Perception about Medicines among the General Public in the Semi-rural Areas of Nepal

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ABSTRACT

Background

Patients' perceptions and beliefs about medicine are affected by their culture, tradition, socioeconomic status, peer influence, educational level, advertisements among other factors.

Objective

To explore the perception about medicines among the general public in different semi-rural areas of Nepal.

Method

Cross-sectional study was conducted at different locations within Kathmandu valley from July 2015 to December 2016; 385 individuals were approached using simple random sampling but only 260, aged 18 years and above, who were taking medicines for their health problems, completed the interviewer-administered survey. Their perceptions about medicines were studied using a structured questionnaire based on the WHO booklet "How to investigate the use of medicines by consumers" and analysed using SPSS version 22. Association between respondents' age, gender, education level and perception were statistically analysed using χ^2 test and/or Fisher's exact test and multivariate analysis of variance.

Result

Sixty-one respondents (23.5%) were in age group 56-65 years. Patients' perceptions of medicine safety based on colour, shape, name of medicine, method of administration, compatibility, etc. was statistically different among respondents with regard to their level of education (p = 0.022). More individuals with lower education believed that expensive medicines were more effective (p < 0.001). Increased level of education made them more aware of negative consequences of reusing previous prescriptions (p=0.039).

Conclusion

Problems with knowledge about medicines were noted among lesser educated individuals. Based on findings, policy makers may develop educational strategies to increase awareness about medicines.

KEY WORDS

Belief, Education level, Medicine, Perception

INTRODUCTION

Peoples' perception, beliefs and expectations about medicine, and health care varies between communities, regions and countries due to various factors, including cultural beliefs and traditions.[1,2] Their perceptions are also affected by their socioeconomic status, peer influence, educational level, advertisements and many other factors.[1,3] Health management related behaviours are strongly influenced by patients' illness beliefs with special regard to identity, cause, timeline for eradication, and consequences of illness.[4,5] If patients' perception about medicine are known to some extent (though it fluctuates within the territory, time, situation and others for a single person as well), it may create an opportunity for policy makers to develop educational and counselling strategies accordingly. It may help impart knowledge about rational medicine use among the community.

Unni et al. also concluded that patient's beliefs about medicines include beliefs about the necessity of the prescribed medication in maintaining their health and concerns about the negative effects of the prescribed medicine.[6] They found that patients' decision to adhere to the prescribed medicine regimen is influenced by their perceptions of the illness.[6] Clarke et al. found that patients with chronic kidney disease (CKD) formed systematic and organized beliefs regarding their illness and treatment.[7] They also reported that patients' illness perceptions were very dynamic and were subject to change with the disease progression. Therefore, they recommended that patients' illness perceptions be elicited regularly as a part of routine practice, which might positively influence disease management strategies, patient quality of life and patient satisfaction during consultations.[7]

Pesut et al. concluded that patients' perceptions are highly valuable in developing health care management strategies because patients generally express illness-specific behaviours.[8] Patients may develop specific perceptions about their illness. They also found that physicians' and patients' views, perceptions and responses about the same illness might differ. They attempted to alter patients' illness perceptions using counselling and behaviour change techniques with partial success. They reported that complications of tuberculosis could be improved by changing patients' illness perception.[8] Therefore, health professionals should understand the patients' perceptions and should respect their views in the therapeutic decision-making process.[9] Neame et al. also found that beliefs and attitudes about illness influence treatment more effectively than socioeconomic and/or clinical variables.[10] Considering the importance of perception about medicines among the general public the present study was carried out to explore the perception about medicines among the community in different semi-rural areas of Kathmandu valley. This study also aimed to explore the association between age, gender and socioeconomic status and the perceptions of respondents about medicine in a developing country.

METHODS

This was an observational, cross-sectional community-based study carried out at the village development committees (VDCs) within the Kathmandu valley (i.e., Kathmandu, Bhaktapur and Lalitpur districts) from July 2015 to December 2016. A village development committee which consists of a group of villages is the lowest level of administrative organization in Nepal. Different geographic locations within Kathmandu district (Chandragiri, inner parts of New Baneshwor, Machhegaun, Kirtipur), Bhaktapur district (Bode, Madhyapur, Thimi) and Lalitpur district (Taukhel, Chapagaun) were selected for the study which represented the semi-rural populations within the Kathmandu valley from the perspectives of distance from the city areas and facilities. These diverse areas were chosen to improve patient's awareness level about importance of rational use of medication because following the survey they were counselled about their medications but this information was not included in the manuscript as it was not within the scope of the present study.

The study was ethically approved by Nobel College Institutional Review Committee (NIRC), Sinamangal, Kathmandu (approval ID: NIRC 01/2016). All respondents were informed about the details of the study objectives and procedures. Their written informed consent was obtained. Informed consents from the illiterate participants were taken from their family representatives and verbal consent was obtained from the participants themselves.

Patients aged 18 years and above taking medicines for one or more chronic health-related problems were included in the study. Both literate and illiterate people (people who could not read and write) were included.

Patients not taking any medicines for health-related problems.

Altogether patients were selected by applying simple random sampling technique. Households were randomly selected and individuals were then randomly selected from the selected households. A single participant was considered from an individual household.

Sample size was calculated as follows:

$$n = z^2 * pq/d^2$$

where n = sample size; z = 1.96 at 95% confidence interval; p = probability of success = 50% = 0.5; q = 1 − p= 0.5; d = margin of error at 95% degree of confidence = 5% = 0.05

Thus, n= $(1.96)^2 * 0.5 * 0.5/(0.05)^2$ = 384.16 ~ 385

Pilot study was carried out among 39 respondents (10% of total sample size projected initially) using simple random sampling as in final data collection. Their results were not included in the final analysis. It involved all 20 questions shown in the appendix and was pilot tested in the same study setting and nearly similar study population. Formatting changes in the questionnaire was done after the pilot study.

Thus, 385 non-health professionals were approached for the study using simple random sampling technique but only 260 of them completed the whole survey.

Hence, working sample size= 260 patients

Thus, response rate = 67.53%

Individuals were approached by the second researcher on random basis at their respective houses and asked for their consent to participate in the research. Verbal and written consent of the literate individuals who showed willingness to participate were taken at that time. Informed consent from illiterate respondents were taken from their family members and verbal consent was obtained from the participants themselves. Then they were interviewed by the second researcher face-to-face at their respective houses. Diagnosis and medicine related information was retrieved from their prescriptions. Age, gender, address, education level and profession were recorded as part of the patient's demographic profile. Information on any supplementary medicine (over-the-counter) being consumed at the time of the study was also recorded based on the patients' memory and medicines stored at their home for future use. Respondents' perception regarding each item was noted and analysed.

Research instrument development

A structured questionnaire using twenty questions (besides the questions related to the demographic characteristics) was developed to assess the perceptions of patients about medicines, based on the World Health Organization (WHO) booklet "How to investigate the use of medicines by consumers".[3] The number of questions was considered optimum because while more number of questions might generate more information, it would increase respondent fatigue and the likelihood of improper responses as well. Pilot study was undertaken among 39 respondents (10% of total study subjects) to check the validity and reliability of the research instrument. Questionnaire was developed in English languageand it was completed by the researcher using face-to-face interviews in Nepali language i.e., questionnaire was interviewer-administered. The questionnaire used is shown in the appendix.

Data were collected by the second author using face-to-face interviews (conducted in the Nepali language as all participants understood the Nepali language) based on the semi-structured questionnaire as well as by reviewing prescriptions (prescribed within three months' period preceding the interview for obtaining recent medicine utilization information) for verification of diagnosis and medicines prescribed to them. Pilot study was performed in 10% of the total sample size calculated previously (i.e., 39) in the similar locality where final data were collected and the data from the pretested sample was not considered for the final analysis. Questionnaire was modified if required, based on the participants' response obtained during pretesting. Data collected were analysed using the statistical package for social sciences (SPSS) version 22. Mean, standard deviation, frequency distribution and percentage were used to describe the patient's demographic characteristics. The differences in perception about medicines according to respondents' age, gender, and education level was statistically analysed using χ^2 test or Fisher's exact test (whenever the individual cell frequency was less than 5) and multivariate analysis of variance (MANOVA) (to detect the effect of more than one dependent variable (outcomes) simultaneously). P value less than 0.05 was considered as statistically significant.

RESULTS

Altogether 260 respondents completed the whole survey out of 385 approached i.e., response rate was 67.53%. There was no obvious reason for non-response except their unwillingness to participate in the study. However, the non-respondents were not dissimilar to the respondents. So, it might not affect the results.

Forty-four respondents each suffered from fever, headache and common cold problems (16.9%). This was followed by gastritis (40, 15.4%), hypertension (28, 10.8%), bronchial asthma (24, 9.2%), leg oedema and joint pain (21, 8.1%), allergy (21, 8.1%) and back pain (19, 7.3%).

Table 1 show that 61 respondents (23.5%) were in the age group 56-65 years. This was followed by age group 26-35 years (48, 18.5%), 36-45 years (38, 14.6%) and 16-25 years (33, 12.7%). Male respondents were greater in number (144, 55.4%) compared to females (116, 44.6%). Ninety-one respondents were from Bhaktapur district (Bode VDC) (35%), followed by Kathmandu district (Machhegaun VDC) (74, 28.5%). Eighty-six respondents (33.1%) were pursuing agriculture as their main occupation, and this was followed by 56 respondents who were housewives (21.5%), and 49 (18.8%) respondents running small businesses. Ninety-six respondents (36.9%) were illiterate, followed by 70 (26.9%) secondary level (tenth standard) passed and 42 (16.2%) primary level (fourth standard) passed. (Table 1, only district names were shown)

Thirty-two respondents consumed diclofenac 100 mg twice daily and omeprazole 20 mg twice daily (12.3%), followed by 27 (10.4%) respondents who consumed paracetamol, 23 respondents (8.8%) who took cinnarizine and nimesulide, 16 patients (6.2%) took amlodipine and atenolol. Equal number of respondents i.e. 14 (5.4% each) took ofloxacin 400 mg twice daily and combined metformin 850 mg and glimepiride 1 mg tablet. These were consumed only as per the prescription of the medical practitioner.

Table 2 shows that respondents' perception that medicine was needed for every illness was not statistically significant (p = 0.269). The analysis of the education level of the respondents with the perception if medicine was not used, illness would become serious was also not statistically

Table 1. Demographic characteristics of the study population (n= 260)

Study characteristics	Frequency and percentage
Age of the respondent (in years) (Mean ± SD: 48.86±18.774)	
16 - 25	33 (12.7)
26 - 35	48 (18.5)
36 - 45	38 (14.6)
46 - 55	29 (11.2)
56 - 65	61 (23.5)
66 - 75	27 (10.4)
76 - 85	19 (7.3)
86 - 95	3 (1.2)
96+	2 (0.8)
Gender of the respondent	
Male	144 (55.4)
Female	116 (44.6)
Education level of the respondent	
Illiterate (unable to read and write independently)	96 (36.9)
Primary level (up to grade 5 schooling)	42 (16.2)
Secondary school (grades 9 and 10 schooling)	70 (26.9)
Higher secondary school (grades 11 and 12 schooling)	19 (7.3)
Undergraduate (Bachelor level education)	23 (8.8)
Postgraduate (Post-Bachelor level education)	10 (3.8)

significant (p = 0.702). The relationship of the education level of the respondents with their trust in the body's ability to fight self-limiting disorders (e.g., common cold, diarrhoea) without medicine was statistically not significant (p = 0.143). The perception that medicines were essential to treat symptoms of ill health as well as to stay healthy was also not significantly different with the education level of the respondents (p = 0.815). (Table 2)

Patients' perceptions of medicine safety based on colour, shape, name of medicine, method of administration, compatibility, etc. was significantly different based on their education level (p = 0.022). The practice of consulting with family members regarding the cost of the medicines was not significantly different among the respondents of various education levels (p = 0.455). Significantly more individuals with lower education levels than higher education levels believed that expensive medicines were more effective than their cheaper counterparts (p < 0.001). (Table 3)

The trend of buying medicine either from hospital or retail pharmacy was not statistically significant among the respondents of various education levels (p = 0.091). The participants responded that they obtained medicine information from various sources such as radio, television programs, community health workers, pharmacists, doctors, etc. and such practice was also not statistically significantly different among them (p = 0.457). There was also no significant relationship of the respondents' taking medicine only on advice from health professionals with their respective education levels (p = 0.198). (Table 4)

Relationships between education levels and the practice of storing their medications showed that increased level of education might make them aware of the negative consequences of reusing previous prescriptions. (p = 0.039). The participants responded that health professionals explained to them various counselling points such as need to complete treatments, dose required, ways to handle side effects, and diagnosis, and this was significantly different with their education backgrounds (p = 0.002). While asking the participants to recall counselling points such as dose, frequency, and duration, their responses were not statistically different among different subgroups (p = 0.807). (Table 5)

DISCUSSION

Perception about illness and use of medicines

Patients' perception and beliefs about their medications influence their medication taking behaviour. In the present study, there was a non-significant relationship between the education level of the respondents and their trust in the body's ability to fight self-limiting disorders (e.g., common cold, diarrhoea) without medicine. One hundred and two literate respondents had negative perception about the body's ability to fight self-limiting disorders and 62 had positive perception. This meant that in the present study the patient's level of education did not influence their attitude and perception towards medicine use and they equally felt that medicines were essential to treat symptoms of ill health and to stay healthy. This might have been caused by the fact that perception could not be changed merely by education level. Hardon et al. also found that people perceived that they should have taken medicines immediately at the onset of illness to prevent it from becoming worse. They believed that they had to take medicines to treat the symptoms of ill health and to stay healthy. With regard to the same perception, over-prescription, overuse and self-medication with antibiotics, and vitamins even for the treatment of minor self-limiting disorders were widespread.[3]

Perception and medicine safety and efficacy

Hardon et al. observed that people had their own perceptions and ideas about medicine safety and efficacy and these ideas influenced their use of medicines.[3] Their perceptions regarding the safety and efficacy of medicines was found to be influenced by various factors including colour and shape of medicines, method of administration, compatibility between medicine and the person taking it, past experience of safety and effectiveness, novelty of the medicine, and perceived severity of illness.[3] Here, compatibility was judged in terms of the presence or absence of any untoward effect or reaction on taking the

Table 2. Patients' perception of necessity of medicine (n= 260)

Variables	Patient's response	Education level of respondent						Total (n,%)	p value
		Illiterate (n, %)	1⁰ Level (n,%)	2⁰ Level (n,%)	H-2⁰ Level (n,%)	UG (n,%)	P G(n,%)		
Medicine needed for every illness	No	22 (22.9)	9 (21.4)	22 (31.4)	9 (47.4)	6 (26.1)	2 (20)	70 (26.9)	0.269
	Yes	74 (77.1)	33 (78.6)	48 (68.6)	10 (52.6)	17 (73.9)	8 (80)	190 (73.1)	
If medicine not used, illness will become serious	No	18 (18.8)	8 (19)	14 (20)	6 (31.6)	3 (13)	1 (10)	50 (19.2)	0.702
	Yes	78 (81.3)	34 (81)	56 (80)	13 (68.4)	20 (87)	9 (90)	210 (80.8)	
Trust in body's ability to fight self-limiting disorders (e.g., common cold, diarrhoea) without medicines	No	70 (72.9)	30 (71.4)	43 (61.4)	8 (42.1)	15 (65.2)	6 (60)	172 (66.2)	0.143
	Yes	26 (27.1)	12 (28.6)	27 (38.6)	11 (57.9)	8 (34.8)	4 (40)	88 (33.8)	
Medicines essential to treat symptoms of ill health & to stay healthy	No	12 (12.5)	3 (7.1)	8 (11.4)	2 (10.5)	4 (17.4)	2 (20)	31 (11.9)	0.815
	Yes		39 (92.9)	62 (88.6)	17 (89.5)	19 (82.6)	8 (80)	229 (88.1)	
Taking medicine with advice from HPs	Yes, from Doctor	93 (96.9)	39 (92.9)	62 (88.6)	18 (94.7)	22 (95.7)	10 (100)	244 (93.8)	0.198
	Yes, from Pharmacist	2 (2.1)	3 (7.1)	3 (4.3)	1 (5.3)	0	0	9 (3.5)	
	Yes, from Nurse	1 (1)	0	5 (7.1)	0	1 (4.3)	0	7 (2.7)	
Keeping prescriptions in home for reuse	Yes	24 (25)	9 (21.4)	8 (11.4)	2 (10.5)	0	2 (20)	45 (17.3)	0.039
	No	72 (75)	33 (78.6)	62 (88.6)	17 (89.5)	23 (100)	8 (80)	215 (82.7)	

1⁰level= Primary level; 2⁰level= Secondary level; H-2⁰ level= Higher secondary level; UG= Undergraduate level; PG= Postgraduate level; HP= health professional

Table 3. Patients' perception about safety of medicines and cost (n= 260)

Variables	Patient's response	Education level of respondent						Total (n,%)	p value
		Illiterate (n,%)	1⁰ Level(n,%)	2⁰ Level(n,%)	H-2⁰ Level(n,%)	UG (n,%)	PG(n,%)		
Evaluation of medicine safety and efficacy on the basis	No idea	2 (2.1)	0	0	0	0	0	2 (0.8)	0.022
	Colour of medicine	27 (28.1)	18 (42.9)	14 (20)	1 (5.3)	1 (4.3)	1 (10)	62 (23.8)	
	Shape of medicine	0	1 (2.4)	0	1 (5.3)	0	0	2 (0.8)	
	Method of administration	1 (1)		3 (4.3)	0	1 (4.3%)	0	5 (1.9)	
	Compatibility between medicine and person	0	0	1 (1.4)	1 (5.3)	2 (8.7%)	0	4 (1.5)	
	Past experience of effectiveness	53 (55.2)	14 (33.3)	31 (44.3)	11 (57.9)	17(73.9)	6 (60)	132 (50.8)	
	Self-trust	8 (8.3)	4 (9.5)	10 (14.3)	2 (10.5)	0	0	24 (9.2)	
	Name of medicine	1 (1)	0	1 (1.4)	1 (5.3)	1 (4.3)	2 (20)	6 (2.3)	
	Doctor's information	3 (3.1)	5 (11.9)	9 (12.9)	2 (10.5)	1 (4.3)	1 (10)	21 (8.1)	
	Information from son and daughter	1 (1)	0	1 (1.4)	0	0	0	2 (0.8)	
Whether or not buying and using medicines decided on the basis of	Consulting with neighbours and relatives	0	0	0	1 (5.3)	0	0	1 (0.4)	0.449
	Consulting with doctors	92 (95.8)	40 (95.2)	67 (95.7)	18 (94.7)	23 (100)	10 (100)	250 (96.2)	
	Consulting with other HPs	4 (4.2)	1 (2.4)	0	0	0	0	5 (1.9)	
	Self-decision	0	1 (2.4)	3 (4.3)	0	0	0	4 (1.5)	
Consultation with family members about cost of medicines	No	46 (47.9)	17 (40.5)	30 (42.9)	6 (31.6)	10 (43.5)	7 (70)	116 (44.6)	0.455
	Yes	50 (52.1)	25 (59.5)	40 (57.1)	13 (68.4)	13 (56.5)	3 (30)	144 (55.4)	
Expensive medicines more effective than cheaper ones	No idea	19 (19.8)	15 (35.7)	35 (50)	7 (36.8)	2 (8.7)	3 (30)	81 (31.2)	0.000
	Yes	77 (80.2)	27 (64.3)	35 (50)	12 (63.2)	21 (91.3)	7 (70)	179 (68.8)	

1⁰ level= Primary level; 2⁰ level= Secondary level; H-2⁰ level= Higher secondary level; UG= Undergraduate level; PG= Postgraduate level; HP= health professional

Table 4. Patients' perception about buying and using medicines (n= 260)

Variables	Patient's response	Education level of respondent						Total (n, %)	p value
		Illiterate (n,%)	1⁰ Level (n,%)	2⁰ Level (n,%)	H-2⁰ Level (n,%)	UG (n,%)	PG (n,%)		
Buying medicines from	Hospital Pharmacy	9 (9.4)	3 (7.1)	8 (11.4)	2 (10.5)	3 (13)	4 (40)	29 (11.2)	0.091
	Retail Pharmacy	87 (90.6)	39 (92.9)	62 (88.6)	17 (89.5)	20 (87)	6 (60)	231 (88.8)	
Choosing pharmacy to buy medicine on the basis of	Previous experience	22 (22.9)	14 (33.3)	25 (35.7)	4 (21.1)	2 (8.7)	2 (20)	69 (26.5)	0.349
	Distance	54 (56.3)	19 (45.2)	23 (32.9)	7 (36.8)	18 (78.3)	4 (40)	125 (48.1)	
	Transportation costs	5 (5.2)	3 (7.1)	0	4 (21.1)	0	0	12 (4.6)	
	Discount offered	2 (2.1)	1 (2.4)	2 (2.9)	0	0	0	5 (1.9)	
	Better counselling or quality of care	13 (13.5)	5 (11.9)	20 (28.6)	4 (21.1)	3 (13)	4 (40)	49 (18.8)	
Getting medicine information from	No idea	1 (1)	0	1 (1.4)	0	0	0	2 (0.8)	0.457
	Radio and television programs	4 (4.2)	4 (9.5)	5 (7.1)	1 (5.3)	0	0	14 (5.4)	
	Community HPs	11 (11.5)	6 (14.3)	7 (10)	5 (26.3)	2 (8.7)	4 (40)	35 (13.5)	
	Pharmacists	51 (53.1)	15 (35.7)	27 (38.6)	9 (47.4)	17 (73.9)	5 (50)	124 (47.7)	
	Magazines, newspapers, reused prescriptions and popular health books	2 (2.1)	2 (4.8)	5 (7.1)	0	2 (8.7)	1 (10)	12 (4.6)	
	Doctor	24 (25)	15 (35.7)	25 (35.7)	3 (15.8)	1 (4.3)	0	68 (26.2)	
	Information from son and daughter	3 (3.1)	0	0	1 (5.3)	0	0	4 (1.5)	
	Other	0	0	0	0	1 (4.3)	0	1 (0.4)	

1⁰ level= Primary level; 2⁰ level= Secondary level; H-2⁰ level= Higher secondary level; UG= Undergraduate level; PG= Postgraduate level; HP= health professional

Table 5. Patients' perception about obtaining medicine information (n= 260)

Variables	Patient's response	Education level of respondent						Total (n,%)	p value
		Illiterate (n, %)	1⁰ Level (n,%)	2⁰ Level (n,%)	H-2⁰ Level (n,%)	UG (n, %)	PG (n, %)		
HPs explaining points regarding medication	Need to complete treatments	46 (47.9)	26 (61.9)	39 (55.7)	9 (47.4)	4 (17.4)	2 (20)	126 (48.5)	0.002
	Dose required	2 (2.1)	2 (4.8)	2 (2.9)	0	1 (4.3)	1 (10)	8 (3.1)	
	Ways to handle side effects	8 (8.3)	4 (9.5)	10 (14.3)	2 (10.5)	2 (8.7)	2 (20)	28 (10.8)	
	Diagnosis	40 (41.7)	10 (23.8)	19 (27.1)	8 (42.1)	16 (69.6)	5 (50)	98 (37.7)	
Recall of things regarding recommended use of medicine	No	5 (5.2)	3 (7.1)	0	1 (5.3)	1 (4.3)	0	10 (3.8)	0.807
	Dose	3 (3.1)	3 (7.1)	8 (11.4)	3 (15.8)	5 (21.7)	3 (30)	25 (9.6)	
	Frequency	58 (60.4)	23 (54.8)	51 (72.9)	8 (42.1)	8 (34.8)	5 (50)	153 (58.8)	
	Duration	30 (31.3)	13 (31)	11 (15.7)	7 (36.8)	9 (39.1)	2 (20)	72 (27.7)	

1⁰ level= Primary level; 2⁰ level= Secondary level; H-2⁰ level= Higher secondary level; UG= Undergraduate level; PG= Postgraduate level; HP= health professional

medicine by the particular patient. The present research revealed the significant relationship of education level of the patients with evaluation of medicine safety, based on these factors.

Perception and source of medicine information

The present study showed that the choice of pharmacy to purchase medicine(s) from was based on previous experience, distance, transportation costs, discount offered and better counselling. This was also supported by the previous reports of the WHO.[3] WHO and Health Action International (HAI) reports concluded that people perceived more expensive medicines to be more effective than their cheaper counterparts.[11] The present study also found significant difference in the perception among the respondents of various education levels that more expensive medicines were more effective than cheaper ones (p<0.001). Hardon et al. reported that people obtained medicine information from various channels and media including radio and television programs, health education program, community health workers, traditional healers, magazines, newspapers, re-used prescriptions, health books, and advertisements.[3] The present study also found that participants obtained medicine information

from various sources as reported by Hardon et al., and such practice was not statistically significantly different among various groups of persons.[3] Consumer chose the most accessible and convenient source of information available to them

Perception and reuse of prescription

Increased level of education might make them aware of the negative consequences of reusing previous prescriptions. They kept the prescriptions for re-use to skip or avoid visiting the healthcare practitioner, hospital with the intention of saving money and time. An increased level of education might make them aware about the negative consequences of reusing the previous prescriptions without a fresh consultation with physicians. But Hardon observed that in the Philippines, people kept prescriptions in their homes for re-use.[12] Jamous et al. reported that 46.8% of patients expressed concerns about the long-term effects of medication use. Therefore, health workers should be alert to impart necessary education and intervention to the patients to minimize such concerns and associated non-adherence. They found that patients on medications for chronic illness like hypertension or diabetes should be counselled that their medications are not addictive and they could safely take them long-term.[13]

Perception and recall of counselling information

While asking the participants to recall the counselling points such as dose, frequency, and duration, their responses were not statistically different among the patients of various educational backgrounds. These were tallied with the counselling points mentioned in the patients' prescription (e.g., timing of administration, frequency of administration) and their memory level. Higher education level did not seem to make it more likely for the patients to be able to remember these points. Similarly, Ugalde et al. also observed that in the Dominican Republic, 59 patients out of 119 could not recall the dosage, frequency or interval of the recommended use.[14] This was problematic among the elderly, illiterate persons and patients on multiple prescriptions or polytherapy.[14] Such problem

might be solved by the patient-tailored approaches to health care delivery and incorporating them into the training curricula of health professionals.[15] Hudon et al. also found that patient-oriented approaches (i.e., involving patients in the decision-making process on promoting adherence) decreased malpractice complaints, and improved physicians' satisfaction, and consultation time.[16] They also found increased level of patient satisfaction and empowerment, increased patients' perception and belief towards quality of care, and improved adherence to medications. This ultimately led to reduction of symptom severity, over-consumption of health care resources, and overall burden of the health care costs.[16]

The study was limited to few communities of three districts of Kathmandu valley only. The sample size might not be fully representative of the semi-rural population of the valley, which may make it difficult to generalize the findings of the study. Labels of some medicines being stored were not clear due to small pieces and improper storage practice (one of the limiting factors of data collection). Future prospective, large-scale studies may be required since it was a cross-sectional one.

CONCLUSION

There was significant difference in the perception among the respondents of various education levels that more expensive medicines were more effective than cheaper ones. Respondents' perception that medicine was needed for every illness was not statistically different among respondents with different education levels. There was no significant relationship of the respondents' taking medicine only on advice from health professionals with their respective education levels. Regarding practice of keeping prescriptions at home for reuse, the participants' responses were significantly different with their education levels. Based on the findings of the present study, policy makers in Nepal may develop educational intervention strategies to generate factual perception about medicines, not 'pill for every ill' perception.

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