Knowledge, Attitude, and Practices of Mothers of Children Under Five Years regarding Self-Prescribing Medication

Manal mostufa abd Elsamad [(1)], Amel Abd Elaziem Mohamed [(2)], Asmaa Salah Eldin Mohamed Saleh [(3)]

1 B.Sc Nursing.
2 Assist. Professor of Community Health Nursing Faculty of Nursing, Beni-Suef University
3 Lecturer of Community Health Nursing Faculty of Nursing, Beni-Suef University, Egypt

Abstract

Background: Self-medication is a very common practice in many developing countries where mothers treat their children's illnesses without consulting a doctor. **Aim:** Assess knowledge, attitude, and practices of mothers of children under five years regarding self-prescribing medication in Beni-Suef City. **Design:** A descriptive research design was utilized. **Setting:** Maternal and child health care center (East Nile Medical Center) at Beni-Suef City. **Sample:** A convenient sample of 120 of mothers who had children under five years and accepted to participate in the study. **Tool:** A structured interview questionnaire, with four parts were utilized to collect data: the first part was to assess socio-demographic characteristics of mother, the second part was to assess mothers' knowledge about self-prescribing medication, the third part was to assess mothers' attitude toward self-prescribing medication and fourth part to assess mothers' practices towards self-prescribing medication. **Results:** the highest percentages of mothers were that their age 25: < 32yrs, highly educated, and married. 100% of the studied sample used self-prescribing medication although 50.8% of mothers needed 40 :< 60 min to reach the nearest primary health care and 44.2% of self-prescribed medications were antipyretic. 37.5% of mothers almost believed the disease was simple and easy to treat and always thought about the high cost of medical services. Mothers' knowledge regarding self-prescribing medication was 76% unsatisfactory knowledge, 57.5% of mothers had a negative attitude, 74% of mothers had moderate practice and 23% of them had positive practice regarding self-prescribing medication. Also, there was a highly statistically significant Correlation between total knowledge, total attitude, and total practices of mothers. **Conclusion:** Mothers' level of knowledge affects their attitude and practice toward Self-prescribing medication, Also knowledge level and attitude are influenced by the mother's educational status, occupation, and income but practice is affected by income only. **Recommendations:** Encouraging the implementation of health education programs for mothers regarding self-prescribing medication, with incorporating mass media to spread health education for a mass number of mothers.

Keywords: Attitude, Children under five years, Knowledge, Practices, &Self-prescribing medication

Introduction

Worldwide the practice of self-prescribing medication (SPM) among mothers for their children has been reported to increase daily. The use of medication without a doctor`s prescription can lead to its misuse and serious adverse drug effects leading to poor health consequences for children and disease may develop causing complications. Rather than delay in the right diagnosis and effective medical treatment **(Mohamed et al., 2019).**

In developing countries, and particularly in Africa, studies have revealed a higher burden (30–85%) of self-prescribing medication, in addition, the medications taken are often misused and the patients have wrong habits, the self-medication of antibiotics remains a global problem and the misuse and overuse of antibiotics are further complicated by the spread of infections involving multi-drug resistant bacteria (MDRB) which limit the action of drugs previously considered to be highly effective and increase the need to the new antibiotic to give the same action, as well as the shortage of novel antibiotics. The result is the risk of increasingly frequent therapeutic stalemates (Centers for Disease Control and Prevention **(CDC), 2015).**

The behavior of mothers can influence their children such as prescribing medication for their sick children which is a very common practice in many developing and underdeveloped countries where a significant proportion of individuals handle or treat their illnesses without the consultation of a doctor. This way, sadly, is growing day by day, in addition, some people prefer to search on the internet for the treatment of signs and symptoms and use smartphone apps, this behavior is very popular leading to severe health-related problems that may be short or long-term health effects (Naseer et al.,2021).

Parents prefer to treat their children with various medications along with self-medication. Parents take a sick child to the doctor but also provide him with natural home remedies to satisfy themselves, mothers are a very significant aspect of this research. The explanation for this is that parents are seen to be more involved and worried for their children. So, in this society, a very close connection is present between mothers and their children (Ahmed et al., 2021).

Up till now, however, there is no legislation or restrictions on self-medication, particularly for antibiotics that may lead to the emergence and spread of antibiotic resistance of different types of pathogenic bacteria with a consequent failure of antibiotic therapy and higher mortality and morbidity and prolonged hospital stay as well as increase cost for family and government (Davey et al., 2013).

Significance of the study

Worldwide the prevalence of medication abuse increases daily. Also, the prevalence of self-prescribing medication was 68% in Europe. While it varies between 40 and 95% in developing countries like Egypt. In Alexandria, the most commonly used drugs were analgesics (96.7%), and cough and cold preparations (81.9%), while antibiotics abuse was 53.9% (El-Nimr, et al., 2015). In Cairo, a cross-sectional study of antibiotic dispensing was carried out to describe the pattern of antibiotic dispensing in 36 pharmacies in greater Cairo. They found that 23.3% of the recorded antibiotics were dispensed upon pharmacist's recommendation in the studied pharmacies and 13% upon patient request which explains increasing self-prescribed medication among people involving mothers which increases risks for antibiotic resistance and mortality rate (Sabry et al., 2014).

Antipyretic misuse was also reported in a recent hospital-based study at El-Shataby Hospital, Alexandria City (Rashwan et al., 2014). Seeking treatment without identifying causes may cause more complications and delay in true treatment. Therefore, this study has significant importance as its results will be helpful to reduce the practice of self-prescribing medication as possible to give a chance for the right diagnosis and treatment to maintain the health of children and reduce the harms of self-prescribing medication.

Aim of the study

This study aimed to assess the knowledge, attitudes, and practices of mothers of children under five years regarding self-prescribing medication in Beni-Suef City.

Research questions

What was the mothers' knowledge level about self-prescribing medication to their children under five years?

What was the mothers' attitude regarding self-prescribing medication to their children under five years?

What were the mothers' practices regarding self-prescribing medication to children under five years?

What were the factors that led mothers to self-prescribing medication for their children?

Methods

Research design:

A descriptive research design was utilized in the current study.

Setting

The study was conducted at a maternal and child health care center (East Nile Medical Center) affiliated with the new Beni-Suef city in Beni-Suef

governorate. The capacity of East Nile Medical Center is 21900 mothers in one year which means 1825 mothers per month.

Sampling

Sample criteria: A convenient sample of 120 mothers who attended the Maternal and Child Health Care Center at Beni-Suef City. The data were collected over four months (one day every week) in the period extending from July/2022: to November /2022.

Inclusion criteria:

The inclusion criteria of the sample involved:

a)All mothers who have children under five years old and who were available at the time of study

Exclusion criteria:

Mothers who refused to participate in the study or had no time to complete the questionnaire.

Tools of Data Collection

Data from this study was collected by using a Structured interviewing questionnaire that included the following:

Part I: This is to assess the socio-demographic characteristics of the mother, It included two sections: section I, includes: age, residence, occupation, marital status, educational level, number of children in the family, income, the duration of time to reach the health care facilities, if mothers use self-medication for their children or not, and write the used medication and assess factors that lead mothers to use self-prescribing medication (it includes 8 items).

Part II: This is to assess mothers' knowledge about self-prescribing medication for their children, It includes two sections to assess the knowledge of mothers regarding SPM, Section I includes 8 items for assessment of mothers' common knowledge about medication, section II includes 8 items for assessment of the mother's knowledge about the precautions of using medications.

Scoring system: According to the Likert scale, correct answer=1, incorrect answer=0. For total knowledge, the satisfactory level was 70% or more, and the unsatisfactory level was less than 70%.

assess factors that prompt the mothers to self-prescribe medication without consulting a doctor. It includes 8 items.

Part III: contains two sections to assess the attitude of mothers regarding SPM, and section I to assess mothers' attitudes regarding medication use without consulting a doctor (it include 9 item).section II to assess the attitude of mothers towards the necessary instructions and precautions to use medication for their children (it includes 12 items).

Scoring system: This part of the questions contains 3 scales, (agree=3, disagree= 2 and I don't know= 1) In positive questions and vice versa in negative questions. For total attitude, the negative attitude was less than 60%, the neutral attitude was from 60% to 75% and the positive attitude was more than 75%.

Part IV: It contains two sections. Section I contains 9 items to assess mothers' practice of self-prescribing medication when common symptoms appear, and Section II contains 19 items to assess the way mothers utilization of medications without consulting a doctor when their child gets sick.

Mothers who accepted to participate in the study.

Scoring system: This part of the questions contain 3 points of scale (always =1, sometimes =2, rarely =3) in negative question and vice versa in positive question. For total practices, poor practice was less than 60%, moderate practice was 60 to 80%, and good practice was more than 80%.r total practices

Validity:

Content validity was done for the tools by 3 experts in the community health nursing department at the faculty of nursing, Beni-Suef University.

Reliability:

Cronbach's Alpha coefficient test was used to measure the internal consistency of the tools used in the current study.

Ethical consideration:

Ethical approval was obtained from the relevant Ethics Committee of the faculty of nursing to carry out the study. Oral consent was obtained from the study subjects. Anonymity and confidentiality were assured through coding the data, data was used for the research study, and withdrawal from the study at any time was accepted.

Procedure:

An approval letter to conduct the study was obtained from the administrative authorities of the faculty of nursing - Beni-Suef University to get permission from the administrators of East Nile Medical Center. A clear explanation was given to them about the nature, aim, and expected outcome of the current study. The interviewing questionnaire was given to each mother alone face to face with the researcher to provide explanations and demonstration for questions, especially for mothers who couldn't read or write This interview lasted for 20:30min. However, mothers who were highly educated took 15:20 minutes to complete the questionnaire. Data collection was carried out in the period from July/2022: to November /2022.

Statistical Analysis

The data was reviewed, categorized, coded, computerized, tabulated, and analyzed to produce a graphic presentation of important results using the Statistical Package of Social Sciences (SPSS). Data were tabulated and statistically analyzed to evaluate the relation and correlation between knowledge, attitude, and practices of mothers. The statistical analysis included the arithmetic mean, standard deviation, and chi-square test.

Results:

Table (1) shows that 45% of participants were 25: < 32yrs and mean age 29.00±5.76. 58.3% of mothers lived in rural areas and 54.2% of them did not have enough income and were housewives. 90% of them were married, 28.3% were high education level, and 35% of their children aged one day:<1.5 yrs. 50.8% of mothers needed 40:< 60 min and only 5% needed ≥ 1 hour to reach the nearest primary health care. 44.2% of self-prescribed medications were antipyretic.

Table (2): demonstrates factors that prompt mothers to self-prescribe medication without consulting a doctor, such as 37.5% of mothers almost believed the disease is simple and easy to treat and always thought about the high cost of medical services. 26.7 of mothers prescribed medication through previous experience.

Table (3): clarifies that 54.2% of mothers knew the side effects of self-prescribed medications but 76.7% of them did not know the disadvantages of using antipyretic drugs without consulting a doctor.

Figure (1): reveals that the total mothers' knowledge regarding self-prescribed medication was 76% unsatisfactory knowledge and 24% satisfactory knowledge.

Figure (2): clarifies that total mothers' attitude 57.5% of mothers had a negative attitude, 42.5% had a neutral attitude and 0.% had a positive attitude toward self-prescribing medication.

Table (4): shows that 10.8 % of mothers agreed that mothers can prescribe medication for their children, despite 54.2% being assured that the medications they use are safe and 20.8% of mothers ensured its safety by previous experiences.

Table (5): shows that 35.8 % of mothers always prescribed medication based on their previous experience and 61.7% gave medication to their child who got sick at home at night without delay. 66.7% of the calculated dose by following the pharmacist's instructions and 30% followed the previous doctor's instruction.

Figure (3): demonstrates that the total mothers' practice regarding self-prescribed medication for their children was 74% of mothers had moderate practice, 23% of them had positive practice and 3% had poor practice.

Table (6): shows that there was a highly statistically significant association between total knowledge and level of education, income, and occupation only ($p \leq 0.01$).

Table (7): shows that there was a highly statistically significant association between total attitude and level of education, income, and occupation ($p= 0.000^{**}$), and the relation between total practices and income only ($p=0.018^{*}$).

Table (8) shows that there was a highly statistically significant Correlation between total knowledge, total attitude, and total practice (highly statistically significant at ($p \leq 0.01$).

Table (1): Percentage distribution of mothers' socio-demographic characteristics (n=120).

Items	N	%
Mothers' age		
18: < 25yrs	26	21.7
25: < 32yrs	54	**45.0**
≥ 32yrs	40	33.3
Mean±SD	29.00±5.76	
Marital status		
Married	108	**90.0**
Divorced	9	7.5
Widowed	3	2.5
Residence		
rural area	70	**58.3**
Urban area	50	41.7
Educational level		
Illiterate	17	14.2
Read & write	15	12.5
Secondary education	34	**28.3**
High education	54	45.0
Occupation		
Employee	55	45.8
Housewife	65	**54.2**
Income		
Enough	55	45.8
Not enough	65	**54.2**
How long do you need to reach the nearest primary health care?		
20: < 40min	53	44.2
40: < 60min	61	**50.8**
≥ 1hour	6	5.0
Do you use medications for your child without consulting a doctor?		
Yes	120	**100.0**
If yes mention*		
Antipyretics	53	**44.2**
Antitussives	18	15.0
Cold medications	27	22.5
Antiemetic	1	0.8
Antidiarrheal medications	6	5.0
Antibiotics	15	12.5

Table (2): Factors that lead mothers to use self-prescribing medication for their children

Item	Always		Almost		Sometimes		Never	
	N	%	N	%	N	%	N	%
The belief that the disease is simple and there is no need to exaggerate the doctors	43	35.8	45	37.5	28	23.3	4	3.3
Avoid crowding in clinics and public hospitals.	26	21.7	43	35.8	38	31.7	13	10.8
High cost of medical services in Private clinics and hospitals.	45	37.5	29	24.2	26	21.7	20	16.7
Resorting to the pharmacist as an alternative to the doctor to save money and time.	42	35.0	30	25.0	26	21.7	22	18.3
Health services are far away and takes time to reach them.	12	10.0	24	20.0	63	52.5	21	17.5
Knowing the right medication for a child and the way of giving it Through previous experience.	32	26.7	44	36.7	31	25.8	13	10.8
Knowing the symptoms and signs of the disease in which the drug should be given For the child using the previous prescription.	28	23.3	37	30.8	37	30.8	18	15.0
Advice from parents, relatives, or neighbors, they have already tried this medicine with their children.	14	11.7	24	20.0	44	36.7	38	31.7
Total M±SD	**18.90±4.83**							

Table (3): Percentage distribution of mothers' common knowledge of self-prescribing medication (n=120).

Item	Correct		Incorrect	
	N	%	N	%
What are medications	71	**59.2**	49	40.8
The self-prescribed medication that mothers give to their children is	35	29.2	85	70.8
Side effects of self-prescribed medications	65	54.2	55	45.8
Disadvantages of using antipyretic medication without consulting a doctor	28	23.3	92	76.7
Side effects of cough medication	25	20.8	95	79.2
Disadvantages of Diarrhea medication	23	19.2	97	80.8
Risks of vomiting medication	22	18.3	98	**81.7**
Harms resulting from the use of antibiotics without consulting a doctor	66	55.0	54	45.0

Table (4): Percentage distribution of mothers' attitudes towards the necessary instructions and precautions to use medication for their children (n=120).

Item	Agree		Disagree		I don't know	
	N	%	N	%	N	%
Mother can prescribe medication by herself for her children without consulting a doctor when symptoms appear.	13	10.8	103	85.8	4	3.3
Medications have side effects that you should know about.	102	85.0	14	11.7	4	3.3
You must read the directions and instructions for the medication before giving it.	102	85.0	13	10.8	5	4.2
The course of medication must be completed to give a better result.	102	85.0	16	13.3	2	1.7
Giving more than one type of medication gives a better result.	46	38.3	66	55.0	8	6.7
A medication can interact with another medication and give an unwanted result.	104	76.5	13	10.8	3	2.5
There are some medications used at a certain age for children.	87	72.5	24	20.0	9	7.5
Using medication for a long time may cause side effects that damage a child's health.	102	85.0	16	13.3	2	1.7
Some medications should not be stopped without consulting a doctor.	87	72.5	22	18.3	11	9.2
When I give medication at home, I watch carefully for side effects.	83	69.2	29	24.2	8	6.7
When treating a child at home, I am sure that the medication is safe.	65	54.2	38	31.7	17	14.2
Total M±SD	**17.05±3.13**					
If you agree, explain how to ensure the safety of the drug……	N		%			
New medication	2		1.7			
Previous doctor prescription	7		5.8			
Follow instructions for medication	16		13.3			
Follow instructions of pharmacists	12		10.0			
Previous experiences	25		20.8			
Keep medications in the refrigerator	3		2.5			

Table (5): percentage distribution of the way of mothers' utilization of medications without consulting a doctor when their child gets sick (n=120).

Item	Always		sometimes		Rarely	
	N	%	N	%	N	%
When my child gets sick, I give him medication at home based on previous experience.	43	35.8	48	40.0	29	24.2
When my child gets sick with similar symptoms, I use the same prescription as the previous doctor.	33	27.5	59	49.2	28	23.3
When my child gets sick, I consult a family member, friend, or neighbor who has children of the same age.	7	5.8	36	30.0	77	64.2
When my child gets sick, I go to buy medication from the pharmacist based on his advice.	40	33.3	35	29.2	45	37.5
When my child is sick, I search online by writing symptoms and signs and knowing recommendations.	8	6.7	14	11.7	98	81.7
When my child gets sick late at night I give him the medication at home without delay.	74	61.7	33	27.5	13	10.8
For calculating the dose in terms of quantity and frequency:						
It is calculated based on the previous dose from the doctor's prescription.	36	30.0	65	54.2	19	15.8
Reading and following the mentioned instructions in the medication leaflet.	27	22.5	40	33.3	53	44.2
Asking experienced relatives and friends	6	5.0	24	20.0	90	75.0
Follow the pharmacist's instructions	80	66.7	34	28.3	6	5.0
For the period of treatment continuation:						
I discontinue its use as soon as the child improves.	66	55.0	50	41.7	4	3.3
It lasts for two days, if symptoms do not disappear, I consult a specialist.	86	71.7	31	25.8	3	2.5
Reading and following the mentioned instructions in the medication leaflet.	10	8.3	45	37.5	65	54.2
Asking an experienced relative and friend.	8	6.7	16	13.3	96	80.0
Follow the pharmacist's instructions	61	50.8	55	45.8	4	3.3
What do you do when the child does not improve using the medication prescribed by the doctor?						
I stopped using the medication and consulted relatives or friends.	3	2.5	10	8.3	107	89.2
I stopped using the medication and consulted a pediatrician	70	58.3	42	35.0	8	6.7
I stopped using the medication and consulted a pharmacist.	3	2.5	19	15.8	98	81.7
I stopped using the medication and used another medication.	1	0.8	8	6.7	111	92.5

Figure (1): Total mothers' knowledge regarding self-prescribed medications

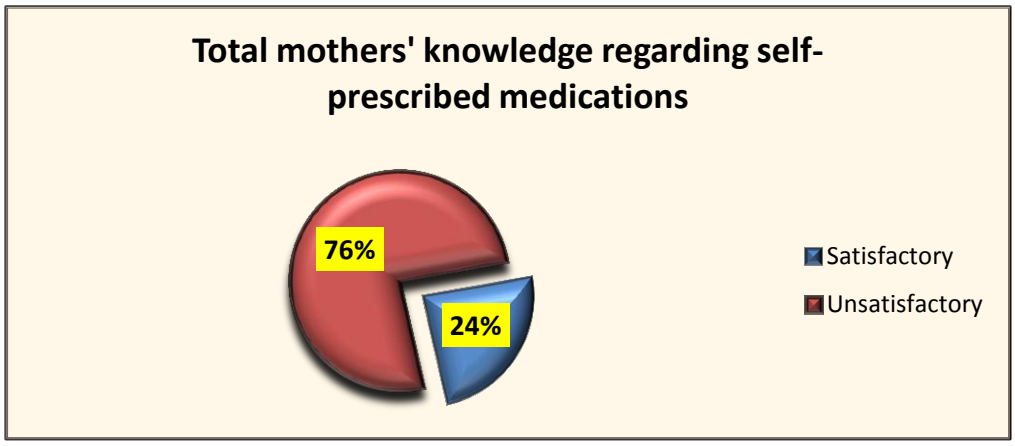

Figure (2): Total mothers' attitude

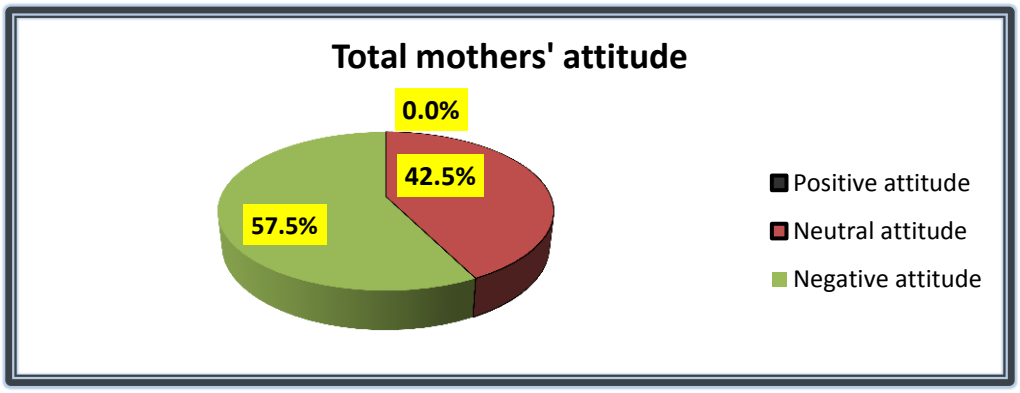

Figure (3): Total mothers' practice

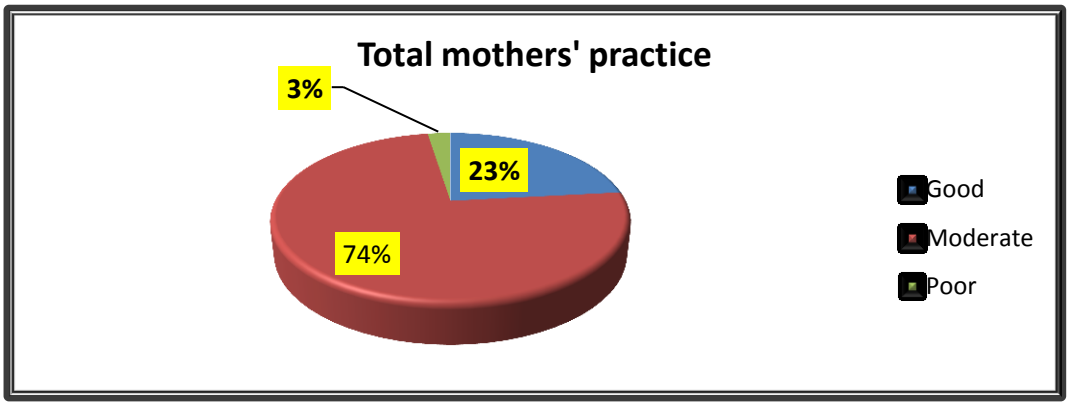

Table (6): Relation between socio-demographic characteristics of mothers and their total knowledge regarding self-prescribing medication.

Socio-demographic characteristics	N	Satisfactory		Unsatisfactory		X^2	P value
		N	%	N	%		
Mothers' age							
18: < 25yrs	26	5	4.2	21	17.5	.588	0.745
25: < 32yrs	54	13	10.8	41	34.2		
≥ 32yrs	40	11	9.1	29	24.2		
Marital status							
Married	108	25	20.8	83	69.2	3.037	0.219
Divorced	9	4	3.3	5	4.2		
Widow	3	0	0.0	3	2.5		
Residence							
rural area	70	15	12.5	55	45.8	.687	0.407
Urban area	50	14	11.7	36	30.0		
Educational level							
Illiterate	17	0	0.0	17	14.2		
Read & write	15	0	0.0	15	12.5	41.141	0.000**
Secondary education	34	1	0.80	33	27.5		
High education	54	28	23.3	26	21.7		
Occupation							
Employee	55	24	20.0	31	25.8	21.003	0.000**
Housewife	65	5	4.2	60	50.0		
Income							
Enough	55	22	18.3	33	27.5	13.890	0.000**
Not enough	65	7	5.9	58	48.3		
How many children in the family are under five years old?							
One child	85	18	15.0	67	55.8	2.565	0.277
2 child	33	11	9.2	22	18.3		
3 children	2	0	0.0	2	1.7		
Number of children in the family							
One child	28	6	5.0	22	18.3		
2 child	41	12	10.0	29	24.2	1.176	0.759
3 children	27	5	4.2	22	18.3		
≥ 4 children	24	6	5.0	18	15.0		
How long do you need to reach the nearest primary health care?							
20 :< 40min	53	15	12.5	38	31.7	.950	0.622
40 :< 60min	61	13	10.8	48	40.0		
≥ 1hour	6	1	0.8	5	4.2		

Table (7): Relations between Total knowledge, Total attitude or Total practices and socio-demographic characteristics of mothers regarding self-prescribing medication

Items	Total knowledge	Total attitude	Total practices
Educational level Illiterate Read & write Secondary education High education	0.000**	0.000**	
Occupation Employee Housewife	0.000**	0.000**	
Income Enough Not enough	0.000**	0.000**	0.018*
How long do you need to reach the nearest primary health care? 20: < 40min 40: < 60min ≥ 1hour		0.037*	

Table (8): Correlation between total knowledge, total attitude, and total practice of mothers

		Total knowledge	Total attitude
Total knowledge	R		
	P		
Total attitude	R	.598	
	P	0.000**	
Total practice	R	.251	.491
	P	0.006**	0.000**

Discussion:

In table (1), The existing study revealed that the majority of studied mothers' ages were 25:< 32 years (mean of age was 29.00±5.76). concerning residence, more than half of mothers lived in rural areas and had married. These findings are similar to Mohamed et al.,(2019) who reported that more than half of the studied mothers aged 20 < 30 years and lived, nearly two-thirds of the studied mothers lived in rural areas. And most of the mothers were married.

Regarding educational level, the highest percentage of mothers in this study was high educational level (45%) and only 14.2% of them were illiterate (Table 1). This finding agrees with Mansour, (2015) who stated that 43.3% of mothers were highly educated. And disagrees with Ahmed et al., (2021) who stated that the majority of participants were in senior high school and 21% of them had a bachelor.

Concerning the time that mothers need to reach the nearest primary health care, the current study revealed that, half of mothers needed 40: < 60 min, and only 5% needed ≥ 1 hour to reach the nearest primary health care (Table 1). This finding differs from Mohamed et al., (2019) who reported that more than half of mothers who obtained poor practice scores needed more than 60 minutes to reach to hospital. And is contrary to Patel &Dumra,(2020) who stated that mothers who used self-medication reported that long distance to healthcare facility was the cause of self-medication.

The results showed that all studied mothers (100%) used self-prescribing medication for their children (table 1), these findings agree with Mukemo et al., (2020) who reported that nearly all of the studied mothers (96%) self-medicated their children. The study in Nigeria reported that Self-medication has been recognized as a common practice among mothers of under-five children and the study showed that the majority of studied mothers (81%) used self-prescribing medication Salami, (2015).

The current study showed that nearly half of utilized medication without consulting a doctor was antipyretic followed by cold medication which was less than one quarter, then antitussive 15% (Table 1). This finding is similar to Martins et al., (2017) who reported that the most common self-medication among parents was for fever followed by cold medication. And similar to Eticha &Mesfin, (2014), who reported that antipyretics were the most commonly used drugs as reported in other studies.

Concerning (Table 2), Mothers self-medicate their children for many factors. The current study revealed that the most common factors among participants were that more than one-third of mothers almost believed the disease was simple and easy to treat and always thought about the high cost of medical services and to save money and time. These findings are similar to the study of Silva et al., (2017) in Sirlanka who informed that most of the studied mothers implied "symptoms being mild" as the main reason for self-medication and the high cost of doctor consultation.. This is contrary to Ademola, (2020) who reported that the majority cause of self-medication was that the discussants had limited or no access to healthcare facilities.

(Table 3),About common knowledge of mothers regarding self-prescribed medication, the current study revealed that more than two-thirds of mothers had unsatisfactory knowledge about the side effects of self-prescribed medication especially vomiting and diarrhea medication and more than two-thirds of studied mothers didn't know the side effects of antipyretic or antitussive. This finding is in line with Zyoud et al., (2020) who stated that parents had inadequate knowledge about the side effect or toxicity of self-prescribed medication. For example, around 70% of parents believe that paracetamol and multivitamin are not fatal in cases of overdose.

(Figure 1), This study revealed that the majority of the total knowledge of mothers regarding Self-Prescribing Medication was unsatisfactory. This may be because mothers applied instructions from pharmacists and used previous consultations without understanding the side effects or uses of medication. These results are similar to Mansour, (2015) who reported that the majority of mothers had moderate knowledge; this may be explained as many of the mothers' responses indicate misunderstanding about medication use. But contradicted Mekonnen et al., (2018), who reported that two-thirds of mothers had a good knowledge about using medication for home-based management of common illness.

Regarding (Table 4), The results of the study demonstrated that more than half of mothers preferred to consult a pharmacist instead of going to the doctor and the majority of them followed instructions of the pharmacist about the dose of the drug. These findings were supported by Mukemo et al., (2020) who stated that mothers are more likely to go to pharmacies to easily obtain treatment without paying for doctor consultation and obtain knowledge of doses from pharmacists. And is the same Mohamed et al., (2019) who demonstrated that half of the studied mothers followed pharmacist instructions without physician consultation in calculating the dose of medication.

(Figure 2), Regarding the total attitude of mothers regarding self-prescribing medication, the present study clarified that more than half of mothers had a negative attitude regarding medication use without consulting a doctor, more than one-third of them had a neutral attitude and none of them had a positive attitude. This finding differs from Mansour, (2015) who reported that the majority of participants had neutral attitudes, more than one-third of them had positive attitudes and none of them had negative attitudes. However, this result agrees with Senarathna et al., (2017) who stated that most of the studied mothers had negative attitudes regarding using medicines without a doctor's prescription and they use their experience as a main source of information.

Concerning practices of mothers (Table 5), the study revealed that the majority of participants always treated their children at home especially when they were sick late at night and more than one-third always gave medication at home based on previous experience. As well this practice might expose their children to mismanagement of disease. This finding is supported by Salami et al, (2015) who stated that this study shows that people use previously prescribed drugs when similar symptom reappears, and use old prescription to get new drugs.

this study demonstrated that mothers prescribe medication for their children as a first step before going to the doctor, such as The majority of mothers always used medication for two days and consulted a pediatrician when their child did not improve and more than half of them always discontinued giving treatment as soon as the child improved (table 5). This finding is supported by Gohar et al, (2017) who stated that in case of no recovery after self-medication participants preferred to consult a physician. And in line with Patel & Dumra, (2020) who informed in his study that 90% of the respondents consumed drugs till symptomatic relief. The duration of self-medication varied from two days to more than a week in some cases.

Regarding total Mothers' practice of self-prescribed medication (Figure 3), the current study cleared that less than one-quarter of mothers had a good practice, the majority of them had moderate practice and only 3% obtained poor practice this finding is not similar to Mansour, (2015), who reported that More than half (53.3%) of them had poor practice regarding the use of antibiotic of their children with URTI, on the other hand, none of them had a good practices.

Concerning the relationship between knowledge, attitude, and practice of studied mothers and socio-demographic characteristics (Table 6&7), the results revealed that there is no significant relation between knowledge, practice, or attitude and the mother's age, the number of children in the family or marital status of mothers this in line with study in Jordan reported that there is no relation between mothers' age and knowledge, attitude or practice of mothers also there is no relation between number of children in family and knowledge or attitude of mothers Alkhaldi et al, (2015). and In contrast, (Andreas et al, 2001) found that parental age was correlated with knowledge, attitudes, and practices, older parental age was associated with better knowledge.

The present results showed that mothers who had a job or income and were highly educated had satisfactory knowledge regarding self-medication (Table 6). These results explain a highly statistically significant relation between total knowledge and level of education, income, and job of mothers ($p \leq 0.01$). And supported by Alkhaldi et al, (2015), who clarified that There was a significant correlation between the mother's educational level and the family monthly income and their knowledge (P= 0.048*). In contrast study in Tehran stated that there was not significant correlation between the educational level of the mothers and their knowledge and explained it as a result of the high level of general knowledge of the society Farhad et al, (2014).

(table 7), Concerning the relation between mothers' attitudes and socio-demographic characteristics, the present research demonstrated that there is a highly statistically significant association between mothers' positive attitudes and educational level, occupation, and income (p=0.00). These results disagree with the study of Jafari et al., (2014) which stated that there was no significant correlation between the educational level of the mothers and their knowledge, attitude and agree with Simiyu et al., (2004) who found that educational level influences the mothers' attitude and knowledge but not affect practice.

The current study proved that there is a significant relation between income and good practice of self-medication as not enough income increases the prevalence of poor self-medication practice (Table 7). This finding is in harmony with Gohar et al, (2017) who reported that parents who had low to moderate income were more utilized for self-prescribing medication to their children. But this finding contradicted the finding reported by Du and Knop, (2009) who described that self-medication practices were more in families with high income.

Regarding (Table 8), the results clarify that there was a high statistically significant correlation between the knowledge, attitude, and practices of mothers ($p \leq 0.01$) whereas mothers who had

unsatisfactory knowledge and negative attitude demonstrated poor practice regarding using medication without consultation with doctors and vice versa. These findings are supported by Mansour, (2015) who cleared that mothers who had low levels of knowledge and attitude showed low practice levels in antibiotic use. In contrast, Farhad et al. (2021) showed in their study that there was not any significant difference between the knowledge, attitude, and practice of mothers.

Conclusion

Based on The findings of the current study, it concluded that self-prescribing medication is very common among mothers. As mothers' level of knowledge affects attitude and practice toward self-prescribing medication, also knowledge level and attitude are affected by the mother's educational level, occupation, and income but practice is affected by income only.

Recommendation

The current study showed that self-prescribing medication is an embedded practice among mothers and can't be prevented totally but the following recommendations can be deduced:

- Encouraging the implementation of health education programs for mothers regarding self-prescribing medication, with incorporating mass media to spread health education for a mass number of mothers. The education of the mothers should be conducted about precautions that must be taken during medication use such as age, weight, and dose, and should include the harmful impact of self-prescribing medication practice on health consequences of children less than 5 years.
- Using mass media or other communication methods like booklets, advertisements, and workshops for mothers to provide health education to enhance the knowledge, attitude, and practices of mothers regarding self-prescribing medication
- Advocate health of children from antibiotic resistant through health programs for mothers about antibiotic resistant and how it may be fatal and encourage mothers to use antibiotics by doctor prescription only.
- Encourage health services should be more accessible with more specialties with low cost to parents to discourage self-prescribing medication, especially in rural areas.
- Community health nurses can participate with responsible persons to decrease over-the-counter sale of medication, especially antibiotics.
- For further research, reapplication of the study on a large number of mothers. And encourage studies that provide educational programs for mothers regarding self-prescribing medication and study the effect of educational programs on mothers' knowledge, attitude, and practices regarding self-prescribing medication.

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