



THE KNOWLEDGE OF PARENTS WITH INFANTS AND TODDLERS FOR ANTIBIOTIC CONSUMPTION

Gan-Undral Munkhjargal¹, Unurjargal Yadmaa¹, Lkhagvasuren Tsolmon¹, Munkhdelger Baasan¹, Oyunbileg Sharavdorj¹, Tserenchunt Ganbold², Ariunaa Zundui^{2*}

¹Department of Pharmacology and Clinical Pharmacy, Mongolian University of Pharmaceutical Sciences, Ulaanbaatar, Mongolia

²Department of Biomedical Medicine, Mongolian University of Pharmaceutical Sciences; Ulaanbaatar, Mongolia

KEYWORDS

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ABSTRACT

Antibiotics are commonly prescribed in paediatrics. Children were 1.30 times more likely to be treated with antibiotics compared to adults³. Especially, antibiotic prescription is higher in children aged under 5 years. The survey was conducted in a cross-sectional survey design using the questionnaire used in India. The questionnaire were used for scoring KAP. Participants were confused regarding the indication of antibiotics use. This is indicated from the fact that only 173 parents (41.4%) were aware that antibiotics are used against bacterial infection, while 119 parents (28.5%) incorrectly thought that they are used against viruses

and 112 parents (26.8%) felt that antibiotics could be used for any microorganism. Concerning the reason of use of antibiotics, majority (n=186) of the parents gave it to the child for cough and cold, followed next by fever (n=169). According to the KAP assessment of the parents who participated in the survey, there were 20 with poor knowledge, 168 with medium knowledge, and 230 with good knowledge. More than half (55.0%) of 418 parents have good or sufficient knowledge of the appropriate use of antibiotics, and the rest (45.0%) have medium and low knowledge or insufficient knowledge.

*Corresponding author: Mongolian University of Pharmaceutical Sciences, Songolon's road 4/A, Songinokhairkhan District 20th khoroo, Ulaanbaatar, Mongolia; E-mail address: ariunaa.z@monos.mn; Tel.: +976 99895099 (Ariunaa Zundui)

INTRODUCTION

Overuse and misuse of antimicrobials are the main drivers of antimicrobial resistance. World Health Organization has declared antimicrobial resistance as one of the top 10 global public health threats facing humanity and 1 child dies every 3 min from multi-drug resistance organism sepsis and 1.27 million deaths attributable to bacterial antimicrobial resistance per year.¹

Antibiotics are commonly prescribed in paediatrics.² Children were 1.30 times more likely to be treated with antibiotics compared to adults³. Especially, antibiotic prescription is higher in children aged under 5 years.⁴

MATERIALS AND METHODS

The survey was conducted in a cross-sectional survey design using the questionnaire used in India.⁴ In this study 418 parents with children aged 0-5 were included. Participants are 418 parents who visited 20 pharmacies of six Districts of Ulaanbaatar city in the months of January to April 2024 were included in the study. The questionnaire were used for scoring KAP.

Questions were mainly used to assess three major categories:

- Knowledge related to purpose of antibiotics (Bacteria, virus, parasites or any microbe), use of antibiotics (fever, cough, skin infection, etc), side effects of antibiotics and antibiotic resistance.
- Attitude towards consumption of antibiotics like the need to use antibiotics in every sick child, frequency of antibiotics use in a year.

Practice of antibiotics like use of left over antibiotics, completing the course of antibiotics.

Out of 13 questions, seven questions were used for scoring KAP. Each correct answer was given one point each and wrong answer zero, making a maximum score of seven and minimal score of zero. No answer was also scored as zero. KAP score was then divided into three categories as 0-2, 3-4 and 5 or more indicating poor, moderate and good knowledge respectively.

RESULTS

Participants were confused regarding the indication of antibiotics use. This is indicated from the fact that only 173 parents (41.4%) were aware that antibiotics are used against bacterial infection, while 119 parents (28.5%) incorrectly thought that they are used against viruses and 112 parents (26.8%) felt that antibiotics could be used for any microorganism. Concerning the reason of use of antibiotics, majority (n=186) of the parents gave it to the child for cough and cold, followed next by fever (n=169). It is noteworthy that 73.4%(n=307) of the parents agreed that they completed the course of antibiotics as prescribed by the doctor, while 42.3% (n=177) parents said that they use leftover antibiotics from the previous prescription for their child. About one in two participants 55.3% (n=231) did not know about the antibiotic resistance.

Table 1. This is a table. Tables should be placed in the main text near to the first time they are cited.

Statement	Number	Percentage (%)
1. Antibiotics are used against which organism		
Bacteria*	173	41.4
Virus	119	28.5
Parasites	14	3.3
Any microbes	112	26.8
2. Did your child receive antibiotics in the past one year		
Yes*	290	69.4
No	128	30.6
3. What was the commonest cause of prescription of antibiotics		
Fever	186	34.3
Cough	169	31.0
Diarrhoea	48	8.8
Skin Infection	57	10.5
Others	84	15.4
4. Do you think antibiotics are required every time the child falls sick		
Yes	41	9.8
No*	377	90.2
5. Do you complete the course of antibiotics as prescribed by the doctor		
Yes*	307	73.4
No	111	26.6
6. Do you think use of antibiotics can harm the child		
Yes*	371	88.8
No	47	11.2
7. Have you ever used left over antibiotics from previous prescription for the child		
Yes	177	42.3
No*	241	57.7
8. Do you know the term antibiotic resistance		
Yes*	187	44.7
No	231	55.3

According to the KAP assessment of the parents who participated in the survey, there were 20 with poor

knowledge, 168 with medium knowledge, and 230 with good knowledge.

DISCUSSION

In our study, 34.3% (n=186) of respondents reported using antibiotics for colds, 31.0% (n=169) for fever, and 8.8% (n=48) for diarrhea, for a total of 74.1%. The results of study “Use of antibiotics for common illnesses among children aged under 5 years in a rural community in Indonesia” showed that 62.2% of parents said that they use antibiotics for fever, cold, and diarrhea.⁵ A cross-sectional study (2021) by researcher Elizabeth T Rogawski in Bangladesh found that 14% of parents used antibiotics for diarrhea, 17% for fever, and 7% for acute respiratory infections. In our study, parents in some districts of Ulaanbaatar city tend to use antibiotics for symptoms of cold, while in other countries, the tendency to use antibiotics during fever is more prevalent.⁶

In our study, 41.4% (n=173) of respondents answered that antibiotics used against bacteria, 28.5% (n=119) said that antibiotics work against viruses, and 26.8% (n=112) said that antibiotics work against any microbes including bacteria, viruses, and parasites. The study by researcher Shreya Agarwal in India (2019), 28% of parents said antibiotics work as antibacterial, 26.1% work as antiviral, and 45.9% to be effective against all microorganisms.⁴ 55.3% (n=231) of the parents participating in our study answered that they do not know about antimicrobial resistance, which is higher than the results of the research conducted by researchers Miradije Imeri and Shaip Krasniqi (10.15%) in the Republic of Kosovo in 2023.⁷ Compared to the results of the “Antibiotics Use and Misuse in Children: A Knowledge, Attitude and Practice Survey of Parents in India” conducted in

India, 84.5% of the participants answered that they do not know about the resistance of bacteria.⁴

The total of 418 parents in our study, 20 have low, 168 have moderate, and 230 have good knowledge about the appropriate use of antibiotics, which indicates that one out of every two participants has an insufficient level of knowledge about the appropriate use of antibiotics. In a study titled “Antibiotics Use and Misuse in Children: A Knowledge, Attitude and Practice Survey of Parents in India”, it was concluded that 1 in five people have insufficient knowledge about the appropriate use of antibiotics.⁴

There is a need to improve parents' knowledge about antibiotics and promote healthier attitudes and practices. This requires a multi sectorial effort. Firstly, interaction between parents and health professionals can help to improve the parents' views regarding the use and indications of antibiotics and the importance of completing their course. Mass media can also play an important role in disseminating the appropriate information to the general public. Secondly, stringent laws should be enforced by the government that prohibit the availability of antibiotics as over the counter drugs. Also, pharmacist should be encouraged to give only the amount of antibiotics as mentioned in the prescription and not as per pack sizes.

Thirdly, since this study aimed at evaluating the parent's knowledge and behaviour of antibiotic use, further studies should be conducted to evaluate health practitioners' attitude and behaviour of antibiotics prescription in children and adults.⁴

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