KAP of Self-Medication among
Rural Residents of Western Uttar Pradesh

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Abstract

Self-medication involves the 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. The aim of this study is to determine the knowledge, attitude and practice of self-medication in rural areas of Moradabad district of western UP. A cross-sectional study was conducted among 857 respondents. It was found that about 68 percent respondents practiced self-medication and it was more prevalent among 38 to 48 year age group. Fever and Pain (headache, body ache, etc.) was the most likely indication for which self-medication was used (about 62%. p = 0.005). It was found that self-medication was more prevalent in higher education group. The study shows that self-medication is a major concern in Indian society and worldwide. Thus there is an urgent need to increase awareness in the society.

Introduction

Diseases are common for people and there has been an inherent tendency in human to use medicines, herbs, etc. for treatment. Throughout the world, everyday people practice self-care and act on their own for health. Now-a-days, self medication has become a major form of self-care. Self medication is defined as a human behavior in which a substance or any exogenous influence to self-administer treatment is used by an individual for physical or psychological ailments. Over the counter (OTC) drugs and dietary supplements are the most widely used substances. Generally, the individual's preference to a particular medicine is a result of his psychological condition, as the medicine provides relief.

Self-medication involves the 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. 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. It is influenced by many social factors like unavailability of proper health care system, sympathy towards ill friends or relatives, poverty, unawareness, advertisements of medicine on television, radio and newspapers, easy access to medicines from pharmacy shops, etc.

Generally, friends, family members or relatives give advice in milder illness as a health care professional especially about antibiotics. In rural part of India, many people do not consult the health professionals in case of minor illness. Although Drug and Magic Remedies Act and Schedule J prohibits the advertisement of drugs in any form, pharmaceutical companies advertise the products such as sexual products, prevent hair fall, heart disease and other problems related to women health. Furthermore, World Health Organization (WHO) also promotes the self medication or OTC practices for quick relief and also to decrease the health care related expenses of common people especially in remote rural areas, where countries like India already facing shortage of skilled health professionals.

Patients take any specific drug according to his/her own disease or problem. In case of specific symptoms, which do not need medical involvement, OTC drugs may be helpful as it gives symptomatic relief. The majority of people perceive that doctors should be consulted for major illnesses, while the OTC drugs could be used for the short term and for minor ailments. Patients were generally happy when doctors   inquire degrading the use of OTC drugs and made changes to it, if required. However, people were unhappy when pharmacists provided advice regarding the OTC medications, as these people were uncertain of the role played by the pharmacists.

Many studies have been conducted in various countries on the extent of OTC drug use. However, such studies are still scarce in India. Therefore, this study was conducted to evaluate the perception and level of awareness regarding OTC drugs, in the Indian population. The objective so four study were:

1. To determine the perception and level of awareness regarding OTC medications among the general public in India and
2. To assess the correlation between socio-demographic factors & personal / family history of illness and awareness, attitudes & practice of OTC drugs, among the Indian population.

Data and Methodology

The aim of this study is to determine the knowledge, attitude and practice of self-medication in rural areas of Moradabad district of western UP and its nearby districts. A cross-sectional study was conducted among 857 respondents. A pretested questionnaire was used to collect the data from rural areas of Moradabad, Rampur, Sambhal and Amroha districts of western UP. Sample size for the study was calculated on the base of prevalence rate of self-medication from the earlier studies. In this study we used the formula, $n = z^2 pq/d^2$, where n = minimum sample size; z = 1.96 at 95% confidence interval obtained from standard statistical table of normal distribution; P = estimated prevalence of self-medication in a given population (61.3%); q = precision that is, (1-p) or 0.387 and d = relative error of 20%. The minimum sample size calculated was 843 and in this study, data were collected from 857 individuals. The logistic regression analysis is undertaken to identify the risk factor as well as to predict the probability of success i.e. self-medication. The general logistic model expresses a qualitative dependent variable as a function of several independent variables, both qualitative and quantitative. If p is the probability of getting medicine by own choice or self-medication, then

$$p = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + ...)}}$$

Where $\beta_0, \beta_1, \beta_2, ...$ are the regression coefficients, x is a vector of covariates (affecting self-medication). The basic form of Logistic function is

$$P = \frac{1}{1 + \exp(-z)} = \frac{\exp(z)}{1 + \exp(z)} \quad ;$$

Where z is a linear combination of a set of predictor variables, i.e.,

$$z = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ... + b_n x_n$$

And therefore

$$P = \frac{1}{1 + \exp[-(b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ... + b_n x_n)]}$$

So that

$$1 - P = \frac{\exp[-(b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ... + b_n x_n)]}{1 + \exp[-(b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ... + b_n x_n)]}$$

Therefore

$$odds = \frac{P}{1 - P} = \frac{1}{\exp[-(b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ... + b_n x_n)]}$$

$$= \exp[b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ... + b_n x_n]$$

$$\text{Ln}(Odds) = (b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ... + b_n x_n)$$

Where $b_0, b_1, b_2, b_3 ... b_n$ are predictors.

This function is known as logit of *P* or log odds, and this is the familiar form of an ordinary multiple regression equation and therefore the interpretation of logit regression coefficient is same as regression coefficients but difference is that the effect is measured not on the study variables but on the logit of the study variable. Here *z* is the self-medication and x_i's are different socio-demographic covariates which affects self-medication.

Result and Discussion

Table 1 portrays the socio demographic characteristics of the respondents of the surveyed population. More than 60 per cent of the respondents are male and it may be because of easy availability of males for the interview. Since all the investigators are male thus it was not easy to get response from the female especially in the western part of the state of Uttar Pradesh. About more than half of the respondents are from 28 to 48 years of age group, i.e. the working population of the society. Since the survey is mostly centered in rural part, more than 37 per cent of respondents were illiterate. In the respondents only about 11 per cent are from high SLI category while more than 46 per cent of respondents were from low SLI group.

It is clear from the table 2 that more than half i.e. about 60 per cent of the respondent uses allopathy medicine for self-medication. The easy availability of allopathy medicine and fast recovery might be one of the causes of popularity of allopathy medicines. Respondents were aware that sometimes allopathy medicines had side effects even though they were using it. Respondents were asked about the diseases for which they had consumed medicine without consulting any medical practitioner. Table 3 shows that headache, pain and fever were the most common diseases for which most of the respondents had taken self-medication. Results show that respondents had taken medicine for diseases like infections, diarrhea and respiratory disease without consulting any doctor which could be more dangerous.

The study shows that majority of respondents received information about medicines from either by the chemist or by friends and relatives. Table 4 displays that in rural areas untrained medical practitioners were a threat because more than 36 per cent of respondents get information about self-medication from these untrained medical practitioner who only knows name of some medicines and can give first aid. Chemists were the main source of information and mostly they provide medicines without and prescription or recommendation by the doctors. Some respondents were also using previous prescription of doctor for medication.

In most of the cases the cause of self-medication is minor illness. People do not want to waste money and time on minor diseases like headache, cough and cold etc., and hence do not consult any doctor and directly take medicines from chemist. Table 5 shows that about 40 per cent of the respondent do not consult doctors because of high consultation fees. More than 27 per cent respondents reported that self-medication is more convenient and about 32 per cent reported that self-medication saved their time. In rural areas, lack of public transportation is an important factor and thus more than 23 per cent of respondents replied that they didn't consult any doctor because of distance.

Table 6 reports that more than 73 per cent of respondents, among the people who had practiced self-medication, had used analgesics drugs for medication. More than half of the respondents had used anta-acids drugs for their illness. Herbal drugs which are supposed to be less harmful were used by only about 30 per cent of the respondents who had ever practiced self-medication.

Table 7 portrays the view of respondents on their behavior regarding self-medication. Majority of respondents i.e. more than 93 per cent reported that they followed doctor's prescription in case of visit to a doctor. Even after consulting a doctor, about 32 per cent of respondents discontinued the treatment if they did not get any relief. It is clear from the table that about 40 per cent of respondents used the same prescription next time when they experienced the similar type of disease and symptoms. 24 per cent of respondents reported that in case they did not get any relief by the medicine they increased the drug dose by themselves or on the advice of chemist or friends and relatives. More than 21 per cent have reported that they had experienced adverse reaction during medication. Some respondents also reported that they were habitual of some specific kind of drug. About 13 percent of respondents told that they get relief on consumption of some specific drug.

The effect of background characteristics on self-medication is discussed in table 8. Results reveal that self-medication was practiced more in female than the male and the results are significant at 5 per cent level of significance. Since in Indian society, a male person is responsible for going market and outside for the household necessity, he can easily buy the drugs. It is clear from the results that use of OTC drugs are more in the age group of 28 and higher and it is almost same up to 60 years. But in case of senior citizens a i.e. people of age 60 and above the use of self- medication has

increased rapidly and it was about 4 times more than the younger age. Since the risk of disease increases as the age increases after age 50 years and above, the result seems obvious. The respondents of age group 20 to 29 had very less evidence of self-medication. When we took illiterate as reference category we see that use of self-medication was almost twice in both primary and secondary education group but it was less than half in case of higher education group. Since educated people are more cautious about their and their family member's health they consult doctor before use of any drug. Religion did not have significant effect on medication behavior. The practice of self-medication was found more in lower SLI group than the higher SLI group and it was twice more and the results were significant. Religion did not reflect any significant difference in OTC drug use.

Conclusion

This study showed that self-medication practices are very common among the rural people. Majority of the respondents were in the age group of adolescence and adult. All the respondents used self-medication at one or other point of the time. Although it is true that self-medication can help treat minor ailments that do not require medical consultation and hence reduce the pressure on medical services particularly in the underprivileged parts of the country with limited health care resources, the availability of the more complex drugs groups such as antibiotics without prescriptions is a source of great concern.

The study will be helpful to provide base line data about prevalence and practice of self-medication. It helps to conduct counseling programs about the potential risk of self-medication which can help to prevent the harms of un-prescribed medication in Indian context. Similar type of study can be conducted in different parts of the country in large scale. Self-medication can also be included in course by emphasizing the potential risk of self-medication. Restriction of sale of drugs with potentially harmful effects can be implemented effectively with monitoring systems between the significant stake holders. Steps can also be taken to the pharmacists not to provide OTC drugs. The concerned authority should only allow pharmacy graduates to sale the drugs, so that potential high risk due to drug dose, duration can be controlled to some extent.

Table1. Percentage distribution of respondents according to different demographic characteristics

Characteristics	Number	Percentage
Sex		
Male	521	60.8
Female	336	39.2
Age		
18-28	159	18.6
28-38	234	27.3
38-48	271	31.6
48-60	122	14.2
60 and above	71	8.3
Education		
Illiterate	322	37.6
Primary	215	25.1
Secondary	193	22.5
Graduation and above	127	14.8
SLI		
High	97	11.3
Medium	361	42.1
Low	399	46.6

Table2. Medicine Used for self-Medication

Medicine Type	Number	Percentage
Allopathic	507	59.2
Ayurveda	212	24.7
Homeopathic	87	10.2
Unani/Others	51	6.0

Table3. Symptoms for self-Medication

Symptoms	Number	Percentage
Fever	498	58.1
Headache	572	66.7
Infections	401	46.8
Pain	563	65.7
Diarrhea	267	31.2
Respiratory symptoms	403	47.0

Table4. Source of Information for self-medication

Source	Percentage
Previous prescription of Doctor	28.6
Chemist	46.7
Friends or Relatives	41.3
Advertisement	19.8
Untrained medical practitioners	36.1

Table5. Reason of self-medication

Reason	Percentage
Saving of time	32.2
Convenience	27.9
Minor Illness	41.6
High Consultation fees	39.5
Distance	23.7

Table6. Drugs used for self-medication

Drugs used for self-medication	Percentage
Analgesics	73.4
Anta-acids	51.2
Antipyretics	45.7
Antispasmodic	45.3
Antibiotics	37.2
Vitamins	40.1
Anti-allergies	29.7
Herbal	29.8

Table7: Respondents view towards self-medication

Statements	Yes	No
Do you follow doctor's prescription?	93.6	6.4
Do you discontinue the prescribed medicines by yourself when symptoms are not relieved?	32.3	67.7
Do you reuse the prescription when experienced with similar symptoms?	39.8	60.2
Do you increase the drug dose on yourself when symptoms are not relieved?	24	76
Do you experience adverse reaction during self-medication?	21.3	78.7
Are you habitual to any drug?	13.2	86.8
Do you give your prescription to someone who is having similar symptoms as yours before?	29.9	70.1

Table8. Effect of background characteristics on self-medication

Variables		Exp(B)	95% C.I. for EXP(B)	
			Lower	Upper
Sex	Female			
	Male	0.786**	0.517	0.993
Age	18-28			
	28-38	1.84**	1.103	3.07
	38-48	1.852**	1.212	2.829
	48-60	1.54*	1.258	3.126
	60 and above	4.054**	3.493	23.345
Education	Illiterate			
	Primary	2.849**	1.358	5.976
	Secondary	2.273**	1.261	4.096
	Graduate and above	0.438*	0.108	0.985
Place of residence	Rural			
	Urban	0.491***	0.332	0.726
Standard of Living Index	High			
	Middle	0.876	0.429	1.79
	Low	1.96**	0.441	8.72
Religion	Hindu			
	Muslim	0.951	0.671	1.347

Significant at *P value < 0.1, **P value <0.05, ***P value <0.01

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