

*Full Length Research Paper*

# Assessment of public knowledge about medication use in order to identify the common problems in the community

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The rational use of medicines is a healthy practice for both the prescribers and consumers with the help of responsible use of medicines. People's knowledge plays a vital role in this issue. This study was undertaken to assess the knowledge of public about medication. Observational descriptive study was done during 2008. Study population was 500 general public chosen through convenient sampling. Study variables were age, sex, education, occupation, and knowledge about medicine use. The predesigned, pretested questionnaire was used to collect data after taking verbal consent. Participants' age ranged from 18 to 53 years; out of which 84% were males and 16% were females. The level of education of the participants varied. Majority (87.8%) possessed the basic idea about drug. One fourth of the respondents (25.6%) had idea about the trade name and generic name of medicine. Just less than half (47.4%) did not know about the storage of drugs; less than one third (30.4%) did not ask about the side effects of medicines. Two-fifth of the respondents (39.0%) practiced self-medication. The interaction between the patient and the doctor was clearly inadequate about the proper use and understanding of medicines. How and when to take their medicines was similar to the findings of Abdo-Rabbo study. Gulf region study revealed the non-adherence (50%) with their prescription. Seventy one percent of the study population reported poor compliance in Gezira State, Sudan. The prevalence of self medication was similar to Oman study (43.0%) and Saudi Arabia study (43.5%) but lower than West Bengal study (89.0%) and Sudan study (81.8%). There was huge gap in knowledge with respect to rational drug use among the general population studied.

**Key words:** Drug use, peoples' knowledge, West Bengal.

## INTRODUCTION

World Health Organization (WHO) defines the rational use of Medicines as the collection medications by

patients appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community (WHO Model Formulary, 2004).

The term 'responsible use of medicines' implies that the activities, capabilities and existing resources of health system stakeholders are aligned to ensure patients

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receive the right medicines at the right time, use them appropriately, and benefit from them. Conversely, suboptimal use is the opposite of what is meant by responsible use (World Health organization, 2012).

Irrational or non-rational use is the use of medicines in a way that is not compliant with rational use as defined above. Irrational use of medicines is a global problem and occurs in both developing and developed countries. In developing countries, this problem is enormous and not well documented. WHO estimates that more than 50% of all medicines worldwide are prescribed, dispensed, or sold inappropriately, while 50% of patients fail to take them correctly. Moreover, about one-third of the world's population lacks access to essential medicines (World Health organization, 2002a). The overuse, underuse or misuse of medicines results in wastage of scarce resources and widespread health hazards. Examples of irrational use of medicines include: use of too many medicines per patient, inappropriate use of antimicrobials often in inadequate dosage, for non-bacterial infections; over-use of injections when oral formulations would be more appropriate; failure to prescribe in accordance with clinical guidelines; inappropriate self-medication, often prescription of medicines only; non-adherence to dosing regimes (World Health organization, 2002a).

Lack of access to medicines and inappropriate doses result in serious morbidity and mortality. Inappropriate use and over-use of medicines waste resources and result in significant patient harm in terms of adverse drug reactions. Furthermore, over-use of antimicrobials is leading to increased antimicrobial resistance and non-sterile injections to the transmission of hepatitis, HIV/AIDS and other blood-borne diseases. Finally, irrational over-use of medicines can cause loss of patient confidence in the health system (World Health organization, 2002a). There are 12 core policies, strategies and interventions to promote more rational use of medicine by WHO (2002a).

The inappropriate use of medicines is widespread also in India. The National Health Policy 2002 of India emphasized on the rational use of drugs within the allopathic system, along with increased access to systems of traditional medicine (National Health Policy, 2002).

Throughout the eighties and nineties, a number of civil society organizations in India like the All India Drug Action Network, the National Coordination Committee on Drug Policy, the Delhi Society for Promotion of Rational Use of Drugs, and Health Action International played a major role in keeping this issue alive and in the public consciousness (Promoting Rational Drug Use Under NRHM, 2009)

Although health care providers play an important role in the use of medicines, patients are also equally important. Public knowledge regarding the use of medicines influences the decision to seek health care, the choice of

care provider, the use of medicines and, ultimately, the success of treatment (Abdo-Rabbo et al., 2009). Education of people in science of drug and also in using medicine is the key determinant to foster the concept of scientific use of medicines as well as the concept of essential medicine and rational use of medicines. In many parts of the world, up to 80% of illness episodes are self-treated with modern pharmaceuticals (Patient Safety, 2002).

India accounts for 22% of the global illness with only 2% of the global drug production of which only 0.7% are essential drugs. Yet 1.3% is non essential (Pharma Scenario in India, 2010). However, very few studies have been carried out in India regarding the knowledge of general population about rational medication use. With this background, this study was undertaken to assess the knowledge of public about medication use in order to identify the common problems in the community.

## MATERIALS AND METHODS

Type of study was observational descriptive workshop based epidemiological study. Study design was cross-sectional in nature. Study period was 2008(4 different dates). A total of 500 respondents in the general public which included students, housewives, lawyers etc. by their profession comprised the study population. Study setting was workshops conducted at Siliguri, West Bengal. Study tool was a Bengali as well as an English language, pre-designed, pre-tested, questionnaire containing close ended questions. The first section recorded some background information (age, sex, education, occupation). The second section assessed knowledge about the use of medicine. Sample size was 500. Convenient sampling was use as the sampling technique. The study variables were age, sex, education, occupation, knowledge about medicine use (definition of medicine, essential medicine, non essential and / harmful medicine, generic and commercial name of medicine, is medicine necessary for all diseases?, communication between patient and doctor, patient concordance with treatment, self medication). Before the actual study, a questionnaire was designed in consultation with 3 experts on the subject of pharmacology and community medicine and field testing of the same was done for reliability, validity, appropriateness, comprehension, clarity, question wording and length. Then the questionnaire was corrected, revised and finalized.

The study participants were informed about the purpose of the study and their informed verbal consent was taken. They were assured about their confidentiality and anonymity. Then data were collected from them by administering the questionnaire. Participants were allowed to ask for clarification. Finally, the collected data were tabulated, analyzed and interpreted by proper statistical methods (by percentage). Inclusion criteria involve those who were willing to participate in the study

and were present on the days of data collection; and Exclusion criteria involve those not willing to participate and were absent on the days of study.

### Some working definitions

**Medicine:** A drug or other preparation used for the treatment or prevention of disease.

**Essential medicine:** Essential medicines are those that satisfy the priority health care needs of the population (World Health Organization, 2002b).

**Non essential/Harmful medicine:** Not fulfilling the criteria of essential medicine.

**Generic name of medicine:** Referring to any drug marketed under its chemical name without advertising (Abhilash, 2013).

**Commercial name of medicine:** A brand name drug is a medication sold by a pharmaceutical company under a trademark-protected name (Bihari, 2009).

**Self medication:** Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms (World Health Organization, 1998).

## RESULTS

A total of 500 participants were interviewed and their socio-demographic profile was revealed (Table 1). Their age ranged from 18 to 53 years; out of which 84% were males and 16% were females. It was seen that majority of the respondents were in the age group of 36 to 45 years (47.8%) and fewer number were in the age group of less than 25 years (10.4%) which means that adults were over represented. The level of education of the participants varied from secondary to post graduate and post doctoral. Regarding occupation, majority were in service followed by business.

The findings related to knowledge about medicine use were revealed in Table 2. Majority (87.8%) of the respondents possessed the basic idea as to what drug is. However, very few of them (20.4%) described essential drugs correctly and 31.8% were aware of about non-essential and harmful drugs. All participants answered that medicine was not essential for every illnesses. Only one fourth of the respondents (25.6%) had idea about the trade name and generic name of medicine. Very few respondents (27.2%) asked doctor about the chemical composition of the prescribed medicines. A high percentage of respondents said that they ask the doctor to explain about the prescribed medicines, particularly how (87.6%) and when (89.2%) to take the medicines, that is, before or after food. Just more than half (47.4%)

reported that they did not ask and were not told how to store their medicines properly at home. Less than one third (30.4%) of study participants reported that they did not ask the doctor about any possible side effects of the prescribed and dispensed medicines. About 80.6% participants discontinued medicines when no remission occurred with medicines. On development of new signs or symptoms while undergoing treatment, 82.2% discontinued treatment. More than two thirds (72.4%) of the study population said that they discontinued their treatment course when they felt that their symptoms disappeared or if they felt better.

Two-fifth of the respondents (39.0%) mentioned that they practiced self-medication, while one third (33.4%) said they chose their medicines on the basis of previous experience.

## DISCUSSION

All 500 questionnaires were completely filled up; thus the response rate was 100 cent percent.

### Patient-Doctor communication

The interaction between the patient and the doctor was clearly inadequate about the proper use and understanding of medicines. Doctors should give patients the information they need in a language they understand and the patients should also be encouraged to communicate properly. This may be due to the fact that training in communication skills frequently receives low priority in the medical curricula. Patients should ask the doctor about the chemicals present in the medicines, their possible side effects and how and when to take the prescribed medicines, that is, before or after food. Finally, they should know where to store them in the home. In our study, 87.6 and 89.2% of the respondents asked the doctor about how and when to take their medicines, which was similar to the findings of Abdo-Rabbo et al. (2009) in Oman KAP among public about the use of medicine, where it was 82.0 and 88.0%, respectively.

In the Oman study (Abdo-Rabbo et al., 2009) 34.0% did not ask the doctor about the possible side effects and 43.0% did not ask where to store the medicines at home; this is similar to our study where the corresponding figures were 30.3 and 52.6%, respectively.

### Patient compliance and perception

Many participants (72.4%) in the present study and other study also (Abdo-Rabbo et al. (2009) made self decision to discontinue the prescribed medicines if the symptoms disappear and/or they feel better. However, they should continue their treatment as instructed by the doctor even if they feel better or the symptoms disappear. 80.7% of our study population stopped taking medicines if no remission occurred with the prescribed medicines and

**Table 1.** Socio-demographic profile of the study population (n = 500).

<b>Socio demographic profile</b>	<b>Number</b>	<b>Percentage</b>
<b>Age (in years)</b>		
≤ 25	52	10.4
26-35	108	21.6
36-45	239	47.8
≥ 46	101	20.2
<b>Gender</b>		
Male	420	84.0
Female	80	16.0
<b>Education</b>		
Secondary	56	11.2
Higher secondary	161	32.2
Graduate	221	44.2
Post graduate	50	10.0
Post doctoral	12	02.4
<b>Occupation</b>		
Unemployed	12	02.4
Profession	86	17.2
Service	260	52.0
Business	38	07.6
Others (housewife, student etc.)	104	20.8

**Table 2.** Distribution of study population according to their knowledge towards use of medications (n = 500).

<b>Knowledge</b>	<b>Number</b>	<b>%</b>
<b>General assessment about medication</b>		
What is meant by medicine	439	87.8
What is meant by essential medicine	102	20.4
What is meant by non-essential/harmful medicine	159	31.8
What is meant by commercial name of medication	128	25.6
Medicine is not necessary for every illness	500	100.0
What is meant by generic name of medication	128	25.6
<b>Communication between patient and doctor</b>		
Ask the doctor about the chemical present in the medicines	136	27.2
Ask the doctor how to take medicines	438	87.6
Ask the doctor when to take medicines	446	89.2
Ask the doctor about side effects of prescribed medicines	348	69.6
Ask the doctor where to store medicines	237	47.4
<b>Patient concordance with treatment</b>		
Discontinue treatment when new symptoms appear during medicine intake	411	82.2
Discontinue treatment when feel better or symptoms disappear	362	72.4
Discontinue treatment when no remission with medicines	403	80.6
<b>Self Medication</b>		
Practice self medication	195	39.0
Choose medicines according to previous experience	167	33.4

82.3% stopped taking medicines if new symptoms appeared during treatment with the prescribed medicines. Some other studies have also shown low levels of adherence to medical regimens. Gulf region study revealed that as many as 50% of patients were non-adherent with their prescription (Abou-Auda, 2003). In a household survey conducted in Gezira State, Sudan, 71% participants reported poor compliance (Yousif, 2002).

### Practicing self-medication

Self medication in India is of great concern and need to be addressed appropriately. Many young individuals irrespective of age and sex go for self medicated drugs (over the counter drug) without actual knowledge of the adverse effect of the medication. In the present study, the prevalence of self medication was 39.0%; similar to Oman study (43.0%) (Abdo-Rabbo et al., 2009) and Saudi Arabia study (43.5%)(Abou-Auda, 2003), but lower than West Bengal study among college students (89.0%) (Dewanjee et al., 2010) and Sudan study (81.8%) (Awad and Eltayeb, 2006) in households.

### LIMITATIONS

This was no community based study. The study populations were from secondary level onward as per their education. The result can not be applied on general population.

### Conclusion

There was huge gap in knowledge with respect to rational drug use among the general population studied. This gap has been occasioned by inappropriate source of drug information as well as lack of training.

### RECOMMENDATIONS

1. Increase sensitization of the public and doctors about the benefits of rational use of medicines by IEC.
2. Increase the awareness of doctors and public about potential hazards of irrational use of medicines by the introduction training program.
3. Public education programs for promotion of RUM in the Community.
4. More researches need to focus on the factors involved in the irrational use of medication.
5. More studies are needed in relation to similar topic.

### REFERENCES

Abdo-Rabbo A, Al-Ansari M, BGunnBC, Suleim BJ (2009). The Use of Medicines in Oman. Public Knowledge, Attitudes and Practice. Sultan Qaboos Univ. Med. J., 9(2): 124-131

Abhilash B (2013). Generic drugs: Welfare group shows the way. The Times of India, Nashik.TNN Jan 5, 2013, 06.10AM IST.

Abou-Auda HS (2003). An economic assessment of the extent of medication use and wastage among families in Saudi Arabia and Arabian Gulf countries. Clin. Ther., 25:1276–92.

Awad AI, Eltayeb IB, Capps P (2006). Self-medication practices in Khartoum State, Sudan. Eur. J. Clin. Pharmacol., 62: 317-324.

Bihari M (2009). Branded name drugs. Abut.com guide. 2009.

Dewanjee D, Mitra A, Chatterjee J (2010). Study of self medication of allopathic medicine among college students in West Bengal. Systems in Medicine and Biology (ICSMB), 2010 International Conference on Date of Conference: 16-18 Dec. 2010; pp. 446-449.

National Health Policy (2002). New Delhi: Ministry of Health and Family Welfare, Government of India; [Last accessed on 2002]. Government of India. Available from: <http://www.mohfw.nic.in/np2002.htm>.

Patient Safety (2002). Medication Use and the Ageing Population. World Health Professions Alliance Fact Sheet.

Pharma Scenario in India (2010). Poverty Amidst Plenty and How doctors are used as an instrument, pp. 5-13.

Promoting Rational Drug Use Under NRHM (2009): for an NRHM Sub-Mission. Section 4. Working towards Rational Use of Medicines, pp. 15.

WHO Model Formulary. Geneva: WHO press; 2004.

World Health Organization (1998). The Role of the Pharmacist in Self-Care and Self-Medication. Report of the 4<sup>th</sup> WHO Consultative Group on the Role of the Pharmacist The Hague, The Netherlands 26-28 August 1998. Department of Essential Drugs and Other Medicines World Health Organization.

World Health organization (2002). Promoting Rational Use of Medicines: Core Components - WHO Policy Perspectives on Medicines, No. 005, September 2002.

World Health Organization (2002). The selection and use of essential medicines. Report of the WHO Expert Committee, 2002 (including the 12th Model List of Essential Medicines). Technical Report Series No 914. Geneva: WHO.

World Health Organization (2012). The Pursuit of Responsible Use of Medicines: Sharing and Learning from Country Experiences. Technical Report prepared for the Ministers Summit on The benefits of responsible use of medicines: Setting policies for better and cost-effective health care. October 2012; pp. 3.

Yousif MA (2002). In-home drug storage and utilization habits: A Sudanese study. East Mediterr. Health J., 8: 422-431.