



Original Article

A Cross Sectional Study on Medicines Utilization Practices of Kabirpur in Haryana, India

Rajesh Kumar, Anjali Goyal, Seema Chhokar, Shashikant, Neeraj Gilhotra*

Department of Pharmaceutical Sciences Maharshi Dayanand University, Rohtak – 124 001, Haryana, India

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Objective: The aim of study was a cross sectional study on medicine utilization practices of Kabirpur in Haryana, India. **Methods:** A cross-sectional study was conducted using a set of household interview questionnaire. **Results:** A total of 500 households' respondents were enrolled of which 59.45% were female and 40.6% were male. Most prevalence chronic diseases reported 36.03% hypertension and 25.47% diabetes mellitus. 40.8% households were using traditional remedies but not always, 1.4% used always, 98.6% used sometime. Common type of traditional remedies used ginger 97.54%, honey 83.82%, cardamom 79.41%, fennel 12.25% and others 17.15%. The households 54.6% had medicines and 30.96% of medicines are not used. Available dosages form were tablet 64.8%, syrup 12%, suspension 11.76%, capsules 4.96%, cream/ointment/gel 3.28%, eye/nasal drop/mouth paint 2.8% and injection 1.12%. Medicines present at home were musculoskeletal/joint agents 28.1%, anti infective agents 15.6%, respiratory system agents 13.36%, gastro-intestinal agents 11.6%, cardio-vascular agents 7.28%, nutrition agents 6.88%, eye/nose and skin agent 5.76%, not known 4.56% and CNS agents 2.04%. 31% households had one or more antibiotic were Quinolones 31.38%, penicillin 21.02%, cephalosporins 12.30%, macrolides 10.26%, Metronidazole 5.64%, sulphonamide 3.59%, tetracycline 2.56% and others 13.33%. The medicines available were advised by doctors 70.32%, pharmacists 13.2%, nurses 2%, self-medicated 12.72%, relative 1.12% and friends 0.64% and obtained from general hospital 13.04%, private pharmacy 72.8, dispensary 7.12, clinic 6.48% and Aganwari 0.56%. **Conclusion:** Inappropriate use of medicines in community; therefore, there is need for promoting rational use of medicines in the community

Keywords: Households, Medicines, Practices, Antibiotic.

Corresponding author *

Neeraj Gilhotra
Pharmacology Laboratory, Department of Pharmaceutical Sciences,
Maharshi Dayanand, University, Rohtak – 124 001, Haryana, India
E Mail: neerajmdu@rediffmail.com (N. Gilhotra)
Phone no. +918683981558

1. INTRODUCTION

World Health Organization (WHO) held a conference on Rational Use of Drugs in Nairobi intended to the

means and methods of ensuring the rational use of drugs.¹ Some factors behind inappropriate prescriptions like poor consulting period of doctors (average 54 seconds only); short dispensing time (avg. 23 seconds only) and patients' misunderstanding about medicine dosage (only 55% patient can understand correctly).² Irrational prescribing both from developed and developing countries consisting of polypharmacy, use of drugs that are not related to the diagnosis, unnecessary use of antibiotics, irrational self-medication, or drugs taken in insufficient quantities.³ Self-medication usually leads to inadequate drug utilization patterns.⁴ Self-medication and health seeking behaviour pattern varies among different populations and are influenced by many factors like age, gender, education, family, society, law, availability of drugs, exposure to advertisements and nature of illness.⁵ Essential medicines, a cornerstone of rational use of medicines (RUM), are defined as those that satisfy the health care needs of majority of the population. This concept was defined in 1975 by World Health Organization.⁶ Since 1996; the Delhi Society for Promotion of Rational Use of Drugs (DSPRUD) was working for promoting Rational Use of Drugs (RUD). Worldwide more than 50% of all the medicines are prescribed, dispensed and sold inappropriately in which 50% of patients failed to take them correctly.⁷ The selection of essential medicines needs to be followed by appropriate use and improvement of the quality of health care. The Rational Use of Medicines (RUM) is defined as "Patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time and at affordable prices."⁸ There was a 3M concept in Rational Use of Medicines (RUM); Medicines Means Money. RUM means less profit and income for those dealing with medicines, prescribers and sellers.⁹ WHO

manual "Guide to Good Prescribing: A Practical Manual is a useful publication for people."¹⁰ World Health Organization (WHO) has developed recommendations for twelve core national policies and structure needed to promote rational use of medicines (RUM).¹¹ The directorate of rational use of medicines (DRUM) conducted a baseline public knowledge, attitude and practise (KAP) study towards rational use of medicines and information about the proper use of medicines by the public and also highlighting some unsound medicines use behaviour and inappropriate benefits and practises.¹² Prescriptions which dispensed from the public health facilities are free of charge whereas, prescriptions and over-the-counter (OTC) medications dispensed from community pharmacies are paid by the consumers i.e. out-of-the-pocket.¹³ According to Health Action International (HAI) all medicines should meet real medical needs, have therapeutic advantages, be safe and at a comparative cost promotes the rational use of medicines.¹⁴ "KAP" study measures the Knowledge, Attitude and Practices of a community. A KAP survey gathers information about what respondents know about rational use of medicines (RUM), what they think about the health system response to RUM, and what they actually do with regard to seeking care or taking other action related to RUM.^{15,16,17,18,19} In today's situation in India like other country, where there is a wide difference in availability of medicines amongst villages and cities, rational use of medicines is imperative. The main objective of present household survey was medicines utilization practices of Kabirpur in Haryana, India.

2. Material and Methods

2.1 Background

Kabirpur is a ward number 20 in Sonipat city Haryana, India. This research study was conducted to investigate

the medicines utilization practices of Kabirpur in Haryana, India.

2.2 Sampling

For baseline data collection 500 families interviewed, including the respondents of either gender and permanent resident of the city who were willing to participate.

2.3 Data Collection

The data collection method was a structured interview of household. For collecting data, Kabirpur (ward no.20) households in Sonipat city were decided to cover. The study design was a baseline cross sectional study based on the methods enclosed in World Health Organization manual: How to investigate the use of medicines by consumer. The written interview questionnaire in a predefined order for the interview is the tool used for this study.

2.4 Methodology

One member from each household was interviewed, generally the parents or other member of family with minimum aged 15 years old. Respondents were free to accept or refuse to participate at any time. Households surveyed was not done if the 'house informant' or appropriate substitute was absent. Therefore, some data collection was done in the second or third visit when the family to be visited or the person to be interviewed was not present at home during the earlier visit. Also when a household not able to participate in survey; the next household was chosen as a replacement. A total of 500 households were involved in the survey. The answer of the interview and the observation were recorded instantly into the questionnaire forms. Respondents were assured of confidentiality and informed that only cumulative data would be reported. The questionnaire, composed entirely of closed question, covered the following aspects:-

- ❖ The socio-demographic data of surveyed households (including respondent's sex, education of father and mother, and the presence of member/s in the family or relative/s working in the health sector and his/her job).
- ❖ The common chronic diseases in the interviewed households (their prevalence and types).
- ❖ The use of traditional remedy in the interviewed households (their prevalence and type).
- ❖ The available medicines in the households where the survey is conducted and their therapeutic uses and by whom they /were used.
- ❖ The various channels through which people in the communities treated, obtained their medicines and reasoning for choosing them.

2.5 Data Processing and Analysis

The collected data analyzed, tabulated and interpreted by percentage.

2.6 Ethical Considerations

Ethical approval of the study was approved by municipal council Sonipat and Department of Pharmaceutical Sciences Maharshi Dayanand University Rohtak, Haryana, India under the guidance of Dr. Neeraj Gilhotra Associate Professor of Pharmacology at MDU Rohtak before implementation of the survey. A consent form was signed by the respondents and all the collected data have been used only for the purpose of this research study

3. RESULTS

3.1 Socio-Demographic character of surveyed households

Five hundred households are surveyed in urban community Kabirpur in Sonipat city. The majority of respondents are female (59.4%) than male (40.6%).

Details of certain socio-demographic parameter of the households are illustrated in table 1.

Table 1: socio-demographic parameter of the households

Characteristic	Parameter	Percentage
Respondent	Male	40.6
	Female	59.4
Education level of father	Illiterate	22.6
	Literate	77.4
Education level of mother	Illiterate	47.6
	Literate	52.4
Family working in a health sector	Yes	12
	No	88

3.2 Chronic condition in the surveyed households

With regards to the prevalence of the chronic conditions in the surveyed households, there were 32.2% of the households with members suffering from chronic diseases. These households reported one or more chronic diseases in one or more members of family (maximum chronic disease in a household was 4 diseases). Details of the common chronic diseases in surveyed households are shown in figure 1.

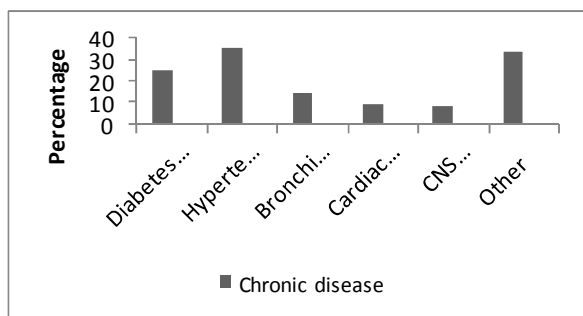


Fig.1: Percentage of prevalence of most frequent chronic diseases reported in surveyed households

Figure shows that hypertension (36.03%) is the most prevalence chronic diseases, followed by diabetes mellitus (25.47%), bronchial asthma (14.91%), cardiac diseases (9.32%), central nervous system diseases (8.81%) and others (34.16%) reported in the surveyed household

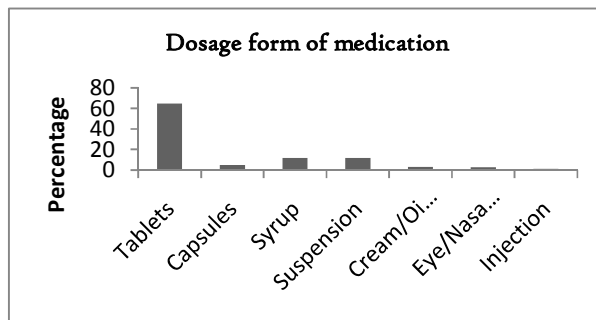


Fig.2: Percentage of dosages form of medicines found in the surveyed households

Figure shows that most common available dosages form is tablet (64.8%) form followed by syrup (12%), suspension (11.76%), capsules (4.96%), cream/ointment/gel (3.28%), eye/nasal drop/mouth paint (2.8%) and all form of injection (1.12%) in the surveyed households.

3.3 Traditional remedies used by surveyed households

In 40.8% of the surveyed households there was one or more person in the household used traditional remedies but not always. The respondents who use traditional remedies, 1.4% always uses traditional remedies while the majority (98.6%) answered with sometime. The most common type of traditional remedies used by interviewed households was ginger (97.54%), honey (83.82%), cardamom (79.41%), fennel (12.25%) and others (17.15).

3.4 Medicines in surveyed households and their use

The households who have medicines at their home 54.6%, 4.4% respondents do not show medicine and remaining 40% households said that they have no medicines at their home. Detail of percentage of medicines in surveyed households and their uses is given in table 2.

Table 2: Detail of percentage of medicines in surveyed households and their uses

In Households	Percentage
Had medicines at home	54.6
Didn't show medicines	4.4
Average no of medicines found/households	3
Maximum no. of medicines found in households	20
Medicines at home used by male	21.17
Medicines at home used by female	30.66

Medicines at home used by children(<12 year)	22.02
Medicines at home used by adolescents(12-20 years)	7.18
Medicines at home used by adult(>20-60 years)	68.32
Medicines at home used by geriatrics(>60 years)	2.48
Medicines at home not used all	30.96
Using 2 medicines for same illness	14.6
Using 3 or >3 medicines for same illness	9.8
Using same medicines for different illness	8.8

3.5 Dosage form of medicine found in the surveyed household

Medicines found in surveyed households are in different dosages form. Percentages of dosages form of medicines are shown in figure 2.

3.6 Medicine classification according to body system found in the surveyed households

Medicines are also categorized according body system. Most frequent categories of agents present in home are musculoskeletal/joint agents (28.1%), followed by anti infective agents (15.6%), respiratory system agents (13.36%), gastro-intestinal agents(11.6%) and cardio-vascular agents(7.28%), nutrition agents(6.88%), eye/nose and skin agents(5.76%), not known (4.56%)and CNS agents(2.04%) found in surveyed households. Percentages of agents are shown in figure 3

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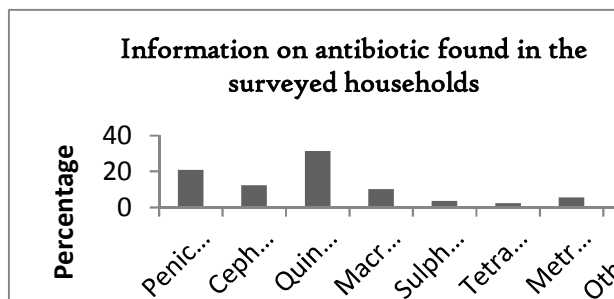


Fig.3: Percentages of agents found in the surveyed households

Figure shows that most common antibiotic found in surveyed households are Quinolones (31.38%) followed by penicillin (21.02%), cephalosporins

(12.30%), macrolides (10.26%), Metronidazole (5.64%), sulphonamide (3.59%), tetracycline (2.56%) and others (13.33%).

3.7 Information on antibiotic found in the surveyed households

In 31% of the surveyed households there was one or more antibiotic and the percentage of antibiotic from all medicines found at home was 15.6%. Maximum no. of antibiotic found in households is 4. Information on antibiotic found in the studied households is shown in figure 4.

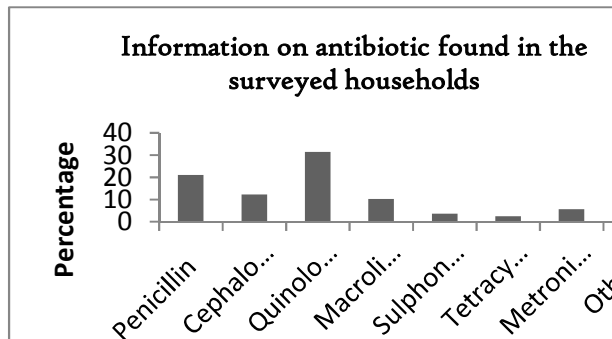


Fig 4:Percentage of antibiotic found in the surveyed households

Figure shows that most common antibiotic found in surveyed households are Quinolones (31.38%) followed by penicillin (21.02%), cephalosporins (12.30%), macrolides (10.26%), Metronidazole (5.64%), sulphonamide (3.59%), tetracycline (2.56%) and others (13.33%).

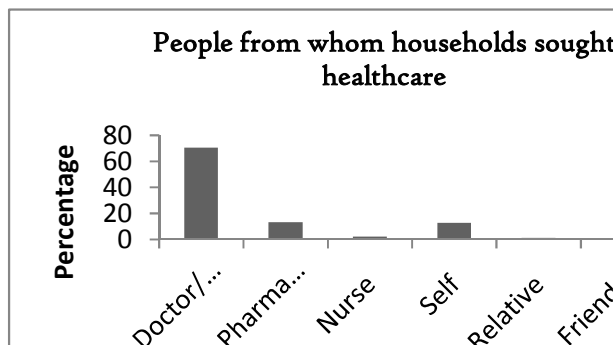


Fig 5: Percentage of source from whom households advised to use the medicines

Figure shows that majority of households sought healthcare from physician/doctor (70.32%) followed by pharmacist (13.2%), self (12.72%), nurse (2%), relative (1.12%) and friends (0.64%).

3.8 The channel through which households treated

Households mentioned that the medicines they had at home were advised by different health worker, traditional healer or self-medication through self decision or advised by relative and friends. The majority (70.32%) of the medicines available at surveyed homes are advised by doctors, whereas

13.2% of medicines are advised by pharmacists, 2% by nurses. 12.72% of medicines found in the surveyed households are self-medicated. 1.12% and 0.64% of medicines are advised by relative and friends, shown in figure 5.

3.9 The channel through which households obtained medication

The people obtained their medication from different place. The majority (72.80%) of the medicines found in surveyed households were obtained from private pharmacy, followed by general hospital (13.04%), Employee Services Insurance Dispensary (7.12%), clinic (6.48%) and Aganwari (0.56%).

3.10 Reasons for choosing health provider and place for treatment

Respondents in the households surveyed mentioned several reasons for choosing particular sources of treatment and the places from where medicines found at home obtained. The reasons for choosing sources from whom health care was sought and the channels from where medicines obtained were follow:

The common reason for choosing a public health facility by households which mentioned by respondents were as follow: affordable cost, short distance to reach the health facility and good treatment.

The common reasons for choosing a private health facility by households which mentioned by respondents were as follow: to avoid crowd and unavailable of doctors at time in public health facility, and have fast service, not having opportunity to be treated in public health facility, have better treatment, good quality of medicines.

The common reasons for choosing traditional remedies by households which mentioned by respondents were as follow: preference and belief on traditional remedy, experiences and on side effects.

The common reasons for choosing self medication by households which mentioned by respondents were as

follow: personal and other knowledge and experience and small health problem.

4. DISCUSSION

Household surveys are relatively difficult to conduct. This is because high cost, time consumed, long distance to reach household, also some families of the data collectors do not accept that their daughter or sisters visit households and it was difficult for male data collectors to enter a house in the absence of a male in the house. However, studies carried out in the community are very important, as they enable researchers to understand medicines use practices and its related aspects from both the patient's as well as and consumer's position and may encourage the development of adequate medicines policies.

The current study had planned to medicine utilization practices of Kabirpur in Haryana, India. A particular strength of the research design was the prospective nature of study, where an inventory of the medicines at home was made for each household participating in the study. The interpretation of the study results was general in relation to different environmental and characters of the studied households. The overall results of the studied households regardless the geographical location of the surveyed households, respondent's sex, education level of parents, and households with one or more family member or relative working in the health sector were calculated. This survey collected information about household's morbidity particular the chronic cases. The chronic diseases are defined as an illness that will not go away or take long time to go away, even when treated. The respondents were asked to provide if there is household member with chronic disease and its type. The chronic diseases documented as they were recalled by respondents. 32.2 % of the surveyed households reported at least one chronic condition. The result is similar to the result of the previous studies conducted

in Arabian Gulf ,where presence of chronic diseases were noted 44%, 31.9% and 49.4% of Saudi, non-Saudi and other Gulf households' respectively.¹² The most frequent reported chronic diseases were diabetes mellitus, respiratory diseases, hypertension, cardiac, central nervous system diseases and others. The medicines survey collected information about both modern pharmaceuticals and traditional remedies. The reason cited in the studies for that were easy availability, accessibility, and affordability of herbal medicines. Medicines found in the households and their use is the main important part of this survey.

About 54.6% households had medicines at homes of which 30.96% of medicines are not used and who have no medicines at homes may be afraid to show their medicines. The overall average number of medicines per households was 3 medicines (maximum 20 medicines). 14.6% 2 medicine and 9.8% 3 or >3 medicines were used for same illness. 8.8% medicines were used for different illness. 6.6%, 6.4%, 10% and 31.8% Of households were stored 1, 2, 3 and >3medicines at home respectively. The households use paracetamol and its combination with other drug for different illness. The source of care from which patient received care at the time of illness were health workers in a public or private health facility , traditional healers, or self medication by self, relative or other member of community. Self medication was prevalent among households and gave more importance to private health facility than public health facility participating in this study.

To promote for more rational uses of medicines, different programs addressing rational use of medicines should be implemented with the involvement of academia, regulatory authorities and other involved organizations working together to address the existing problem of irrational use of medicines and agreed on the different strategy to be implemented. To ensure that

medicines are used optimally to meet the patients' clinical need, efforts should be spending by regulatory agencies to ensure safe and effective use of medicines all over India. Our result highlight on the necessity of the involvement of the regulatory authority to provide continuous medical education targeting community by organization various seminars and workshops to discuss aspects of rational drug use. It is important to emphasize the limitation of this study which was done on a relatively small scale (n=500).This sample size may not be representative number for the whole population, so inference to whole population cannot be made. Despite study limitation and comparably less member of household were interviewed, it highlight on different concerns towards the need to more monitoring of medicines use.

5. CONCLUSION

It was obvious that there was inappropriate use of medicines in community. Therefore, there was a well evidenced and compelling need for promoting rational use of medicines in the community to enable people knowledge, attitude and practice towards storage and use medicines in appropriate, safe and judicious way The patient's own practices in using medicines are an important part of the quality use of medicines, as well as the prescribing habits and patient care practices by health workers. Health policy makers generally focus more on efforts to improve health workers' prescribing skill rather than on efforts to ensure rational use of medicines.

Based on the results of our study the following recommendations have been suggested to improve rational use of medicines in community:

- Increase sensitization of the public and health providers about the benefits of appropriate use of medicines.

- Increase the awareness of health provider and public about potential dangers of inappropriate use of medicines.
- Plan effective public education programs for promotion of the rational use of medicines in the community providing with the necessary human and financial resources.
- Relevant governmental and institutional regulation to promote rational use of medicines should be implemented and enforced.
- More and more researches are needed focusing on the factor involved in the rational use of medication to help in improving interventions and planning.

It is very important to consider that changing practices towards the use of medicines in the community can take a lot of time and efforts.

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