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Original Article

Knowledge, attitude, awareness of rational use of drugs among non- medical students - A questionnaire-based study

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ABSTRACT

Background: Irrational prescribing and use of medicines has become a global concern. The consequence of irrational use of drugs poses a serious threat to mankind. The concept of rational use of medicines is new to the younger generation. ***Objective:*** To assess the knowledge, attitude, awareness on rational use of drugs among non-medical students. ***Methodology:*** This cross sectional questionnaire-based study was done in 342 undergraduate students of Saveetha Engineering College, Chennai. A pre-tested semi-structured questionnaire with 35 questions was used to assess the participants and descriptive analysis of data was done using SPSS software. ***Result:*** 50.58% respondents knew about generic drugs and 44.74% felt that self-medication was safe. 50.6% of the students felt that it is important to know the common side effects of drugs and 43.86% was aware about antibiotic resistance. A great majority (99.42%) of students had the habit of looking into the drug label while 45.32% buy medicines without prescription. ***Conclusion:*** On an average about 48.29 % students had adequate knowledge on rational use of drugs, while only 38.77% had a positive attitude and 47.21% had enough awareness about it thus emphasizing the need for educating the younger generation.

Keywords: Rational use of medicines, Questionnaire, Knowledge, Awareness, Attitude

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INTRODUCTION

The term "drugs" includes prescription and non-prescription medicines, including supplementary healthcare products, Irrational use of drugs is a major problem worldwide WHO estimates that more than half of all drugs are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take them correctly.[1] The overuse, underuse or misuse of medicines results in wastage of scarce resources and widespread health hazards. Examples of irrational use of drugs include: use of too many drugs per patient ("poly-pharmacy"); inappropriate use of antimicrobials, often in inadequate dosage, for non-bacterial infections, etc. [2] Medically inappropriate, ineffective, and economically inefficient use of pharmaceuticals is commonly observed in the health care system throughout the world, particularly in the developing countries. Most physicians would vouch for having observed this in their day-to-day practice and there is a plenty of hard evidence to reinforce this impression. Even a cursory survey of the available literature provides a wealth of data which is amazingly uniform across nations. Without any doubt, this is a global problem. Rational use of drugs or consumption of drugs as per directions will result in safer and better outcome for the patient. A 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 does that meet their own individual requirements for an adequate period of time, and the lowest cost to them and their community".[3] This is often simplified as the five rights- the right drug at the right dose by the right route at the right time for the right patient. Adequate measures are to be taken against the irrational use of the drugs which include the creation and revision of the rational drug therapy practice. Also, there is need to include people of the health care team to create awareness among patients about the rational use of drugs.

The concept of rational use of drugs is new to the younger generation, it is important to know their usage of drugs including prescription and non-prescription drugs and traditional medicines. A vast number of studies have assessed the perception of rational use of medicines among diverse group of healthcare professionals including clinicians, doctors, pharmacists, medical students, etc.[4] However there is a paucity of studies on those who are not related to healthcare especially younger generation. Hence assessing the knowledge, attitude and awareness of non-medical students will play an important role in addressing the problem of irrational use of drugs in future.

MATERIALS AND METHODS

Methodology: This cross–sectional observational study was done in Saveetha Engineering College, Chennai from February to May 2019. In this study 500 students were approached out which 342 of them consented to take part in the study. A total of 342 undergraduate non-medical students from various departments were included in the study. The participants were assured that the participation was voluntary and confidentiality will be maintained. All the students who took part in the study were briefed about the study and were given the liberty to pull off from the study at any point of time if they felt unsafe or uncomfortable. A pre-tested semi-structured questionnaire containing 35 questions with 12 questions relating to knowledge, 12 questions relating to attitude and 11 questions relating to awareness about rational use of drugs was used to assess the participants. A written informed consent was obtained from all the participants, before initiation. The resultant data was analyzed using SPSS V20.0 software, frequency and percentage were calculated.

Ethical Approval: The study was initiated after obtaining approval from the Institutional Review Board, Saveetha Medical College, Chennai (SMC/IEC/2018/11/496).

RESULT

Demographic details: 65% of the respondents who were assessed were males. Majority (89%) of the participants were between the age group of 19 and 20 years. All of them were undergraduate engineering students. 76% of the participants were from rural area and 67% had studied from private schools. Only about 2%of the students were suffering from chronic illness and were on medications.

Knowledge on rational use of drugs: While assessing their knowledge on rational use of drugs, it was surprising to find that about half of the respondents (50.29%) felt that self-medication is always safe and only 35.96% knew about over-the-counter drugs. (Table 1) More than 50% of the respondents knew about generic drugs and about the precautions to be taken while using medicines in pregnant women, children and in elderly. It was disappointing to find that 32.46% lacked the knowledge about expiry date of medicines. (Figure 1)

Attitude on rational use of drugs: It was found that about half the participants were of the attitude that the medicines which are expensive and manufactured by foreign pharmaceutical companies were better than the cheaper and locally

manufactured drugs. 42.40% respondents supported poly-pharmacy. About 40% of the students had a positive attitude towards antibiotic use and were also aware of the fact that development of antibiotic resistance is a consequence of irrational use of it. However 46.20% felt that antibiotics can be stopped after symptomatic relief. (Table 2)50.6% of the students felt that it is important to know the common side effects of drugs. (Figure 2)

Awareness about rational use of drugs: Assessment of awareness revealed that 46.20% respondents had the habit of buying medicines online and 45.32% buy medicines without prescription. (Table.3)However it was encouraging to find that 99.42% of the students looked into the information on the drug label (Figure 3) and majority of them noticed the expiry date (95.61%), manufactured date (72.51%) and brand name of the drug (71.93%). (Figure 4) The mean percentage scores for knowledge, attitude and awareness were 48.29, 38.77 and 47.21 respectively. (Figure 5)

DISCUSSION

Prescribing and using medicines erroneously poses serious health risks to the patients, which in turn has economic implications.[5] Assessing the knowledge, attitude and awareness among the young growing population is the first important step in the process of creating awareness in the society on rational drug usage. Earlier studies have been done in Medical students [2], Nurses [5], Pharmacy students [6], Physicians [7,8], Residents [9], Interns [10], etc. This study takes into consideration the exposure to knowledge and attitude, of the Engineering students about various issues concerned with rational usage of drugs.

The results of the study showed that only 48.29% of the participants had enough knowledge on rational use of medicines. About 35.67% respondents felt that Over-the-counter (OTC) drugs can be taken safely with prescription drugs and almost half of them felt safe while using self-medication, which was similar to a study done in medical students.[2] In a country like India, where most of the drugs are available without prescription, this is an important issue to be addressed, and also emphasizes the need for educating the students about the consequences of self-medication.

50.34% of participants had a common misconception that any drug prescribed for adults can be divided for use among children. Another 50% had known the difference in pricing between different brands of the same drug as well as between generic drugs and branded ones. This might be due to the establishment of numerous generic medicine outlets throughout the country. MCI regulations also state that every physician should prescribe drugs with generic names. [11] Hence knowledge of the public on generic names is of utmost importance. In our study it was encouraging to find that50.58% of the respondents knew about generic drugs. (Figure 1) Rational use of medicines is a community indicator of quality of health care. About 50.58% were of the attitude that expensive medicines and those manufactured by bigger pharmaceutical companies are better than their counterparts. About 46.49% felt that drugs supplied in government facilities were of inferior quality. These misconceptions might be due to their fixed beliefs and ideas that has transcended through generations. While 43.86% showed a positive attitude towards antibiotic use, 46.2% were not aware that antibiotics should not be stopped if symptoms abate. (Figure 2)

The most significant finding of our study was that almost all the participants (99.42%) had the attitude of reading the label on the medicines before using it (Figure 3) and 71.93% of them look for its brand name and a whooping 95.61%of the participants look for its expiry date. But, only 54.39% of them look for the generic name of the drug. (Figure 4) About 47.08% participants stick to the doctor's advice and instruction regarding the prescribed drugs. And About 46.20% participants agree that they mix medicines obtained from various doctors for the same problem. And 43.27% of the participants strongly disagree with the concept of mixing allopathic treatment with alternative medicines like ayurvedic, traditional medicine and homeopathy. While a majority of participants, 50.58% stop their medications without consulting a doctor. Although the study had a limited sample size of 342, it was done in a student population and thus throws light into the current situation. In the modern era where a new drug is being discovered every other day, knowledge on rational drug usage is of utmost importance. To strengthen the healthcare system of the country, educating the young society is equally important as educating the healthcare professionals. It is the duty of the doctors to educate their patients. Establishing drug information centers in hospitals might as well help in educating them.

CONCLUSION

On an average about 48.29 % of students had adequate knowledge on rational use of drugs, while only 38.77% had a positive attitude and 47.21% had enough awareness about it thus emphasizing the need for educating the younger generation. This study throws light on the perception of different aspects of rational use of medicines among the future generation which would help in planning and implementing various programs to improve the awareness among youngsters. Inadequate/improper

knowledge in the above areas is a matter of concern and needs to be taken seriously. The deficit in knowledge, attitude and practice of rational use of drugs should be identified and appropriate corrective measures in the form of awareness programs must be taken which will help in improving the quality of health care.

Table: 1 Response of the participants to knowledge-related questions

S.No	Questions	Yes (%)	No (%)	Not Aware(%)
1	Self-medication is always safe	50.29	44.74	4.68
2	Aware about Over- the Counter (OTC) medicines	35.96	42.98	20.76
3	OTC can be safely taken with prescription medicines	41.81	35.67	22.51
4	Aware about Generic medicines	50.58	34.80	14.62
5	The same generic content of medicines is available under different names	51.17	30.70	17.84
6	There is a wide variation in prices of different brands of same medicine	54.39	31.58	13.45
7	Aware about precautions to be followed during online purchase of medicines	54.97	33.33	11.70
8	Precautions have to be taken while using medicines in children	56.43	27.49	16.08
9	Precautions have to be taken while using medicines in pregnant and breastfeeding women	59.65	23.98	16.37
10	Precautions have to be taken while using medicines in elderly	52.63	33.33	13.74
11	Any tablet can be divided for use in paediatric patients	52.34	29.82	17.84
12	Medicines have an expiry date	53.51	32.46	14.04

Table: 2 Response of the participants to attitude-related questions

S.No	Questions	Yes (%)	No (%)	Not Aware (%)
1	Costlier medicines are better than cheaper ones	50.58	31.58	17.84
2	Medicines manufactured by foreign multinational companies are better	50.58	34.80	14.33
3	Medicine is needed for every illness	48.83	36.84	14.33
4	It is important for patient to know common side effects of medicines	50.58	34.80	14.62
5	More the number of medicines in a prescription better & earlier will be the relief	42.40	36.84	19.88
6	Medicines from government hospitals are of inferior quality as compared to those from private pharmacies	46.49	35.09	18.42
7	Doctors can completely depend on information about medicines provided by Pharma industry	46.20	37.13	16.37
8	Gain by irrational prescribing is maximum to pharma industry	46.20	37.13	16.08
9	Mass communication is a bad medium to educate people about medicines	50.58	32.75	16.67
10	Antibiotics should be available without doctor's prescription	42.40	40.06	16.96
11	If antibiotics are used frequently, the bacteria may not respond to the antibiotic in the future	43.86	40.35	15.79
12	Antibiotics can be stopped if the symptoms disappear	46.20	36.55	17.25

Table: 3 Response of the participants to awareness-related questions

S.No	Questions	Yes (%)	No (%)	Not Aware (%)
1	Do you buy medicines without prescription?	45.32	38.30	16.37
2	Do you read the label on medicines before use?	99.42	0.58	0.00
3	Do you reuse doctor's prescription for similar complaint in other person?	51.46	34.50	13.74
4	Do you purchase medicines online?	46.20	39.77	14.04
5	Do you purchase any medicines based on direct to consumer (DTC) advertising?	44.74	41.81	13.45
6	Do you take drugs prescribed by more than one doctor at a time, for same problem without informing them?	46.20	40.35	13.45
7	Do you mix allopathic treatment with Ayurvedic/ traditional home remedy/ homeopathy/ unani?	41.52	43.27	14.91
8	Do you purchase all medicines written in the prescription?	41.81	39.18	19.01
9	Do you stick to doctor's advice and instructions?	47.08	35.96	16.67
10	Do you consult the doctor before stopping any medicine?	50.58	36.55	12.87
11	Can nutritional supplements be taken without prescription?	42.69	35.38	21.93

Figure: 1 Assessment of participant's knowledge

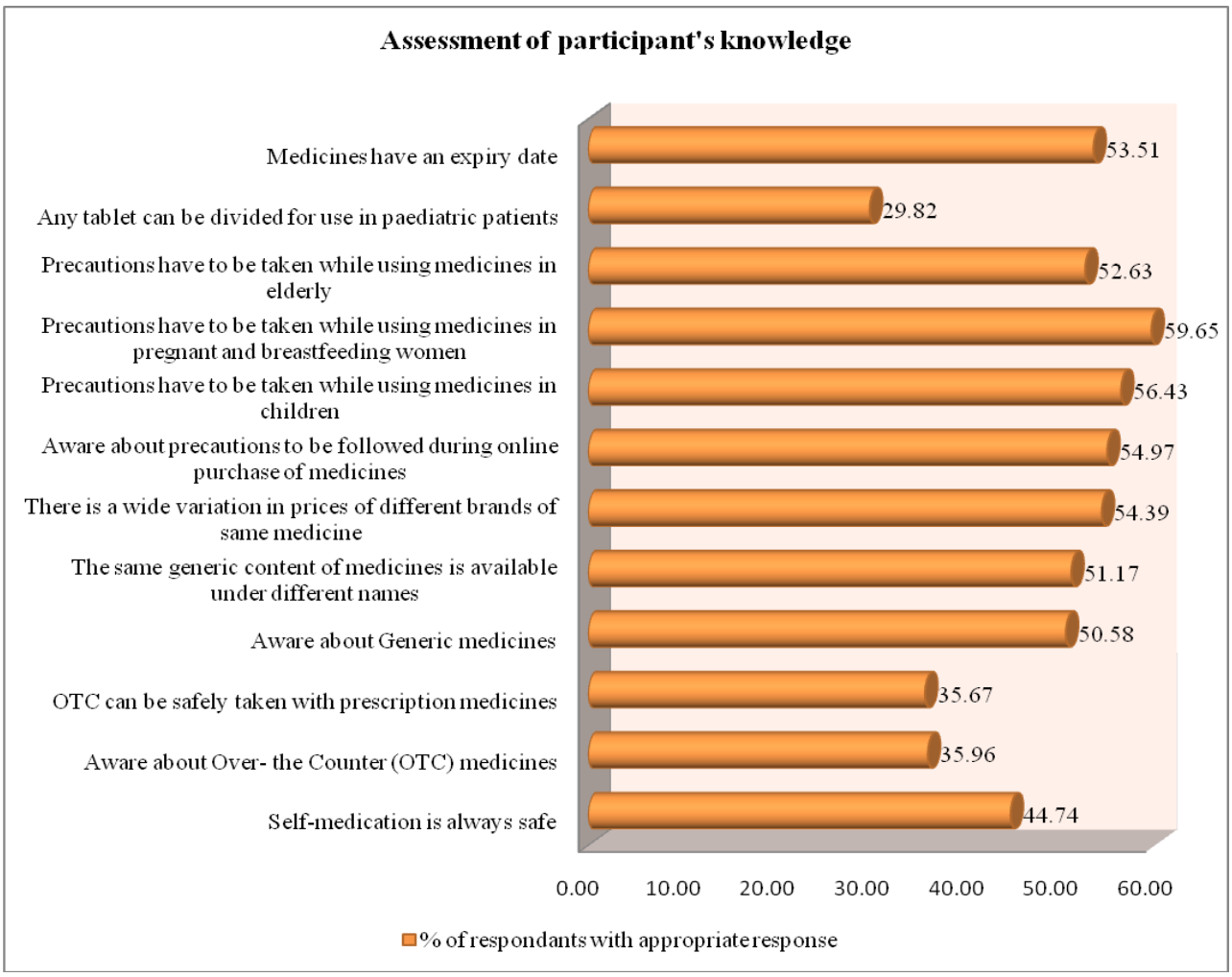


Figure: 2 Assessment of participant's attitude

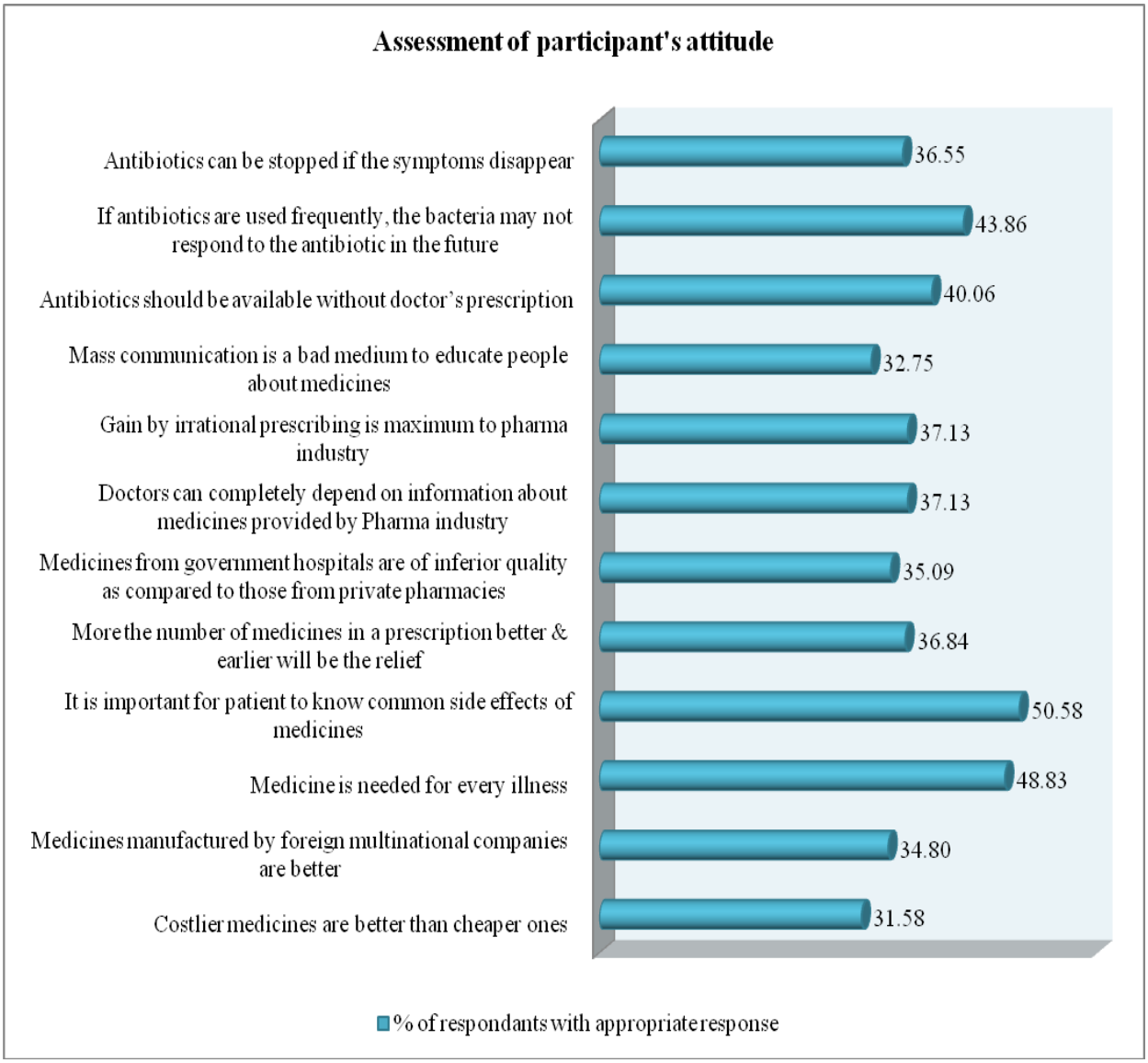


Figure: 3Assessment of participant's awareness

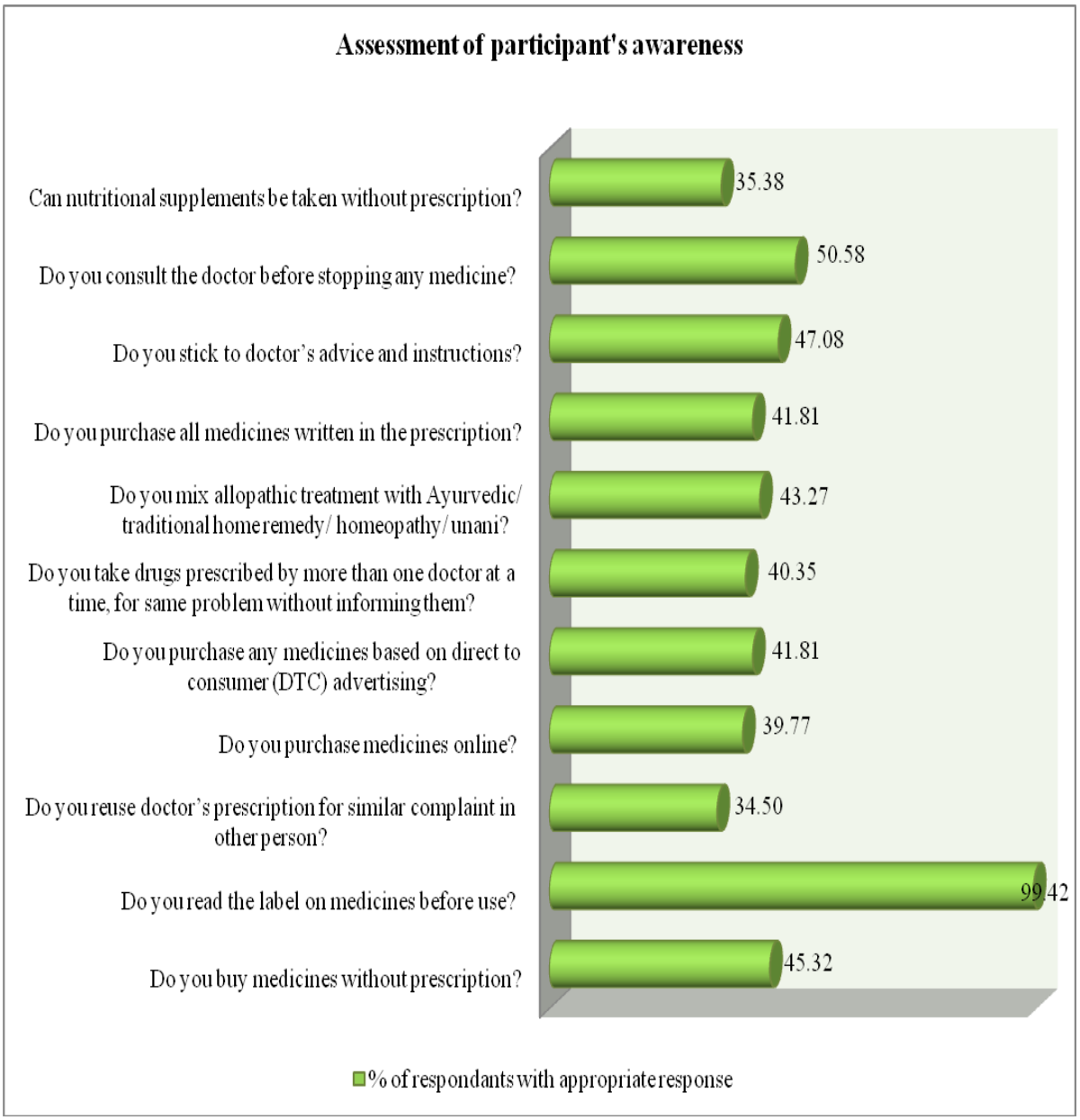


Figure: 4 Information on the label of the drug

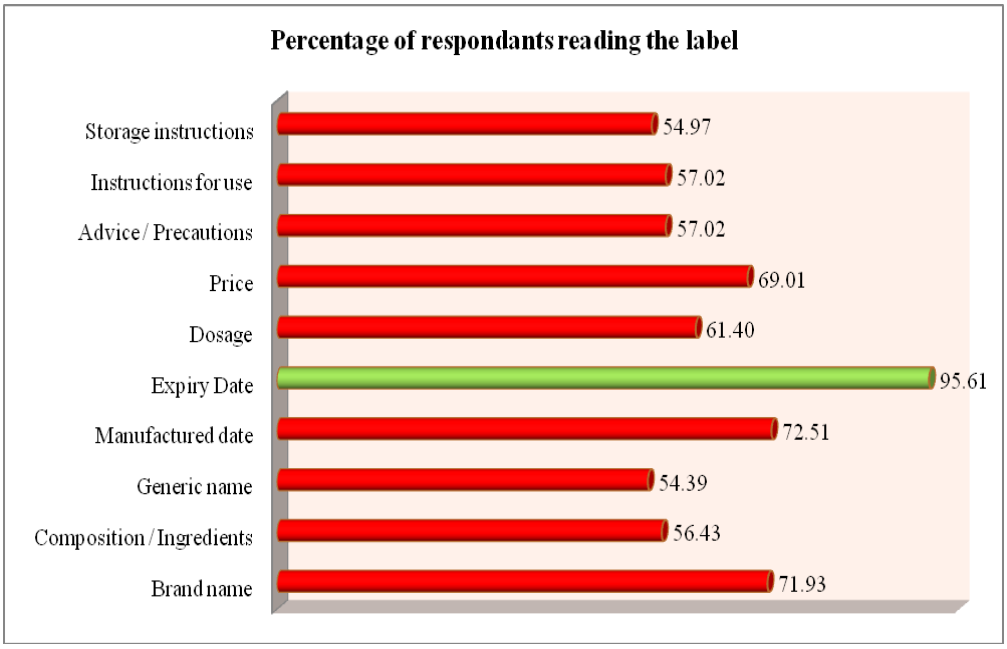
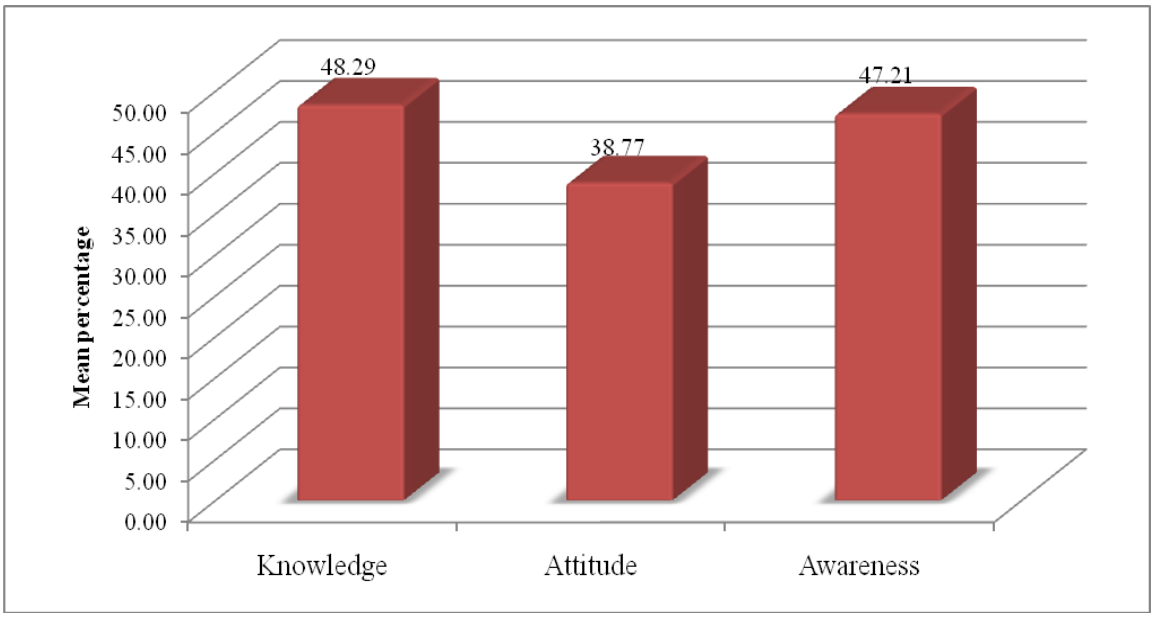


Figure: 5 Mean percentages of individual parameters



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