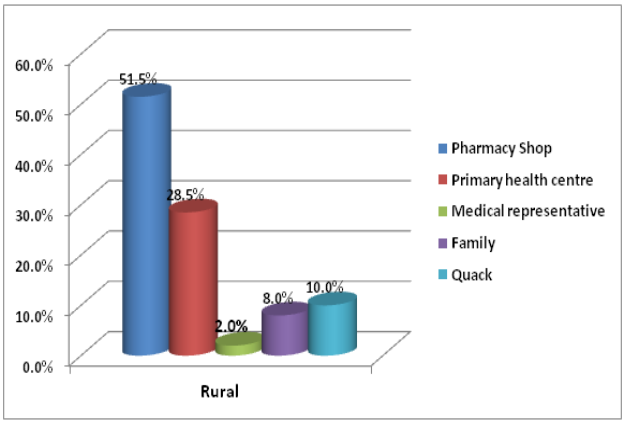

Figure 5: Distribution of study subjects according to mode of obtaining drug for self- medication.

DISCUSSION

Before discussing about the issue of self-medication and its determinants in rural areas of Etawah district we have focused on the point that the phenomena of self-medication is not exactly similar to the phenomena reported in various surveys or studies. The variation may be due to extent of development, different patterns of rural area or may be due to different population composition or different socio-economic status.

This study was conducted among 200 participants in rural area. This study revealed that in rural area most of the participants are males and rest females and most common age group was 20-39 years (65.0%) respectively. Makeen et al conducted a study in which majority of participants were female (58.0%), most common age group was 26-36 years (48.8%).[21] Another study conducted by Mamo et al in which proportion of female was 53.0% as compared to male, while Varadarajan et al reported that majority of participants were females (59.4%).[21-23] Study conducted by Gadekar et al reported 78.3% of the study subject was males and most common age group was 30-39 years (39.0%).[24] This difference in the male and female distribution in the present study and other previous studies could be because of difference in geographical area. Most participants in rural area were married while were unmarried (22.5%), divorced (0.5%), widow category (1.0%). Similar finding were reported by other researcher, namely Dutta et al (82.45% married), Sharma et al (74.6% married) and Lei et al (72.1% married). [27] In the present study most of the participants rural area half of the participants belonged to joint family and those belonging to nuclear family were (40.0%) and three generation family (10%) respectively. On the other hand study conducted by Dutta et al in Chennai, Tamil Nadu reported that 62.5% participants were belong to nuclear family and rest are belong to third generation and joint family.[25]

In rural area most of the people were educated upto Middle grade of education (27.5%) followed by illiterate (18.0%), primary (16%), secondary (22.0%), graduate (14.0%) and post graduate (2.5%) respectively. Dutta et al conducted a study in Chennai, Tamil Nadu in which 33.9% had middle school education, 20.6% had high school education and 11.5% had post high school/ diploma and 15.2% had primary education, another study conducted in Nanded city by Gadekar et al in which most of the participants upto secondary school (23%), followed by 18% upto higher secondary school and 10% were illiterate. Kurniawan et al conducted a study in East Indonesia in which majority of the respondent (56.3%) were educate upto senior high school graduate, Ira et al conducted a study in Comilla district, Bangladesh in which 23.3% respondent were educate upto school level, 36% respondent were under graduate, 27.7% respondent were educate upto graduate and 13% respondent had education upto to post-graduation.[14,28,29] The difference in educational status is because of difference in literacy rate in different place of previous study, the difference observed is mainly because of difference in socio-economic status condition in the various study areas.

In this study most of participants in rural areas were farmer by occupation (34.0%) and rest belonged to unemployed, students, housewife, farmer, private service,

government service, business and other occupational groups. Similar study conducted by Dutta et al support the finding about occupation in urban area in which most of the participants as housewife reported was 43.6% and rest belonged to semiskilled, skilled, and unemployed.[25] A study conducted by Saba et al reported a percentage of unemployed persons to be 44.2% but in the present study percentage of unemployed person was in rural area was 3.5%. The present study revealed that in rural area 31% (62) respondents had correct knowledge about prescribed drug. Sharma et al documented that more than 75% (83) have correct knowledge about self-medicated drugs, while another study conducted by Naidu et al stated that only 58%(85) actually had knowledge about the drugs for particular indication.[29-31]

In the current study in rural area 29.5% participants had correct knowledge about dose of drug, Kumar et al conducted a study and reported that 68.4% (150) respondent had correct knowledge of dose of drug. Since the educational level of participants in Kumar et al study was higher as compared to our study; hence probably this difference is the reason for higher proportion of knowledge regarding dose.[32] In this study most of the participants from rural area don't had proper knowledge about duration of drug intake during course of self medication which 75.5%.

In this current study, main source of information about the dosage of drug in rural area was friend advice 18 (9%) while rest are gain information from prescribing information (2.5%), pharmacist (5%), family (2.5%), previous experience (8%), internet (1%) and news paper (3%). A study related to self-medication was conducted by Sara et al in Harar City in which 2/5th (40.3%) reported pharmacy professionals as source of information while 18.9% respondent said that the main source of information for self-medication were neighbors, friends or relatives and about 31.9% did not have any source of information for self-medication practice.[22] In the present study, in rural area most of the participants which is 51.5% (103) had mentioned that self medication practice is wrong while in another study conducted by Ayanwale et al in which 93.5% respondents mentioned that self medication practice is wrong.[33]

Most common reason for self-medication practice in rural area most common reason for practice of self-medication was high fee which makes 29% (58) of all respondent and other reasons were Doctor/clinic away from home (27.5%), to save time (20.5%), medicine of family member (6%), no trust in doctor (0.5%) and pharmacist advice (3.5%). A study conducted by Idoko et al reported that the most common reason was prior knowledge of illness and treatment.[34] Other reasons include previous successful self-medication (35.9%), to many protocols at the hospital (31%), to save time (27.5%), to save money (20.2%), urgency and impoliteness of health care practitioners (3.8%).

Dutta et al conducted a study in which 60% participants said that they resorted to self-medication as they felt the symptoms were mild and tolerable, 20% due to high cost of doctor consultation, 12.4% due to inconvenient timings/ lack of time and 7.6% due to personal reason.[25] Most of the participants in rural area body pain was the most common indication for self-medication which make 28% (56) of all respondents followed by fever (27.5%), running nose (9.5%), infection (2%), hypertension (7.5%), diabetes mellitus (1.5%), malaria (0.5%), heart burn (5%), cough (7%), diarrhea (3.5%), and other indication (8%). Makeen et al conducted a study in which 1/3rd participants self-medicated for pain (38.3%), 26.3% for influenza/common cold 24% for cough and 11.4% for allergy.[21] Another study conducted by the Patrick S et al[35] in urban North-West India reported most common reason/indication for Self-medication was fever (45.84%) followed by pain (18.34%) and 10.87% for headache.

In the current study, most common source for obtaining drug for self-medication in rural area is pharmacy shop (51.5%) followed by primary health centre (28.5%), medical representative (2%), family (8%), quack (10%). Mamo et al[22]conducted a study, in which 2/5th (40.3%) participants reported pharmacy professionals as a main source for self-medication drugs while 18.9% of respondent were advised by neighbors, friends or relatives. In the present study in rural area most common drugs which was consumed commonly during practice of self-medication is analgesic (28%) followed by anti pyretic (27.5%), anti allergic (9.5%), other drugs (8%), antihypertensive (7.5%), Antitussive (7%), antibiotics (5.5%), antacid (5%), anti-diabetics (1.5%) and anti-malarials (0.5%). A similar study conducted by Mamo S. et al reported that analgesic was the most commonly (42.2%) used medicine followed by respiratory drug (31.1%) and gastrointestinal drug (19.5%). study conducted by Bagewadi et al stated that most commonly drug used were antipyretics (60%), antimicrobials (47%), analgesic (46%), antihistaminic (36%).[32] This study revealed that majority of participants which is 62.5% (125) in urban area and 50% (100) participants in rural area took others drug along with commonly used drugs during practice of self-medication. This study may be considered the first to assess self-medication practices in the community of Etawah district and provide some clue about the socio-demographic profile, knowledge, practice, perception, pattern and associated factor related to self-medication.

Limitation

Limitations of current study were; there was no international standardized questionnaire to assess self medication knowledge, practices, perception, pattern. This study included only 200 participants due to limited time period, so generalizability can be questioned. Articles related to some variable were not found. Due to this difficulty occur in discussion

CONCLUSION

Most common age group indulged in the practice of self-medication. Practice of self-medication was found more in males than females. Practice of self-medication was found more in married people. In rural area majority of the participants did not know about the correct duration of drug intake with respect to self-medication. Most common reason for self-medication in rural area was high fee of doctor. In rural area most common indication/ symptom for self-medication was body pain. In rural area most common drug which consumed during practice of self-medication is analgesic.

Recommendations

People must be careful before taking drugs without knowing the adverse side effects or reaction in the body. This is an alarming sign as indiscriminate use of allopathic drugs can come out with drug interaction and adverse reaction if the person concerned is using some other drugs on regular basis. Practice of self-medication may be perilous to pregnant ladies, children and geriatrics patients. Public awareness need be increased about the drug safety. There is need to ensure community education, safety and efficacy of OTC drugs, so that even after its improper use, they prove to be safe. Easy availability of OTC drugs is a major factor responsible for irrational use of drugs in self-medication as, thus resulting in impending health consequences like antimicrobial resistance, increase load of morbidity and economic loss. There is a need for concerned authorities to make existing laws regarding OTC drugs more stringent for their rational use. Also, specific pharmaco-vigilance is needed and the patient, pharmacist and physician must be encouraged to report any adverse events.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Singh N, Sahu P, Saroj MK, Singh V, Siddiqui AM. Study to determine self-medication pattern and drug use behavior in rural areas of Etawah district. Int J Community Med Public Health 2022;9:2521-8.