

A Comparative Study to Assess the Knowledge and Expressed Practice of Over-the-Counter Antibiotics use in the Selected Urban and Rural Community of Shimla, H.P.

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Abstract: Background: Over-the-counter antibiotics use is a common practice in countries with poor pharmaceutical regulations and is a main factor for the spread of antimicrobial resistance due to its non-reliance on pre-treatment microbiologic work-up, improper indications and dosing errors. The practice of over-the-counter antibiotics is different in both urban and rural areas of India due to factors like education, economics and availability of health center and pharmaceutical store. Objectives: To assess the knowledge and practice of over-the-counter antibiotics use in selected urban and rural community of Shimla and make a comparison between the knowledge and practice score. Methodology: A Comparative research is conducted among 120 adults of 20 years and above selected using convenient sampling technique in urban (Boileauganj) and rural (Chamyana) community of Shimla, H.P to assess the knowledge and practice of over-the-counter antibiotics use. A Self Structured knowledge questionnaire and expressed practice checklist was prepared. Result: The findings revealed that the majority of urban community adults have adequate knowledge (53.3%) related to antibiotics use whereas for the rural community majority of adults have low antibiotics use knowledge (51.7%) ($p < 0.001$). 90% adults in urban community have moderate practice, in rural community 31.7% have moderate practice and 68.3% subjects have low level of over-the-counter antibiotics practice. The rural community has less knowledge and practice of over-the-counter antibiotics use than urban community.

Keywords: Knowledge, Practice, Over-the-counter Antibiotics Use, Urban Community, Rural Community

1. Introduction

Antibiotics can save lives, but any time antibiotics are used, they can cause side effects and contribute to the development of antibiotic resistance. Over-the-counter antibiotics use is a common practice in countries with poor pharmaceutical regulations and is a main factor for the spread of antimicrobial resistance due to its non-reliance on pre-treatment microbiologic work-up, improper indications and dosing errors. The practice of over-the-counter antibiotics is different in both urban and rural areas of India due to factors like education, economics and availability of health center and pharmaceutical store; and there is a need to systematically retrieve evidences on these differences to design targeted measures for improvement. This study was conducted to compare the knowledge and practice of over-the-counter antibiotics use in the urban and rural community of Shimla, H.P.

Objectives

- To assess the knowledge of antibiotics use in the urban and rural community of Shimla.
- To assess the practice of over-the-counter antibiotics use in the urban and rural community of Shimla.
- To compare the knowledge scores of antibiotics use in the urban and rural community of Shimla.
- To compare the practice scores of over-the-counter antibiotics use in the urban and rural community of Shimla.
- To find the relation between the knowledge and practice of over-the-counter antibiotics use of people residing in urban and rural community of Shimla.

2. Methodology

A descriptive research design was adopted to conduct the study among the adults of 20 years and above in urban (Boileauganj) and rural (Chamyana) community of Shimla, H.P to assess the knowledge and practice of over-the-counter antibiotics use. 120 adults, 60 from each rural and urban community were selected using convenient sampling technique and data was collected from 120 adults of 20 years and above, 60 from urban (Boileauganj) and 60 from rural (Chamyana) community of Shimla, H.P.

A Self Structured knowledge questionnaire and expressed practice checklist was prepared. The tool comprised of three sections. Section-A included 8 items on sample characteristics, section-B had a questionnaire and section-C contained checklist for expressed practice assessment. To ensure the validity of tool, it was submitted to 5 experts. The reliability of tool was assessed by using split half method and was calculated by Spearman's Brown formula. Reliability calculated was 0.98 for both self structured knowledge questionnaire and expressed practice checklist. Ethical approval was taken from the Counselor of Boileauganj and Pradhan of Chamyana, Shimla, Himachal Pradesh to conduct the research study. Written and informed consent was obtained from the subjects before data collection and assurance was given and maintained regarding confidentiality of results.

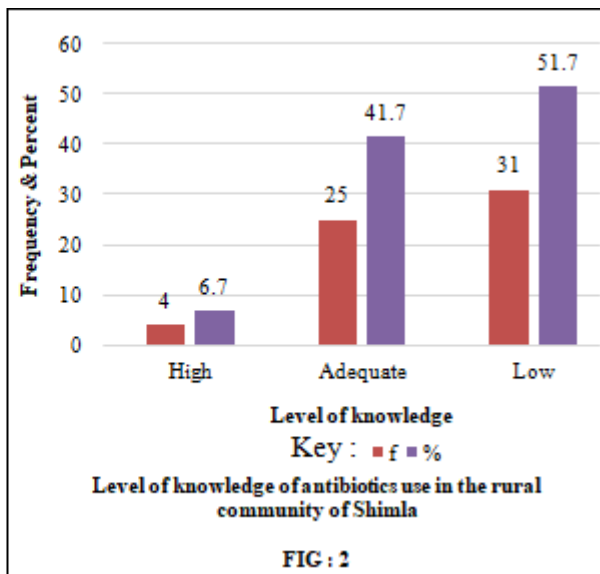
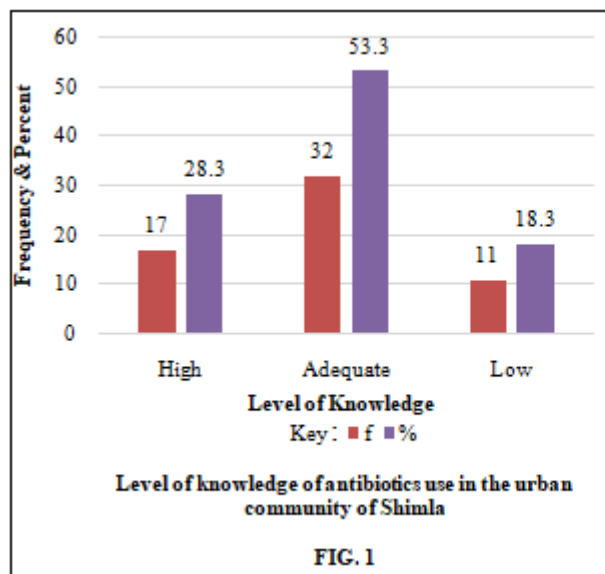
3. Results

Frequency and percentage wise distribution of subject according to their socio demographic variables revealed the majority resides in the early adulthood both in urban (61.7%) and rural community (30.50%). 53.2% females from selected urban community and 61.7% from rural community have constituted the sample of the study. On the basis of family type, urban community have more nuclear families (68.3%) as compared to rural community (18.3%); however the joint families were more in rural community (65%) than in urban community (21.7%). As per family income, 85% have monthly family income of >25,000Rs/month in urban community and maximum

subjects (45%) from rural community has 15,001-25,000Rs/month. According to profession, only 11.7% and 1.7% subjects are in medical profession, respectively in selected urban and rural community of Shimla. 71.7% and 78.3% have no health professional in their family respectively in selected urban and rural community of Shimla. Internet is the commonest source of information both in urban (48.3%) and rural (43.3%) community of Shimla.

Section I

a) Knowledge score related to knowledge of antibiotics use in urban and rural community of Shimla.

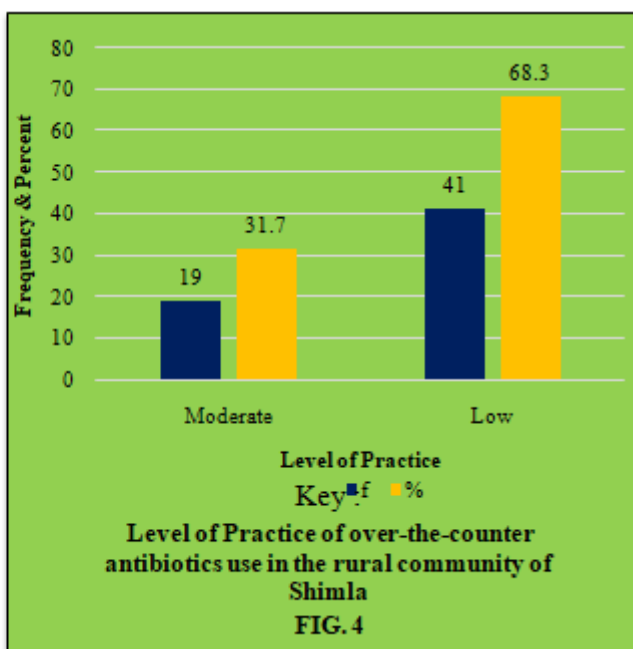
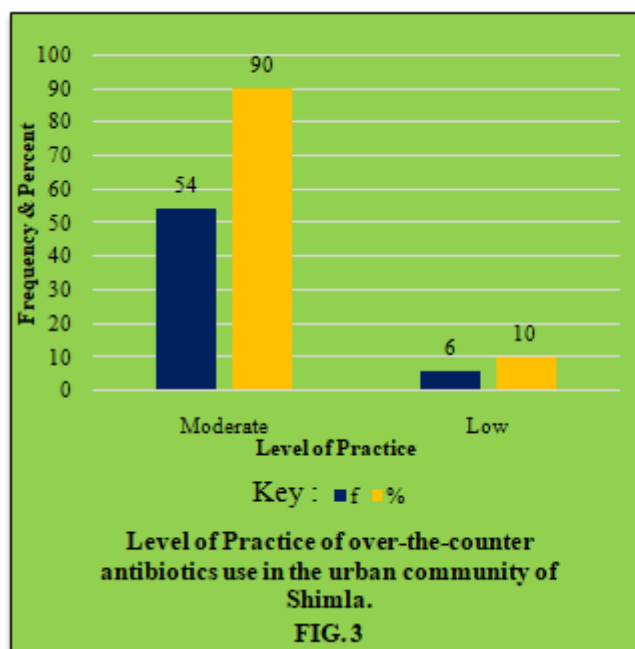


As per the mentioned figure 1, majority of adults have high knowledge 53.3%, 28.3% have adequate knowledge and 18.3% low knowledge level about antibiotics use.

Figure 2 depicts the level of knowledge of antibiotics use in the rural community of Shimla i.e. 6.7% have high

knowledge, 41.7% have adequate knowledge; whereas 51.7% have low knowledge level about antibiotics use.

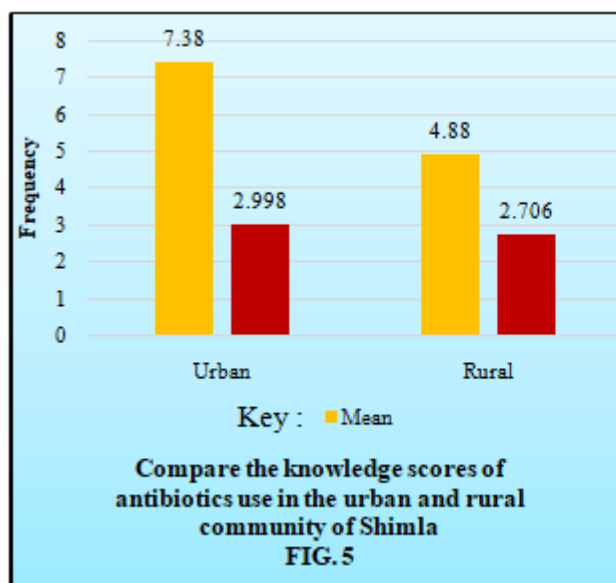
b) Expressed practice score of over-the-counter antibiotics use in the urban and rural community of Shimla.



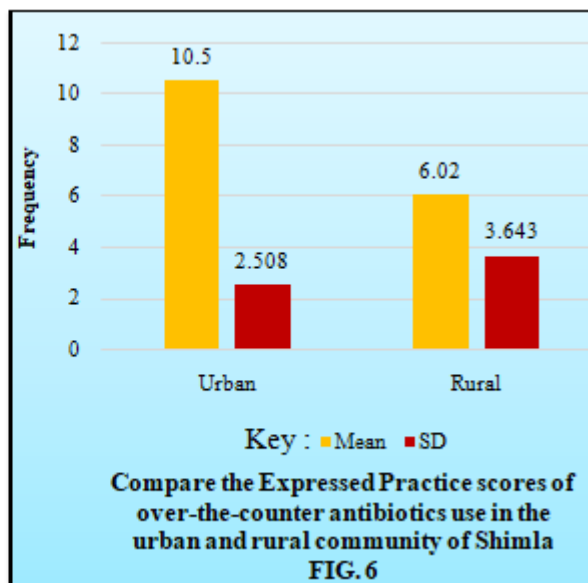
Above mentioned figure 3 and 4 depicts the level of practice of over-the-counter antibiotics use in the urban and rural community of Shimla respectively. In urban community of Shimla 90% have moderate practice and only 10% subjects showed low level of over-the-counter antibiotics practice; whereas in rural area of Shimla, 31.7% have expressed moderate practice and 68.3% subjects have low level of over-the-counter antibiotics practice.

Section II

(A) Comparison of the knowledge scores of antibiotics use in the urban and rural community of Shimla.



Below shown figure 5 shows knowledge score obtained by urban and rural community people. The mean knowledge score of urban community is 7.38 which are higher than the mean knowledge score of rural community 4.88. The findings also show that the standard deviation of knowledge score in urban community is 2.998 and rural community is 2.706. the obtained mean difference 2.500 between knowledge scores of urban and rural community was found to be statistically significant as evident from the 't' value 4.795 for df =118 at 0.001level, calculated by unpaired t-test. Therefore, the obtained mean difference was true difference and not by chance.



(B) Compare the expressed practice scores of over-the-counter antibiotics use in the urban and rural community of Shimla.

Figure 6 shows expressed practice score obtained by urban and rural community people. The mean expressed practice score of urban community is 10.50 which are higher than the mean expressed practice score of rural community 6.02. The findings also show that the standard deviation of expressed practice score in urban community is 2508 and rural community is 3.643. The obtained mean difference 4.483 between expressed practice scores of urban and rural community was found to be statistically significant as evident from the 't' value 7.852 for df value 118 at 0.001 level, calculated by unpaired t-test. Therefore, the obtained mean difference was true difference.

Section II

(A) Finding the relationship between the knowledge and expressed practice score of over-the-counter antibiotics use in urban community, Shimla.

Table 1, N= 60

Variables	r value	p value
Knowledge	.412**	.001
Practice		

NB: **, Correlation is significant at the 0.01 level

Table 1 shows the correlation coefficient (r) value presenting the relationship between knowledge and expressed practice

score of over the counter antibiotics use in selected urban community of Shimla. The calculated correlation coefficient value ($r = 0.412$) is found to be statistically significant at 0.001 level of significance. This shows low positive correlation i.e. the increase in knowledge level of antibiotics use; the practice of over-the-counter antibiotics also increases at a low rate in the selected urban population of Shimla.

(B) Finding the relationship between the knowledge and expressed practice score of over-the-counter antibiotics use in rural community, Shimla.

Table 2, N= 60

Variables	r value	p value
Knowledge	.029	.828
Practice		

NB: **, Correlation is significant at the 0.01 level

Table 2 shows the correlation coefficient (r) value presenting the relationship between knowledge and expressed practice score of over the counter antibiotics use in selected rural community of Shimla. The calculated correlation coefficient value ($r = 0.029$) is found to be statistically non-significant at 0.01 level of significance. This shows no correlation between the knowledge level of antibiotics use and the practice of over-the-counter antibiotics in the selected rural population of Shimla.

4. Conclusion

The present study **compared the knowledge and expressed practice of over-the-counter antibiotics use in the selected urban and rural community of Shimla, H.P.** Urban community people have more knowledge of antibiotics use than rural population. The urban subjects show moderate practice of over-the-counter antibiotics use; whereas in rural subjects maximum population have low level of over-the-counter antibiotics practice. Knowledge and practice of over the counter antibiotics both are high in urban community subjects as compared to rural community. The knowledge and practice of over the counter antibiotics use have low positive correlation in the selected urban population of Shimla but there is no relationship between the knowledge and practice of over-the-counter antibiotics use in the selected rural population of Shimla.

5. Future Scope

Nursing practice:

- Nurse can conduct educational programme and structured or planned teaching programmes in community to enhance the knowledge and awareness of antibiotics use.
- Community health nurse and medical surgical nurse can provide information on antibiotics use and multi drug resistance to the community people and patients.

Nursing administration:

- Nurse administrator can conduct planned teaching programme to bring awareness regarding the antibiotics administration and use among nursing staff and patients.
- As a supervisor, nurse can evaluate the knowledge and practice regarding antibiotics administration of nursing staff; knowledge and use of antibiotics by patients and community people.

Nursing education

The nursing curriculum for all levels of nursing students should be given more emphasis on antibiotics knowledge and use to prevent misuse of antibiotics and multi drug resistance among patients and community population.

Nursing research:

- The study can serve as a reference material for future investigation to contribute to the profession to accumulate new knowledge regarding knowledge and practice of over-the-counter antibiotics use in urban and rural community.
- The study would be a motivation for researcher to conduct similar studies on large scale.

Nursing education:

- The nursing students should be able to give education to the women who are pre- menopausal, yet to attain menopause, knowledge regarding osteoporosis and its prevention whether they are posted in the clinicals or in the community area.
- Nursing student should be aware of their responsibility to focus on enhancing women knowledge regarding osteoporosis and its prevention.

- The present study helps the community health nurse to plan for the health education programmes and to aware the general public regarding importance of maintaining healthy life style and intake of proper nutrition for osteoporosis and its prevention.

Nursing practice:

- Nurses working in the community, play a vital role in providing health awareness regarding osteoporosis and its prevention among pre-menopausal women. The nursing personnel should identify the pre-menopausal women and find out their problems, and according to that conduct health teaching programs especially imparting knowledge regarding osteoporosis and its prevention.
- The study shows that there was lack of knowledge regarding osteoporosis and its prevention among pre-menopausal women in the urban area, for which a health care provider needs to have adequate knowledge by herself regarding osteoporosis and its prevention so that she can enhance the knowledge of people who comes in contact with them.

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