Original Research Article

Knowledge and practice on over-the-counter drugs among adults of age group 20 and above residing in Chapapani-12, Pokhara, Kaski, Nepal

Dibya Sharma1*, Durga Gurung2, Ramchandra Kafle3, Sakun Singh1

1School of Nursing, 3Department of Cardiology, Manipal College of Medical Sciences, Pokhara, Nepal
2Medical Ward, Western Regional Hospital, Pokhara, Nepal

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*Correspondence:
Dibya Sharma
E-mail: dibyasharma01@gmail.com

ABSTRACT

Background: The incidence of usage of over-the-counter drugs is drastically increasing day by day. Over-the-counter (OTC) drugs are medicines sold directly to consumer without a prescription from health care personnel. In many countries, OTC drugs are selected by a regulatory agency to ensure that they are safe and effective when used without physician’s care. Taking OTC medicines still has risk. Some interact with other medicines, supplements, food and drinks and some causes problem for people with certain medical conditions.

Methods: A descriptive cross sectional was conducted from 1st February - 15th August 2016 among 110 among adults of age group 20 and above residing in Chapapani-12, Pokhara. A pre-tested structured questionnaire were used and data were analyzed using Statistical Package for Social Science (SPSS) for windows version 18.0. Frequency, percentage, chi-square and correlation were performed.

Results: Nearly 1/3rd of the respondents (33.6%) were of age group 20-29 years and more than half (60.9%) were female. More than half of the respondents (54%) had good knowledge and less than half (47%) had good practice of OTC. There was significant association of knowledge with age, marital status, education and monthly family income. There was significant association of practice with education of respondents. There was weak positive correlation between knowledge and practice (r =0.211).

Conclusions: This showed that the knowledge hadn’t been fully practiced into action by the community people and still they are lacking the concept of over-the-counter drugs and its safe use in daily living.

Keywords: Adults, Knowledge, Practice, Pharmacy, Prescription, Over-the-counter drugs

INTRODUCTION

Globally, self-medication has been reported as being on the rise. People around the world tend to treat the disease, almost 50% either wait for the problem to run its course or use a home remedy. About 25% visit doctor or use prescription medicine previously obtained for the same condition. The remaining 25% turn to the OTC medicines.1 The global increase in the consumption of medications needs for studying medication knowledge and behaviors.2 Medication knowledge assessment is used to assess a person’s knowledge and ability to read and understand information necessary for appropriate medication use.3

The 2008 National Social Life, Health, and Aging Project examined the prevalence of both OTC and prescription medication use among adults aged 57 to 85 years old in Washington, DC. Results of the survey showed that 81% of the respondents took at least one prescription medication (29% took five or more prescription medications concurrently); 42% used at least one OTC
medication; and 49% used a dietary supplement. Of those taking a prescription medication, 46% also took an OTC medication.4

In many countries, OTC drugs are selected by a regulatory agency to ensure that they are safe and effective when used without physician’s care. Taking over-the-counter medicines still has risk. Some interact with other medicines, supplements, food and drinks and some causes problem for people with certain medical conditions.5

In a recent New Mexico study of deaths from unintentional drug poisoning, 0.9% were from OTC medications.6 A study in California showed that 8.5% admitted to abusing prescription drugs and 16.2% admitted to abusing OTC medications, mostly ephedrine and other stimulants.7

Due to the hilly terrain in Nepal, the poor socioeconomic status, the high cost of modern medicines and non-availability of doctors in rural areas, difficulties arise in accessing modern healthcare. Drug retail shops frequently serve as the public’s first point of contact with the health care system from where over-the-counter drugs are much more easy to purchase.8

OTC drugs have drug interactions with prescriptions and other drugs, it can cause various adverse reactions and even lead to death as well. More medicines doesn’t necessarily mean better. However, there is no adequate study regarding OTC in Nepal. So, this study aims to assess the knowledge and practice on OTC drug among adults.

METHODS

This is a community based cross-sectional study conducted in Chapapani-12, Pokhara between 1st February to 15th August 2016. The sample of this study consists of 110 adults of age group 20 and above using non-probability convenient sampling method. Adults who are willing to participate and available at the time of data collection were included in the study.

The instruments were developed after review of literature and consultation with guide and experts. Instruments were divided into 3 parts: Tool I: Socio-demographic proforma, Tool II: Knowledge questionnaire, Tool III: Practice questionnaire.

The pre-testing was conducted in adults of age group 20 and above residing in Phulbari-11, Pokhara, Kaski, Nepal from 25th May to 27th May 2016 among 11 adults. The data was collected through questionnaire by interview technique and recorded systematically to facilitate computer entry and data analysis.

Data analysis was planned based on the objectives of the study. Data was compiled, edited, coded, classified and tabulated. It was done to reduce, organize and give meaning to the data by through descriptive and inferential statistics using SPSS package 18 version. In descriptive statistics frequency and percentage, in inferential statistics, chi square test was used to determine the association of knowledge and practice with selected demographic variables and Karl Pearson correlation test was used to correlate the knowledge and practice score.

Approval to conduct the study was taken from municipality office to perform study in the concerned community. Individual consent was taken from the respondents after explaining the purpose of the study prior to the data collection. Privacy and confidentiality of all respondents was maintained.

RESULTS

Data was collected by interviewing 110 adults of age group 20 and above residing in Chapapani-12, Pokhara.

Nearly 1/3rd of the respondents (33.6%) were of age group 20-29 years and more than half (60.9%) were female. Less than half (47.3%) of the respondents were married. Almost 3/4th (74.6%) of the respondents were married. Less than half of the respondents (42.7%) have educational status of higher level and above as given in Table 1.

The current study shows that nearly about 1/3rd of them (30.9%) were housewife and nearly half of them (45.5%) have monthly family income within range of NRs. 10,000-20,000. About 60.9% of the respondents live in joint family and about 2/3rd of them (66.4%) took <15mins to reach the nearest pharmacy by foot. Nearly 60.9% had last purchased medicine without prescription 6 months before as shown in Table 1.

More than 3/4 of respondents were aware about OTC drugs. But only 1/10th of them know about caution taken before providing medicine to pregnancy and lactation. Minority (12%) respondents were aware about the use of OTC drugs for treating minor illness and injuries as seen in Table 2.

Only 27% of respondent consult with the doctor before purchasing OTC drugs. Majority of the respondent (94.5%) purchase the medicine from pharmacy. Forty six percentage (46%) of the respondents replied that reason of consuming OTC drugs is time saving as they have to wait for long time for doctor as in Table 3.

Less than half of the respondents (54%) had good knowledge, 43% had average knowledge and 3% had poor knowledge on over-the-counter drugs as depicted in Figure 1. More than half of the respondents 47% had good practice on over-the-counter drugs as shown in Figure 2.
Table 1: Socio-demographic characteristics of respondents (n=110).

| S.No. | Sample characteristics     | Frequency (f) | Percentage (%) |
|-------|---------------------------|---------------|----------------|
| 1.    | Age (in years)            |               |                |
|       | 20-29                     | 37            | 33.6           |
|       | 30-39                     | 24            | 21.8           |
|       | 40-49                     | 27            | 24.5           |
|       | 50 & above                | 22            | 20.0           |
| 2.    | Gender                    |               |                |
|       | Male                      | 43            | 39.1           |
|       | Female                    | 67            | 60.9           |
| 3.    | Caste                     |               |                |
|       | Brahmin/Chhetri           | 49            | 44.5           |
|       | Gurung                    | 52            | 47.3           |
|       | Others                    | 9             | 8.2            |
| 4.    | Religion                  |               |                |
|       | Hindu                     | 93            | 84.5           |
|       | Buddhist                  | 17            | 15.5           |
| 5.    | Marital status            |               |                |
|       | Married                   | 82            | 74.6           |
|       | Unmarried                 | 25            | 22.7           |
|       | Others(Separated, Widow)  | 3             | 2.7            |
| 6.    | Education                 |               |                |
|       | Illiterate                | 8             | 7.3            |
|       | Primary level             | 22            | 20.0           |
|       | Secondary level           | 33            | 30.0           |
|       | Higher secondary and above| 47            | 42.7           |
| 7.    | Occupation                |               |                |
|       | Housewife                 | 34            | 30.9           |
|       | Service                   | 29            | 26.4           |
|       | Business                  | 17            | 15.5           |
|       | Agriculture               | 16            | 14.5           |
|       | Others                    | 14            | 12.7           |
| 8.    | Monthly family income(NRs.)|             |                |
|       | <10,000                   | 24            | 21.8           |
|       | 10,000-20,000             | 50            | 45.5           |
|       | > 20,000                  | 36            | 32.7           |
| 9.    | Type of family            |               |                |
|       | Nuclear                   | 43            | 39.1           |
|       | Joint                     | 67            | 60.9           |
| 10.   | Distance to reach the nearest pharmacy | |    |
|       | <15mins                   | 73            | 66.4           |
|       | 15-30mins                 | 31            | 28.2           |
|       | 30mins-1hour              | 6             | 5.5            |
| 11.   | Last time of medicine purchase without prescription | |        |
|       | > 6 months                | 67            | 60.9           |
|       | >6months                  | 43            | 39.1           |

The study shows that there is significant association of knowledge with age, marital status and education status of respondents. Whereas, there is no significant association with gender, religion, caste, type of family and occupation as presented in Table 4.

Figure 1: Pie-diagram representing knowledge level.

There is significant association of practice with education status of respondents. Whereas there is no significant association between other demographic characteristics and practice as given in Table 5.

Figure 2: Pie-diagram representing practice level.

There is weak positive correlation between knowledge and practice at the significance level of 0.05 and r-value was found to be 0.211 as shown in Table 6.

DISCUSSION

Study findings have been discussed in terms of objectives stated and with the findings of the other studies. Nearly 76% were aware about the OTC drugs similar to the study conducted in Lagos State, Ikeja (70%), and West Bengal (84%). Most the respondents (43.6) use OTC when symptoms are minor and manageable comparable to study by Ghosh et al 62% used the OTC drugs when disease is not serious. Many of the respondents(82.7%) used OTC drugs for fever (antipyretics) i.e, paracetamol which is in line with the study from Pune, West bengal, Ikeja, Lagos Resident(94%), 72% use crocin regularly.

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Table 2: Knowledge regarding over the counter drugs (n = 110).

| Sample characteristics                                      | Frequency (f) | Percentage (%) |
|-------------------------------------------------------------|---------------|----------------|
| **Over the counter drugs are**                             |               |                |
| Sold directly without prescription                          | 84            | 76.4           |
| Sold with prescription                                      | 10            | 9.1            |
| Very expensive                                              | 16            | 14.5           |
| **The decision for using OTC drug is made by**              |               |                |
| Consumer                                                    | 53            | 48.2           |
| Doctors                                                     | 20            | 18.2           |
| Pharmacist                                                  | 37            | 33.6           |
| **OTC drugs are primarily used to treat conditions that**   |               |                |
| Do not require doctor's direct supervision                  | 85            | 77.3           |
| Permanent and life long                                     | 10            | 9.1            |
| No absolute care                                            | 15            | 13.6           |
| **OTC drugs are used for treating disease like**            |               |                |
| Hereditary diseases                                         | 97            | 88.2           |
| Minor illness and injuries                                  | 13            | 11.8           |
| **Following drugs fall under OTC drugs except**             |               |                |
| Antipyretics (Paracetamol)                                  | 93            | 84.5           |
| Anti-cold/ Analgesics                                       | 10            | 9.1            |
| Anti-cancer                                                 | 7             | 6.4            |
| **Over the counter drugs can**                              |               |                |
| Sometimes cause side-effect                                 | 93            | 84.5           |
| Mostly cause side-effects                                   | 7             | 6.4            |
| Never cause side-effects                                    | 10            | 9.1            |
| **The common side-effects of OTC is**                      |               |                |
| Allergic rashes                                             | 64            | 58.2           |
| Eye irritation                                               | 12            | 10.9           |
| Difficulty breathing                                        | 8             | 7.3            |
| Swelling of face and limbs                                  | 26            | 23.6           |
| **While using OTC drugs, caution should be taken mostly in**|               |                |
| Pregnant and lactation                                      | 12            | 10.9           |
| Older adults                                                | 12            | 10.9           |
| Adolescent/middle adults                                    | 86            | 78.2           |
| **If side-effects are seen, then one should**               |               |                |
| Immediately stop the use of drug                            | 104           | 94.5           |
| Take low dose/use untill side effects subside               | 6             | 5.5            |
| **OTC drug along with prescribed drug is safe**             |               |                |
| Yes                                                         | 54            | 49.1           |
| No                                                          | 56            | 50.9           |

Table 3: Practice regarding over the counter drugs (n = 110).

| Sample characteristics                                      | Frequency (f) | Percentage (%) |
|-------------------------------------------------------------|---------------|----------------|
| **Before using OTC drugs consult with**                     |               |                |
| Pharmacist                                                  | 61            | 55.5           |
| Doctor                                                      | 30            | 27.3           |
| Friends/relatives                                           | 9             | 8.2            |
| **Place of receiving OTC drugs is**                        |               |                |
| Hospital pharmacy                                           | 35            | 31.8           |
| Out pharmacy                                                | 69            | 62.7           |
| Friends/relatives                                           | 6             | 5.5            |
| **Consume over-the-counter drugs**                          |               |                |
| When symptoms are minor/manageable                          | 48            | 43.6           |
| Whenever I feel sick                                        | 22            | 20             |
| When I can't visit doctor                                   | 40            | 36.4           |
Common reason for using OTC drugs is
- Time saving: 50 (45.5\%)
- Low cost: 10 (9.1\%)
- Safe and well tolerable: 20 (18.2\%)
- Easy accessibility: 30 (27.3\%)

More commonly used OTC drugs is
- Antipyretics (Paracetamol): 91 (82.7\%)
- Anti-cold: 9 (8.2\%)
- Analgesics: 10 (9.1\%)

Ever taken OTC drug more than the recommended dose
- Yes: 95 (86.4\%)
- No: 15 (13.6\%)

Ever experienced adverse effect from OTC drugs
- Yes: 7 (6.4\%)
- No: 103 (93.6\%)

How often do you read the instructions on drugs label before use?
- Always: 53 (48.2\%)
- Occasionally: 32 (29.1\%)
- Never: 25 (22.7\%)

How often do you check the expiry date?
- Always: 10 (9.1\%)
- Occasionally: 89 (80.9\%)
- Rarely: 11 (10\%)

Storage of over-the-counter drugs
- Medicine box: 42 (38.2\%)
- Bedroom/open in the table: 68 (61.8\%)

If OTC drugs shows change in shape, color, odour
- Immediately discard the drugs: 49 (44.5\%)
- Continue use till it expires: 40 (36.4\%)
- Does not matter: 21 (19.1\%)

Table 4: Association of demographic variables with knowledge (n=110).

| Sample characteristics          | Knowledge score | Chi-square value($\chi^2$) | df  | Significance |
|--------------------------------|-----------------|-----------------------------|-----|--------------|
|                                | Poor | Average | Good | Calculated value | Tabulated value |     |
| **Age (in years)**             |      |         |      |                  |                 |     |
| 20-29                          | 0    | 19      | 18   | 17.938           | 12.59           | 6   | *S            |
| 30-39                          | 0    | 7       | 17   |                   |                 |     |               |
| 40-49                          | 0    | 15      | 12   |                   |                 |     |               |
| 50 & above                     | 3    | 6       | 13   |                   |                 |     |               |
| **Gender**                     |      |         |      |                  |                 |     |               |
| Male                           | 0    | 18      | 25   | 2.105            | 5.99            | 2   | NS            |
| Female                         | 3    | 29      | 35   |                   |                 |     |               |
| **Marital status**             |      |         |      |                  |                 |     |               |
| Married                        | 1    | 35      | 46   | 48.094           | 9.49            | 4   | *S            |
| Unmarried                      | 0    | 12      | 13   |                   |                 |     |               |
| Others (Separated,Widow)       | 2    | 0       | 1    |                   |                 |     |               |
| **Education**                  |      |         |      |                  |                 |     |               |
| Illiterate                     | 3    | 4       | 1    | 42.959           | 12.59           | 6   | *S            |
| Primary level                  | 0    | 12      | 10   |                   |                 |     |               |
| Secondary level                | 0    | 13      | 20   |                   |                 |     |               |
| Higher level and above         | 0    | 18      | 29   |                   |                 |     |               |
| **Type of family**             |      |         |      |                  |                 |     |               |
| Nuclear                        | 1    | 13      | 29   | 4.774            | 5.99            | 2   | NS            |
| Joint                          | 2    | 34      | 31   |                   |                 |     |               |

*S= Significant; NS= Not Significant; df= degree of freedom.
Table 5: Association of demographic variables with practice (n=110).

| Sample characteristics | Practice score | Chi-square value($\chi^2$) | df | Significance |
|------------------------|---------------|-----------------------------|----|--------------|
|                        | Fair          | Good                        |    |              |
| Age (in years)         |               |                             |    |              |
| 20-29                  | 21            | 16                          |    |              |
| 30-39                  | 10            | 14                          |    |              |
| 40-49                  | 16            | 11                          | 1.947 | 7.82      | 3 | NS |
| 50 & above             | 11            | 11                          |    |              |
| Gender                 |               |                             |    |              |
| Male                   | 26            | 17                          | 1.696 | 3.84      | 1 | NS |
| Female                 | 32            | 35                          |    |              |
| Marital status         |               |                             |    |              |
| Married                | 43            | 39                          |    |              |
| Unmarried              | 13            | 12                          |    |              |
| Others (Separate, Widow)| 2           | 1                           | 0.242 | 5.99      | 2 | NS |
| Education              |               |                             |    |              |
| Illiterate             | 8             | 0                           |    |              |
| Primary level          | 10            | 12                          |    |              |
| Secondary level        | 17            | 16                          | 7.930 | 7.82     | 3 | *S |
| Higher level and above | 23            | 24                          |    |              |
| Monthly family income (NRs.) |           |                             |    |              |
| < 10,000               | 13            | 11                          |    |              |
| 10,000-20,000          | 25            | 25                          | 0.285 | 5.99      | 2 | NS |
| >20,000                | 20            | 16                          |    |              |

*S= Significant; NS= Not Significant.

Table 6: Correlation between knowledge and practice.

| Variables     | Karl Pearson’s correlation coefficient (r) | p-value | Significance |
|---------------|--------------------------------------------|---------|--------------|
| Knowledge score| 0.211*                                      | 0.027   | Significant  |
| Practice score |                                            |         |              |

Correlation is significant at the level of 0.05.

Forty six percentage were using OTC as it is time saving alike to a study from Boudha, Kathmandu where 48% of respondents used OTC medicines due to easy to get the medicine as compared to visit to doctors or hospital and 87% of self-medicate due to convenience. Among the respondent asked for place of purchasing OTC drugs, 94.5% replied as the pharmacy shop comparable to Lagos residents i.e. 74%. Only half(50.8%) of the residents claimed to always read the leaf-lets before using any drugs which is identical with the present study i.e 48.2%. Whereas a study from Tamil Nadu shows that 1/4th respondents read the label content of the drugs. Only 9% of the respondents always check the expiry date before using any OTC drugs distinguish to the result obtained from Malaysia (86%). Almost 6% had experience the experienced adverse reactions such as gastrointestinal disturbance like constipation, diarrhoea, distension analogous to the result obtained from study done in Mangalore. The current study showed that more than half of the respondents (54%) had good knowledge on over-the-counter drugs similar to a study from Nigeria i.e. 47.2%, 67% from Taiwan. Distinguish result was obtained from Central India that not even half of the respondents had adequate knowledge regarding over-the-counter drugs, their dose, duration, side-effects and interactions and Pune showed that 74 % respondents had no knowledge about medicines and 86.5% unaware about adverse drug reactions.

The present study showed that nearly half of the respondents (46%) had level of knowledge regarding over-the-counter drugs from average to poor. However, study by Mohammed et al found that majority of the respondents (82%) stated that their level of knowledge was moderate to low.

A study in Maharashtra showed that greater part (92%) of the respondents said that they have no knowledge about...
over-the-counter drugs and only 8% have some knowledge about OTC drugs.21 This study contradicts the present study where only 3% had poor knowledge and 43% had some knowledge regarding OTC drugs.

The study showed that about half (47%) of the respondent had good practice on over-the-counter drugs comparable results was obtained in a study from Nigeria (52.1%) and Taiwan (68.12%).17,18

There is significant association of education status of respondents with knowledge and practice on over the counter drugs which is in line with studies by Bhambhani et al.19 There is no significant association between the age of respondent and the practice of the self-medication analogous to the study conducted in UAE.22 Whereas contrast results was obtained in Malaysian population.23

CONCLUSION

Lower percentage (54%) had good knowledge on over-the-counter drugs. Less than half (47%) had good practice regarding over-the-counter drugs. The result showed that still they are lacking the concept of over-the-counter drugs, consultation of doctor before using the OTC drugs, its adverse effects, disease to be treated, caution to be taken, reading the instruction before use and checking the expiry date. In order to control this prevailing problem, legislation are to be made by the government especially to implement and facilitate the prescription system, conducting awareness programs and restricting drug advertisements for public. Therefore, it is suggested for awareness program among community people conducted at community level regarding over-the-counter drugs.

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