

# EVALUATION OF MOTHERS' KNOWLEDGE AND BELIEFS REGARDING OF ANTIBIOTICS USES AMONG THEIR CHILDREN: A CROSS-SECTIONAL STUDY

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## ABSTRACT

**Background:** The use of antibiotics has become a major issue in the world, and caution should be exercised when using these drugs. The current study aimed to evaluate mothers' knowledge and beliefs regarding antibiotics use for their children.

**Materials & Methods:** A descriptive cross-sectional study was done on women who have under 5 years old children and selected through non-probability-purposive sampling. The study was done on woman attending health centers for specific follow-up of their children at the Babylon province during the period from August 2023 to February 2024. A questionnaire that was constructed by researchers was used to collect data. Descriptive and inferential statistics according to the aims of current study were evaluated.

**Results:** Study results show that majority of mothers' responses were moderate regarding antibiotic use. There is no relationship between the knowledge and beliefs of mothers with their demographic characteristics.

**Conclusion:** The present study concludes that most of respondents were with moderate knowledge regarding antibiotic use, and a higher percentage of them were with moderate level regarding their beliefs of antibiotic use.

**KEY WORDS:** Antibiotics; Beliefs; Children; Knowledge; Mothers; Use.

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## INTRODUCTION

Antibiotics, often known as antibacterial, treat and prevent bacterial infections. An antibiotic was initially defined as a chemical produced by one bacterium that inhibits the growth of another microorganism selectively. Antibiotics are ineffective against viruses like common cold and influenza, and they can be harmful if misused.<sup>1</sup>

An antibiotic overuse or use without physician order

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may threaten patients at any age. As a result, it is considered as major public health issue worldwide, particularly in developing countries reported increasing in antibiotic resistance. Antibiotic misuse is a major problem in the low-income countries, where awareness about using such medications often low, and taking antibiotics without prescription are common.<sup>2</sup> Antibiotics aid in reducing mortality and morbidity rates around the world by treating bacterial infections. Antibiotic abuse and misuse, notably in children, is becoming more common as the use of antibiotics increased. This rapidly worsening global public health, such problem must be addressed and fixed.<sup>3</sup>

Many studies were conducted to increase understanding of community knowledge, attitudes, beliefs, and practices about antibiotic use to raise public awareness. Several negative consequences of antibiotic overuse are reduced.<sup>4,5</sup> Mothers' attitudes and knowledge of common childhood disorders may lead parents to believe antibiotics are required, particularly respiratory tract infections, which are the most prevalent

reason for antibiotic use among under five years old.<sup>6,7</sup> When treating viral infections, antibiotics are commonly misused. Reusing extra antibiotics as a source of antibiotic resistance an important factor that contributes development of drug-resistant illnesses. This is especially concerning because pediatric children receive some of the highest prescriptions of these drugs.<sup>8,9</sup> Awareness regarding antibiotics and the absence of suitable regulations for controlling and limitation of administered un prescribed antibiotics<sup>10,11</sup> is a major issue. So, this study was done to evaluate mothers' knowledge and beliefs regarding antibiotics use for their children.

**MATERIAL AND METHODS**

A descriptive cross-sectional study design was used for current study and was conducted on 100 mothers, who were attending health centers with their children at Babylon province in Iraq, from August 2023 to February 2024.

The participants who involved in this study were on voluntary bases. All mothers who attend primary health care centers and have children under five years old. Study tool construct after extensive literatures review. The tool assessed by, professionals' expert in the field and were familiar with pediatric specialty. The instrument of the present study consists of three parts: socio-demographic features of mothers (age, marital status, level of education, occupation, income, and number of children). Part two: questions to assess knowledge about antibiotic use: consist of from 12 items by using (Structured questionnaires with Likert scale questions with three level poor, moderate, and good). Part three: questions to assess beliefs about antibiotic use: consist of from 14 items using Likert-scale questions (Agree, Neutral, and disagree). Descriptive and Inferential statistical to analyze data and "SPSS version 25". Ethical Consideration obtained from committee at university of Babylon-faculty of nursing.

**RESULTS**

There was total 100 participants in this study, the demographic characteristics are shown in table 1. The overall mother's knowledge about antibiotic use is shown in table 2.

The results of table 2 show that most mothers gave moderate answers when asked about their level of knowledge concerning the usage of antibiotics.

Table 3 illustrates that most mothers' beliefs are moderate regarding antibiotic use.

Table 4 reveals that there is an insignificant relationship between mothers' knowledge regarding antibiotic use and their socio-demographic characteristics

Table 5 discovered that there was no statistically significant relationship between mothers believes regarding antibiotic use and their socio-demographic characteristics

**Table 1: Demographic criteria of participants**

Demographic Data	Groups	Frequency	%age
Age / Years	<20	11	11.0
	20-30	70	70.0
	31-40	10	10.0
	>40	9	9.0
	Total	100	100
Environment	Urban	81	81.0
	Rural	19	19.0
	Total	100	100
Married Status	Married	92	92.0
	Divorce	5	5.0
	Separated	3	3.0
	Total	100	100
Level of Qualification	Primary	14	14.0
	Secondary	8	8.0
	Preparatory	16	16.0
	institute and above	62	62.0
	Total	100	100
Occupation	Employment	35	35.0
	Unemployment	65	65.0
	Total	100	100
Socioeconomic status	Sufficient	4	4.0
	Middle	84	84.0
	Insufficient	12	12.0
	Total	100	100
Number of children	1 to 3	82	82.0
	4 to 7	16	16.0
	Total	100	100

**Table (2): The Overall Mothers' knowledge regarding antibiotics use No. (100)**

Total	Classification	F	%	M.S	S.D	Assessment
Over all knowledge	Poor	5	5.0	2.317	0.351	Moderate
	Moderate	47	47.0			
	Good	48	48.0			
	Total	100	100.0			

"No: Number, F: Frequency", "%": Percentage, "M.S: Mean of a score, Std. Deviation": "standard deviation Poor knowledge" = "1 – 1.66", "Moderate knowledge" = "1.67 – 2.33", "Good knowledge" = "2.34 – 3"

**Table (3): The Overall Mothers' Beliefs regarding antibiotics use**

Total	Classification	F	%	M.S	S.D	Assessment
Over all Beliefs	Poor	5	5.0	2.241	.28747	Moderate
	Moderate	51	51.0			
	Good	44	44.0			
	Total	100	100.0			

"F: Frequency, %: Percentage, M.S: Mean of score, SD.: standard deviation, Poor = 1 – 1.66, moderate = 1.67 – 2.33, Good = 2.34 – 3"

**Table (4): Analysis of Variance for mother's Knowledge regarding Antibiotics use with their Demographic Data**

Demographic Data		D.F	Mean Square	F	Sig.
Age Of Mother	Between Groups	17	.356	.608	.877
	Within Groups	82	.586		
	Total	99			
Environment	Between Groups	17	.063	.359	.990
	Within Groups	82	.175		
	Total	99			
Marital Status	Between Groups	17	.281	.913	.561
	Within Groups	82	.308		
	Total	99			
Occupation	Between Groups	17	.224	.968	.502
	Within Groups	82	.231		
	Total	99			
Level Of Education.	Between Groups	17	1.417	1.221	.267
	Within Groups	82	1.160		
	Total	99			
Number Of Children	Between Groups	17	1.863	.903	.573
	Within Groups	82	2.064		
	Total	99			
Income Status	Between Groups	17	.108	.654	.838
	Within Groups	82	.165		
	Total	99			

**Table (5): Analysis of Variance for mother’s beliefs regarding Antibiotics use with their Demographic Data**

Demographic Character		D.F	Mean Square	F	Sig.
Age Of Mother	Between Groups	17	.515	.930	.542
	Within Groups	82	.553		
	Total	99			
Environment	Between Groups	17	.223	1.575	.090
	Within Groups	82	.141		
	Total	99			
Marital Status	Between Groups	17	.099	.286	.997
	Within Groups	82	.346		
	Total	99			
Occupation	Between Groups	17	.222	.958	.512
	Within Groups	82	.231		
	Total	99			
Level Of Education.	Between Groups	17	1.364	1.164	.312
	Within Groups	82	1.171		
	Total	99			
Number Of Children	Between Groups	17	1.842	.891	.586
	Within Groups	82	2.068		
	Total	99			
Income Status	Between Groups	17	.093	.551	.918
	Within Groups	82	.168		
	Total	99			

**Table 6: The relationship between levels of beliefs and level of knowledge**

belief's clas- sification	Knowledge classi- fication			Total	Chi P-value.
	Poor	Fair	Good		
Poor	1	4	0	5	15.237 0.004
Moderate	4	28	15	47	
Good	0	19	29	48	
Total	5	51	44	100	

The result of table 6 show significant relationship between the degree of knowledge and beliefs, as the accompanying table illustrates.

**DISCUSSION**

In our study the age ranged from 20 – 30 years and these findings are consistent with a study carried out by Tran et al;<sup>12</sup> who found that the majority of the sample aged 21-30 years. The results found that majority of mothers lived in urban areas regarding their address, this matched with Shtayyat et al;<sup>7</sup> and

Badr et al;<sup>13</sup> who reported that most participants live in cities.

Concerning marital status, its indicate that highest proportion of mothers were married, this go along with Mallah et al;<sup>14</sup> Regarding the level of education, the results illustrate that more than half of the mothers are diploma holder and above, its consistent with Almutairi et al;<sup>15</sup> For occupation, most of the mothers were housewives and this is congruent with other studies.<sup>15</sup>Current study results demonstrate that most mothers have 1 to 3 children. This result is consistent with Soleimani et al;<sup>16</sup> For economic status, present study’s finding reported that most of sample were satisfied with their income which supported by with Albayrak et al;<sup>11</sup>

In our study mothers’ responses about knowledge regarding antibiotic use are moderate. The current study’s finding is similar to Wattiheluw et al;<sup>17</sup> While, in contrast with Alwahhabi et al;<sup>18</sup> such variance may due to disparity in culture and sample selection.

It’s reported in our study, that most mothers’ beliefs are moderate regarding antibiotic use. The current study results are consistent with Wattiheluw et al;<sup>17</sup>

Also in our study,

there is an insignificant relationship between mothers' knowledge regarding antibiotic use and their socio-demographic characteristics. The present study's finding corresponds with the study carried out by Farha et al;<sup>19</sup> Current study findings revealed that there was an insignificant relationship between mothers believes regarding antibiotic use and their socio-demographic characteristics,

the finding of the present study goes along with Matta et al;<sup>20</sup> who reported "a non-significantly association between teachers' attitudes toward prevention and control of communicable diseases and their socio-demographic and personal characteristics at "p-value >0.05".

The result of current study shows a significant relationship between the level of knowledge and beliefs. The result of the current study is congruent with Matta et al.<sup>19</sup>

## CONCLUSION

Present study concludes that most of mothers that involved in this study live in urban areas and were diploma holder and above as level of education. Most respondents were with moderate level of knowledge about antibiotic use, and a higher percentage of respondents were with moderate level of beliefs regarding to antibiotic use. The demographic features of respondents have been not influencing the mother's knowledge and beliefs about antibiotic uses.

## Recommendations:

1. Educational program to increase awareness regarding cautious while using of antibiotics.
2. Provide instructions for mothers about the rational use of antibiotics among children and apply supervision of the sale of antibiotics in pharmacies.

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**CONFLICT OF INTEREST**

Authors declare no conflict of interest.  
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**AUTHORS' CONTRIBUTION**

The following authors have made substantial contributions to the manuscript as under:

Conception or Design:	MTA, SHB
Acquisition, Analysis or Interpretation of Data:	MTA, SHB, LNS
Manuscript Writing & Approval:	MTA, SHB, LNS

All the authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.



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