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A Cross- Sectional Investigation on Patients Demand for Rational Medical Health Care in Kalanaur Town of Haryana, India

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ABSTRACT

The aim of the study was household's survey to evaluate the families' knowledge and communication with health provider in Kalanaur town of Haryana, India. A cross-sectional, pre and post-study was conducted using a set of 500 household interview questionnaires in Kalanaur town, Haryana, India. The majority of respondents were female 61.6% and 38.4% were male. Primary to high education level 49.8%, 42% had high to graduation level and 8.2% had post graduate. Families monthly income 1000-5000 (45.2%), 5000-1000 (23%), >10000 (31.8%). Prevalence of acute illness in families were headache 39.4%, cold 27.6%, cough 22.8%, fever 10.4%, diarrhea 0.2%, skin problems 0.4%, Prevalence of chronic condition was 67.4 %. Family monthly expenditure on medicines 100-500 (pre-intervention 46.2%, post intervention 55%), 500-1000 (pre-intervention 27%, post-intervention33.2%),1000-5000 (pre-intervention 24.6%, post-intervention 10%), > 5000 (pre-intervention2.2%, post-intervention 1.8%), families visited more health facility on the same day for the treatment (pre-intervention 12.6%, post-intervention 6.4%), families do not return to the same health facility if they do not feel better within the time they expected (pre-intervention 27.8%, post-intervention 17.2%), families inform the prescriber/dispenser about the medicines they were using currently (pre-intervention 90.6%, post-intervention 95.6%). Families asked side effect of prescribed medicines (pre-intervention 64%, post-intervention 74.6%)**,** families asked how and when to take medicines (pre-intervention and post-intervention 100%), asked the prescriber/dispenser where to store medicines at home (pre-intervention 13.2%, post-intervention 19%). Focus for an effective public education to improve medicines utilization.

Keywords: Household, health provider, Communication, Intervention.

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INTRODUCTION

Kalanaur is a significant town of Rohtak District in State of Haryana situated on Delhi-Rohtak-Bhiwani road. It was established in the year 1071. According to Census 2011, total population of the Kalanaur town includes 22752 people. Medicines utilization is an integral part of the health care. Numerous studies showed irrational prescribing both from developed and developing countries[1]. The conference of experts on the rational use of drugs, convened by the World health organization in Nairobi in 1985 defined that: *"Rational use of drugs requires that patients receive medications 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"*. The rational use of medicines is influenced by a wide range of interrelated factors[2]. According to World Health Organization (WHO) reported that around the world, 50% of all medicines are prescribed, dispensed, or sold inappropriately, while 50% of patients fail to take their medicines adequately[3,4]. Irrational drug use may also lead to the development of resistance and drug shortages in the health care system[5]. World Health Organization database of medicines use surveys[6], indicate that in Africa, Asia and Latin America, only 40 percent of all patients were treated in accordance with clinical guidelines. Some study showed that several prescriptions lack even the basic information such as the identity of the practitioner and patient. The clarity of instructions was inadequate for more than half of all prescriptions whereas poly-pharmacy was present with about 90% of prescriptions and a significant proportion of which received 5 or more medications[7]. Inappropriate clinical usage of drugs and medical supplies still remains a major problem[8]. Globally Irrational use of medicines continues to be a serious and widespread public health problem[9]. Up to 60-90% of population devotes their health care expenditure on medicines in case of poor households. Hence medicines consume 25-65% of total public and private spending on health[10]. Since 1970s many developing countries have started national programmes for essential drugs to promote the availability, accessibility, affordability, quality and rational use of essential medicines. Medicines consume the largest proportion of out-of-pocket health care expenditures in Low and middle income countries (LMIC) [11]. Irrational prescribing habits of physicians own lead to wasted resources and can cause medication errors, adverse drug reactions, and loss of patients' confidence in physicians and health-care authorities[12, 13].

Knowledge, Attitude and Practice (Kap) Study

World Health Organization (WHO) has developed recommendations for twelve core national policies and structure needed to promote rational use of medicines (RUM) [14]. 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[15]. "KAP" study measures the Knowledge, Attitude and Practices of a community. It serves as an educational diagnosis of the community. The main purpose of this KAP study is to explore changes in Knowledge, Attitude and Practices of the community, paramedical personnel and medical practitioners on rational use of medicines[16, 17, 18]. This study will provide information for valuation of the rational use of medicine.

- The Knowledge possessed by a community refers to their understanding of any given topic.
- Attitude refers to their feelings towards this subject, as well as any preconceived ideas that they may have towards it.
- Practice refers to the ways in which they demonstrate their knowledge and attitude through their actions.

To correct irrational use of medicines, health planners need information on irrationality being practiced so that appropriate, effective and feasible strategies can be chosen[19]. A household survey was used as they help assess whether and how people access the medicines, how they use them, how much they pay and the manner in which out of pocket payments for medicines affect household finances[20]. The aim of this study was to assess family knowledge and communication with health provider. The rational use of medicines for all medical conditions is fundamental to the provision of universal access to adequate healthcare, satisfaction of health related human rights and attainment of health related millennium development goals. The present research study 500 families were interviewed and interviewer collected information from them about utilization of medicines and communication with health provider at different areas of Kalanaur town, Rohtak (Haryana). The method used in present study is based on how to investigate the use of medicines by consumers[21].

MATERIALS AND METHODS

Background

Kalanaur is a significant town of Rohtak District in State of Haryana. This was a pre and post interventional study. The data collection method was a structured interview of household.

Sampling

The research study was documented at 500 families interviewed, including the respondent of either gender and permanent resident of the town who were willing to participate.

Data Collection

The data collection method was a structured interview of household. 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.

Methodology

Kalanaur town was selected for data collection. A total of 500 households were involved in the study. Interviewer introduced themselves to the household respondent and informed them, all the information will be kept confidential. When respondents give their agreement to participate in this study, Interviewer gave them the questionnaire. The answer of the interview and the observation were recorded instantly into the questionnaire form by interviewer. All respondents were assured of anonymity and informed that only aggregate data would be reported that they were free to refuse to participate at any time. The pilot study tested the questionnaire for reliability, comprehension, question design and length. According to the result of pilot study the draft protocol was revised and the weaknesses were addressed before the actual study was conducted. The data collected in the pilot study did not form a part of study sample. The questionnaire, composed entirely of closed question, covered the following aspects:-

a) Socio-Demographic characteristics of interviewed households including- gender, education, income.
b) Interviewed visits, drug therapy and communication with prescriber or dispenser, advice etc.

Handouts and Interactive Lecture Session

The intervention used printed handouts information format and an interactive lecture session where in face-to-face communication with the households could be achieved. This session aimed with respondents that they must know information about the practice of medicines. After completing the triads of intervention a post intervention interview was undertaken using the same instrument and find out the impact of intervention.

Data Processing and Analysis

Information obtained was checked and pair-wise comparison of pre and post-intervention groups has been performed by using a normal test. The Chi-Square test for independence of attributes has been applied. The cut off for statistical significance was set at 5% level. Result was presented in figure form.

Ethical Approval

Ethical approval of the study was approved by the Municipal Committee, Kalanaur town 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. A consent form was signed by the respondents and all the collected data have been used only for the purpose of this study.

RESULTS AND DISCUSSIONS

This study had planned on intervention based on families need assessed through first contact and evaluate the Change in level of knowledge is concerned; it was achieved through face to face intervention with families. The overall result of this study regardless education level, age, occupations and monthly income were calculated. A total of 500 families' respondents or households participate in this study, out of which majority of respondents were female (61.6%) than male (38.4%). The families interviewed were asked for the prevalence of most frequent common acute illness in families. The acute illness reported include headache, cold, cough, fever, diarrhea and skin problems in pre and post-study. Families reported one or more chronic diseases in one or more members of a family. Due to Inappropriate use of medicines, non-adherence with treatment and lake of awareness about rational use medicines (brand, generic, price, overuse of injections) cause the unnecessary expenditure on families. After intervention, in post-study the monthly expenditure on medicines is significantly reduced. All interviewed families said that they always ask the prescriber or dispenser to explain about the prescribed medicines, particularly how and when to take the medicines i.e. before and after food in study. In pre-study 13.2% ask the prescriber or dispenser where to store the prescribed medicines at home. After intervention in post-study study 19% ask where to store the prescribed medicines at home. In pre-study 72.4% families know how medicines store at home after intervention in post study 100% of interviewed families reported them aware about it and know how to store medicines at home. All results were statistically significant illustrated in Table 1 to table 4 respectively. According to a study done by [22], it was found that the quality of prescriptions made by medical practitioners in Goa India, both in terms of layout and the content of the drugs prescribed is inadequate and that there was need to standardize the format of prescriptions in India so that all essential information is included. This study collected information about monthly expenditure on medicines in interviewed families. Intervention education communication implemented, brings about a positive change in attitude and knowledge of consumers. The way consumers use medicines is influenced by a wide range of factors including: knowledge about use, the cost of medicines at all levels, regulatory system, cultural factors, community beliefs, communication

between them and ensure correct use of medicines, outpatients support, access to information on medicines. In economic terms, inappropriate use leads to the wastage of limited resources and non availability of medicines. Or fail to purchase all of the drugs that are prescribed, because they cannot afford them. Although consumers have the right to seek treatment anywhere they choose. It may be due to visiting more than one health facility for the treatment of the same illness on the same day or due to consumer's non-compliance with prescribed medicines or the failure to take the prescribed dosage or complete the entire course of medication therapy prescribed or dispensed by a health care provider[23].

Table 1: Socio-Demographic characteristics of interviewed households include gender, Age, marriage status, occupation, income, education.

Characteristics	Parameter	Households	Percentage
City	Kalanaur	(n=500)	100%
Location	Urban	500	100
Gender	Male	193	38.4
	Female	307	61.6
Income	1000-5000	226	45.2
	5000-1000	115	23
	>10000	159	31.8
Education level	5^{th} to 10^{th}	249	49.8
	10^{th} to Graduate	210	42
	Graduate	41	8.2

Table 2: Prevalence of acute and chronic disease reported in households

Interviewed Households (all figures in percentages)		Intervention
		Pre (n=500)
Prevalence of most frequent acute illness	Headache	39.4
	Cold	27.6
	Cough	22.8
	Fever	10.4
	Diarrhea	0.2
	Skin problem	0.4
Prevalence of most chronic diseases		67.4
Prevalence of different chronic diseases	Arthritis	9
	Asthma	3.8
	Cardiac disease	3.4
	Diabetes	8.4
	Epilepsy	1
	Gout	5.2
	Hypertension	12.4
	Hypotension	21.6
	Respiratory tract infection	1.8
	Tuberculosis	0.6

	Thyroid	2.2
	Any other	25

Table 3: Characteristics of visits

Interviewed Households (all figures in percentages)		Intervention		
		Pre (n=500)	Post (n=500)	P value
Monthly expenditure on medicines	100-500	46.2	53.8	**0.140718**
	500-1000	27	34.4	**0.045282**
	1000-5000	24.6	10	**1.75601E-07**
	>5000	2.2	1.8	**0.998205**
Families visited more than one health facility on the same day		12.6	6.4	**0.30758**
Do not get better within the time expected, where will go for follow up	Return to the same health facility	72.2	82.8	**0.180160**
	Go to another health facility	27.8	17.2	**0.007129**

Table 4: Communication between interviewed families with health care provider

Interviewed Households (all figures in percentages)	Intervention		
	Pre (n=500)	Post (n=500)	P value
Families inform about the drugs you are using currently	90.2	95.6	**0.976512**
Families ask about side effect of prescribed medicines	64	74.6	**0.049538**
Families ask how to take prescribed drugs	100	0	-
Families ask when to take prescribed drugs	100	0	-
Families ask where to store the prescribed drugs at home	13.2	19	**0.001761**

Communication between interviewed families and health provider

To be effective treatment it is essential that the consumers receive adequate information on his or her medicines. This has been the focus of many drug use studies [23]. Consumers do not have full information about the medicines because health workers have too little time to explain, some peoples forgets the details or advice given because the explanation was not clear or was not fully understand. Of course interventions can improve the adherence and make sure sense if health workers prescribing practice are appropriate and rational and consumers should always inform the prescriber/dispenser about any conventional and traditional medicines they are using currently and ask about the possible side effects and how and when to take the prescribed medicines, i.e. before or after food. If the consumer could not understand the instruction and read the labels; prescriber/dispenser should give the proper information in their local language as they understand well. Consumers should also know or ask the prescriber /dispenser instruction about

storage place of medicines at home or where to store medicines at home. It may effective and safe medicines into ineffective and dangerous. Interaction between patients-health providers is critical to health care delivery and the proper use and understanding of medicines. Health care provider should improve their communication skills and give the information they need in local language they can understand. Therefore family's knowledge about their medicines can be improved by good communication between health care provider and care taker and though public education on rational use of medicines. The results showed that the focus for an effective public education to improve medicines use and increase awareness about the irrational use of medicines.

CONCLUSIONS

The results of this study suggest lack of knowledge and information about the proper use of medicines by families as well as some medicines use behavior and inappropriate practices, attitude have been revealed which contributes and wastage of sources and environmental hazardous. Healthcare providers play an important role in rational use of medicines activities, so healthcare providers improve their communication skills and give information very well in local language to consumers they can understand. Family's knowledge about their medicines can be improved by good communication between health care providers and consumers or through education of rational use of medicine activities.

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