

Self-Medication Practices among Mothers Having Children Under Five-Years

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Abstract

Background: Worldwide the practice of self medication among mothers for their children has been reported to increase daily. The use of available medication without doctor's prescription can lead to its inappropriate use and serious adverse drug effect leading to poor health consequences for children. **Aim:** to assess the self-medication practices among mothers having children under-five years. **Research design:** A descriptive research design was utilized for this study. **Setting:** The study was conducted at the Out-Patient department of Alexandria University Children's Hospital (AUCH) at EL-Shatby. **Sample:** the study sample comprised 400 mothers having children under-five years. **Tool:** one tool was used for data collection: Self medication practice of mother having children under-five years structure interview schedules. **Results:** the present study revealed that about two thirds of the study subject did not consult the pediatrician regarding common health problems specifically in cases of cough, vomiting, diarrhea and fever. There was a statistical significant association between mothers' educational levels, work, residence, socio-economic level and number of children with the tendency to self medicate their child. **Conclusion:** more than two thirds of mothers self medicated their children without doctor consultation regarding common health problems in case of cough, vomiting, diarrhea and fever. In addition, one third of the mothers self medicated their children even with doctor consultation. **Recommendations:** an educational program, workshops and videos/booklets should be conducted to improve mother practice regarding medication dose according age and weight of child by doctor consultation and educate the mothers about harmful impact of self medication practice on health consequences of children less than five years. Policy should be developed for advertisement of drugs to include discouragement of practice of self-medication.

Keywords: Self-Medication Practices, Children Under Five Years.

Introduction

Infancy and early childhood period characterized by a rapid growth and development, which is different in terms of many metabolic and physiological actions from adulthood period (*Borah, 2018*). Furthermore, manifestations of different morbidity disorders occur differently in infants and young children compared to adults. Therefore, proper management of childhood diseases and medication administration is very important to decrease infant and childhood mortality and morbidity rates (*Peter et al., 2015*).

Children constitute a large proportion of the population in developing countries, and they are more susceptible to different diseases, specifically diarrhea, vomiting, cough, and fever. Worldwide, the total number of deaths among children under-five years in 2017 was 5.4 million (*UNICEF, 2018*). Both developing and developed countries are facing significant prevalence of self-medication practice (*Chandelia et al., 2016*). According to several studies, self-medication

product constitute approximately 20% of total international pharmaceutical market (*Risfa et al., 2015*). Therefore, self-medication practice for children is of abundant concern (*Araia et al., 2019*).

Self-medication practice is a worldwide phenomenon which has become an issue of public health concern (*Gebremariam and Ahmed, 2019*). It means "the use of medicine or drug without the guidance and/ or approval of physician for diagnosis, treatment or without supervision of the treatment "It commonly includes the using of over-the-counter medication, buying drug by reutilizing a previous prescription, taking medicine on advice of relative, or consuming leftover medicines already available at home, it also involves prescribed medicine (*Kasim and Hassan, 2018*). According to the World Health Organization (WHO), self-medication practice is defined as "the use of medicinal products by the consumer to treat self-diagnosed illnesses or manifestations" or "the

irregular or continuous use of medication prescribed by a physician for chronic or intermittent diseases or symptoms" (*Franckel et al., 2016*).

The most common symptoms of childhood diseases are diarrhea, fever, cough, and vomiting, which considered the main cause of morbidity and mortality among children, particularly in the developing countries. These symptoms affect adversely on the growth and development of infants and young children (*Ezeh et al., 2015*). Self-medication practice of these common symptoms results in poor quality of care and increases the development of drug resistance (*Jennifer and Emedike, 2017*). Additionally, over misuse of these medications is useless and considered toxic for young children (*Workie et al., 2018*).

Mothers choose to manage common illnesses such as fever, cough, vomiting and diarrhea without consulting a physician and the first reaction by most parents when children have these symptoms is self-medication practice (*Babatunde et al., 2016*). In both developed and developing countries, studies revealed that antipyretic, cough syrups and decongestants are commonly used to treat children by their parents (*Borah, 2018*).

Self-medication practice is extremely unsafe practice as it increases morbidity, mortality and expenses through increasing contrary medicine reactions and drug interactions. Beside the fact, their children are not attaining their anticipated effects and increases resistance of pathogens, which may lead to hospital admissions (*Jennifer and Emedike, 2017*). Moreover, it has severe economic and health consequences, particularly in resource-poor settings (*Mao et al., 2015*). Accordingly, certain medications during infancy and early childhood should be used cautiously to avoid severe side effects (*Peter et al., 2015*).

Self-medication is still an important public health problem throughout the world, since it is a fairly common practice (*Workie et al., 2018*). Nurses have a proactive role as a profession that acts directly in the care of the child and their family to preserve the life of the child and to minimize damages to health. Mothers are usually not aware of generic or brand names of drugs, which may lead to serious consequences especially when one drug is having two different names (*Gohar et al., 2017*). Consequently, nurses have an essential role in the dispersion of health

education to mothers about medication name, dose, side effect and the risk of self-medication practice. Self-medication is still an important concern throughout the world. The prevalence of it is not only high, but also in fact it has been increasing especially in developing countries, since it is a fairly common practice it results in poor health consequences in young children. Therefore, it is required for evolving policies and interventions that discourage self-medication practice among mothers for their children (*Ofori-Asenso and Agyeman, 2016*).

Aim of the study:

This study aimed to assess the self-medication practices among mothers having children under-five years.

Research question:

What are the self-medication practices among mothers having children under five years?

Material & Methods

Material

Research design:

A descriptive research design was used to conduct the current study.

Setting:

This study was carried out at the Out-Patient department of Alexandria University Children's Hospital (AUCH) at EL-Shatby.

Subjects:

A convenience sampling of 400 mothers having children under 5 year who attended the previously mentioned setting, were included in the present study.

The Sample size:

It was calculated using EPI info7 software based on the following parameters:

Total population = 10000 mothers having children under- 5 years.

Expected frequency = 50 %

Margin of error = 5 %

Confidence level = 95 %

Minimum sample size = 370

Adding 10% for possible non response

Final sample size = 400 mothers

Tool:

One tool was used to collect necessary data:

Self medication practices of mother having children under- 5 years structure interview schedules.

This tool was developed by the researcher after reviewing of recent and relevant literature (*Peter et al., 2015*). It will include two parts:

Part 1: Socio-demographic characteristics of mothers: It was included: Age, residence, occupation, marital status, education level, number of children in the family, socioeconomic level, and the duration of time to reach the healthcare facilities.

Socioeconomic level score was calculated used residence, education level, monthly income, family size and crowded index using Fahmy and El Sherbini (2015) with some modification (*Fahmys et al., 2015*). It was sorted into three levels; low (< 50%), medium (50% < 75%), high ($\geq 75\%$) socio-economic level.

Part II: Self-medication practices of the mothers: It was included the following:

- A. Practices of the mothers regarding common health problems:** cough, diarrhea, vomiting and fever.
- B. Self-medication practice of the mothers during common health problems in case of doctor consultation included the following:** accuracy of drug dose, practice in case of forgetting administration of child medication on time, action taken in case of appearance of side effects on the child and practice in case of the child not improved.
- C. Self-medication practices of the mother regarding common health problem without doctor consultation included the following:** dose calculation (amount and frequency) and determination of medication's duration.

Total percent score of mothers self medication practices was categorized as follows: poor practice <50% , fair practice 50 <75% , and good practice $\geq 75\%$.

Method

- Approval from the Nursing Research Ethical Committee (NREC) of Faculty of Nursing, Alexandria University was obtained before conducting the study.
- An official letter was directed from Faculty of Nursing, University of Alexandria to University hospitals administration at Alexandria to obtain their permission after explaining the aim of the study.
- The study tool was developed by the researchers based on thorough review of relevant literature.
- The study tool was tested for content validity by a jury of five experts in the field of pediatric nursing for content validity and modification were done.

- Reliability of the tool was ascertained using Cronbach's Alpha test and the reliability result for the tools was $r=0.906$.
- A pilot study was carried out on 20 mothers (10% of the sample) and it was satisfying the prescribed criteria to test the clarity and feasibility of the tool. Those mothers were excluded from the studied subjects.
- Every mother was interviewed individually in waiting area of the previously selected setting to collect necessary data.
- Each mother's interview took about 15-25 minutes.
- Data was collected over a period of two months from the beginning of December 2018 to the end of January 2019.

Statistical analysis:

The data was reviewed, categorized, coded, computerized, tabulated and analyzed using version 20 of the Statistical Package of Social Sciences (SPSS). The subsequent statistical procedures were utilized:

-Descriptive statistics: data was described using frequency, percent.

-Analytical statistics: Chi-square test was used to detect the statistical difference between variables. Monte Carlo correction for chi-square was used when more than 20% of the cells have expected count less than 5, and Pearson coefficient was utilized to correlate between two normally distributed quantitative variables. The cut off value of statistical significance (P value) was 0.05.

Ethical considerations:

- 1- Written informed consent will be obtained from every mother after explaining the aim of the study, her voluntary participation and the right to withdraw from the study at any time.
- 2- Anonymity will be considered.
- 3- Confidentiality of data will be considered.

Results

Table 1 reveals that more than half of the studied mothers (56.8%) aged 20 < 30 years with a mean age of 30.35 ± 5.86 . Concerning area of residence, nearly two thirds of the studied mothers (62%) lived in rural area. Regarding occupation, more than two thirds of mothers (69.3%) are working. This table also showed that most mothers (83.5%) were married. Secondary level of education was found among 62.3% of the studied mothers, nearly half of the studied mothers (44%) had

more than three children, while 11.8% of them had one child. About slightly less than half of the studied mothers (47.3 %) had low socio-economic level, while 19.8% of them had high socio-economic level. Approximately half of the studied mothers (49%) took more than 60 minutes to reach to healthcare facility, while only 10 % of them took less than 30 minutes.

Table 2 shows that 34.5% of mothers consulted the pediatrician in case of their child's cough followed by one third of them (33.7%) administered previously prescribed medication and only 12.5 % of them asked neighbor or relatives or friends for any medication given.

Regarding mothers' practices in case of child's diarrhea, nearly an equal percent of mothers (27.8 % and 27.5%) consulted the pediatrician and administered previously prescribed medication respectively and only 20.5% of them asked neighbor or relatives or friends for any medication given.

Concerning mothers' practices in case of child vomiting, more than one third of mothers (38.2%) administer previously prescribed medication while 27.5% consulted the pediatrician and only 13.5% of them asked neighbor or relatives or friends for any medication given.

The same table illustrated that, slightly more than one third of studied mothers (37% and 38.8%) consulted the pediatrician and administered previously prescribed medication in case of child fever respectively, and only 8.5% of them asked neighbor or relatives or friends for any medication given.

Table (3) illustrates that more than three quarter of the studied mothers (88.3%) gave dose of medication accurately and 11.7% of them gave dose of medication inaccurate. Moreover, in case of giving prescribed dose inaccurately, it was found that 85.7 % of mothers decreased the dose, 28.6 % increased the dose and only 14.3 % of them omitted the dose.

Regarding mothers' practice in case of forgetting administration of child's medication on time, half of the mother (50%) gave medication as soon as they remembered and only 8.3% of them consulted pediatrician.

Concerning action taken in case of appearance of side effects on the child, more than half of the mothers (54.2 %) discontinued medication and consulted pharmacist while

20.8 % of them discontinued medication and consulted pediatrician and only 8.3 % of them discontinued medication and tried another medication.

Regarding mothers' practice in case of child not improved, half of the mother (50%) discontinued medication and consulted pharmacist while only 8.3% of them discontinued medication and consulted pediatrician.

Table (4) shows the studied mothers' self-medication practices regarding common health problems without doctor consultation. It was revealed that, half of the studied mothers (50%) followed the pharmacist instructions regarding dose calculation , and nearly equal percent of them (17.1%, 16.8% and 16.1 %) reviewed previous physician prescription , read medication label or pamphlet and consulted friend or neighbor respectively.

Concerning duration of using the medication, more than one quarter of mothers (28.5%) used medication until all symptoms disappeared, 21.4 % followed pharmacist instructions and 14.3 % read medication label or pamphlet.

Table (5) represents nearly two thirds of mothers (65.7%) age from 20<30 years had good practice. However, more than two thirds of mothers (69.1%) who obtained poor practices score lived in rural area while 30.9% of them who obtained poor practices were lived in urban area. Concerning occupation, 67.6% of mothers who obtained poor practices score were working while 32.4 % of them were housewife. Regarding education level, the highest percentage score (66.2%) of mothers who obtained poor practice score had secondary school or diploma. Regarding number of children, 42.3% of mothers who obtained poor practices had 3 children compared to 5.1% of mothers who had one child. Regarding socio-economic level, slightly more than two third of mothers (67.3%) who obtained poor score of practices were low socio-economic level while only 1.1 % of them were high socio-economic level. In relation to duration of time to reach the hospital or doctor, more than half of mothers (62.9%) who obtained poor practice score took more than 60 minutes to reach to hospital, while only 1.5% of them took less than 30 minutes. The table also illustrated a significant relations between the studied mothers' medication practice and their age ($P=0.001$), residence ($P=0.001$), marital status ($P=0.001$), educational

level ($P=0.001$), number of children ($P=0.001$), socioeconomic level ($P=0.001$) and duration to reach the healthcare facility ($P=0.001$). However, there is no significant relations between the

studied mothers' medication practice and their occupation ($P=0.607$).

Table (1): Socio-Demographic Characteristics of the Studied Mothers

Socio-demographic characteristics	The Studied Mothers (N = 400)	
	No.	%
Age (years)		
< 20	7	1.8
20 < 30	227	56.8
30 < 40	144	36.0
≥ 40	22	5.4
Mean \pm SD.	30.35 \pm 5.86	
Residence		
Urban	152	38.0
Rural	248	62.0
Occupation		
Working	277	69.3
House-wife	123	30.7
Marital status		
Married	334	83.5
Divorced	38	9.5
Widowed	28	7.0
Education level		
Illiterate	4	1.0
Read and write	8	2.0
Primary school	34	8.5
Preparatory school	52	13.0
Secondary school	249	62.3
University education	53	13.2
Number of children in the family		
1child	47	11.8
2 children	48	12.0
3 children	129	32.2
More than 3 children	176	44.0
Socio-Economic Level		
Low	189	47.3
Middle	132	33.0
High	79	19.8
Duration of time to reach the health care facility		
Less than 30 minuets	40	10.0
30-60 minuets	164	41.0
More than 60 minuets	196	49.0

Table (2): Mother's Self Medication Practice Regarding Common Health Problems

Mothers practices in case of common health problems	The Studied Mothers (N = 400)	
	No.	%
Mothers practices in case of child's cough		
Consult the pediatrician	138	34.5
Administer previously prescribed medication	135	33.7
Consult the pharmacist	77	19.3
Ask neighbor or relatives or friends for any medication given	50	12.5
Mothers practices in case of child's Diarrhea		
Consult the pediatrician	111	27.8
Administer previously prescribed medication	110	27.5
Consult the pharmacist	97	24.2
Ask neighbor or relatives or friends for any medication given	82	20.5
Mothers practices in case of child's Vomiting		
Consult the pediatrician	110	27.5
Administer previously prescribed medication	153	38.2
Consult the pharmacist	83	20.8
Ask neighbor or relatives or friends for any medication given	54	13.5
Mothers practices in case of child's Fever		
Consult the pediatrician	148	37.0
Administer previously prescribed medication	155	38.8
Consult the pharmacist	63	15.7
Ask neighbor or relatives or friends for any medication given	34	8.5

Table (3): Self Medication Practice of mothers Regarding Common Health Problems in Case of Doctor Consultation

Mothers self-medication practice in case of doctor consultation	The Studied Mothers (N = 120)	
	No.	%
Common Health Problems(fever, cough, vomiting and diarrhea)		
Give the prescribed dose accurately	106	88.3
Give the prescribed dose inaccurately	14	11.7
In case of giving prescribed dose inaccurately	(N=14)	
Decrease the dose sometimes		
Yes	12	85.7
No	2	14.3
Increase the dose sometimes		
Yes	4	28.6
No	10	71.4
Omit the dose sometimes		
Yes	2	14.3
No	12	85.7
Mothers practices in case of forgetting administration of child's medication on time?		
Give medication as soon as they remember	60	50.0
Omit forgotten dose and provide next dose on its time	35	29.1
Give forgotten dose with next dose (double dose or overdose)	15	12.6
Consult pediatrician	10	8.3
Action taken in case of appearance of side effects on the child		
Discontinue medication and ask family, friend, or neighbor	20	16.7
Discontinue medication and consult pediatrician	25	20.8
Discontinue medication and consult pharmacist	65	54.2
Discontinue medication and try another medication	10	8.3
Mother's practices in case of child not improved?		
Discontinue medication and ask family, friend or neighbor	15	12.6
Discontinue medication and consult pediatrician	10	8.3
Discontinue medication and consult pharmacist	60	50.0
Discontinue medication and try another medication	35	29.1

Table (4): Mothers Self-Medication Practice Regarding Common Health Problems without doctor consultation

Mothers self-medication practice regarding common health problems without doctor consultation	The Studied Mothers (N = 280)	
	No.	%
Calculating dose of the medication (amount and frequency)		
Review previous physician prescription	48	17.1
Read medication label or pamphlet	47	16.8
Consult friend or neighbor	45	16.1
Follow pharmacist instructions	140	50.0
Duration of medication		
Use medication until all symptoms disappeared	80	28.5
Use medication for 2 days and in case of the symptoms continue, consult the pediatrician	70	25.0
Read medication label or pamphlet	40	14.3
Consult friends or neighbor	30	10.8
Follow pharmacist instructions	60	21.4

Table (5): Mothers' Self Medication Practice in Relation to Their Socio-Demographic Characteristics.

	Practice						χ^2	P
	Poor (n =272)		Fair (n =20)		Good (n = 108)			
	No.	%	No.	%	No.	%		
Age (years)								
< 20	4	1.4	0	0.0	3	2.8	20.073*	MC _p = 0.001*
20 < 30	140	51.5	16	80.0	71	65.7		
30 < 40	106	39.0	4	20.0	34	31.5		
≥ 40	22	8.1	0	0.0	0	0.0		
Residence							29.317*	<0.001*
Urban	84	30.9	4	20.0	64	59.3		
Rural	188	69.1	16	80.0	44	40.7		
Occupation							2.722	0.256
Working	184	67.6	17	85.0	76	70.4		
Housewife	88	32.4	3	15.0	32	29.6		
Marital status							34.732*	MC _p <0.001*
Married	208	76.5	20	100.0	106	98.1		
Divorced	36	13.2	0	0.0	2	1.9		
Widowed	28	10.3	0	0.0	0	0.0		
Education level							154.148*	MC _p <0.001*
Illiterate	4	1.5	0	0.0	0	0.0		
Read and write	6	2.2	0	0.0	2	1.9		
Primary school	30	11.0	2	10.0	2	1.9		
Preparatory school	50	18.4	0	0.0	2	1.9		
Secondary school or diploma	180	66.2	18	90.0	51	47.2		
University education	2	0.7	0	0.0	51	47.2		
Number of children in family							88.135*	<0.001*
1 children	14	5.1	2	10.0	31	28.7		
2 children	44	16.2	2	10.0	2	1.9		
3 children	115	42.3	4	20.0	10	9.3		
More than 3 children	99	36.4	12	60.0	65	60.2		
Socio-economic level							265.657*	<0.001*
Low	183	67.3	2	10.0	4	3.7		
Middle	86	31.6	16	80.0	30	27.8		
High	3	1.1	2	10.0	74	68.5		
Duration of time to reach the hospital or doctor							124.279*	<0.001*
Less than 30 minuet	4	1.5	0	0.0	36	33.3		
30-60 minuet	97	35.7	16	80.0	51	47.2		
More than 60 minuet	171	62.9	4	20.0	21	19.4		

χ^2 : Chi square test MC: Monte Carlo *: Statistically significant at p ≤ 0.05

Discussion

Self-medication practice is of great concern in case of children because they are more vulnerable regarding the use of medications where the dose varies with weight and body surface. In spite of the broad utilization of self-medication by mothers for their children and its potential hurt, up to date epidemiological information on self medication are sparse worldwide (*Silva et al., 2017*). The majority of mothers of children in both developed and developing countries prefer to treat their children with common symptom such as fever, cough, diarrhea and vomiting without doctor consultation. The reason behind such behavior is the poorly enforced drug utilization policies which individuals have access to both prescribed and non-prescribed medications (*Peter et al., 2015*).

Insufficient information on the use of available medication without doctor prescription can lead to inappropriate drug use and serious adverse drug effect, increase resistance of pathogens, and prolonged suffering. Despite of these risks, self-medication is very common in children (*Tsifiregna et al., 2016*).

The findings of the current research reveal that about two thirds of the studied mothers did not consult the pediatrician regarding common health problems in case of cough, vomiting, diarrhea, and fever (table 2). This could be attributed to the fact that nearly half of mothers have low socio economic level and long distance to reach health facilities as illustrated in (table 1). This result is similar to the finding of Gohar UF et al., (2017) who found that about three quarters of their participant were practicing self-medication to their children (*Gohar et al., 2017*). However the same finding is incongruent with the findings of Silva B et al., (2017) who reported that three quarters of parents had consulted the pharmacist (*Silva et al., 2017*). The same table 2 illustrate that about one third of mothers had administered previously prescribed medication in dealing with common health problems. This finding is consistent with Peter A. et al., (2015) who reported that about two thirds of their subjects were using the previous prescription to treat the symptoms of ailments similar to previously treated (*Peter et al., 2015*).

The findings of the current research illustrated that slightly more than two thirds of studied mothers had inappropriate medication practice regarding common health problems (table

2) These findings could be explained by the fact that two thirds of studied mothers who obtained poor score of practices have low socio-economic level. Consequently, they cannot afford consultation fees of physician and they were working so they could not get enough time to visit physician/health care facility (Table 5). This finding is also supported by the findings of Peter A, et al. (*Peter et al., 2015*).

Although almost of the studied mothers give the prescribed dose accurately after doctor consultation (table 3), about more than half of them demonstrated incorrect practices in case of appearance of side effects on the child, they discontinue medication by themselves then consult pharmacist. This could be justified by the parents did not have and did not receive sufficient and appropriate information from physician about the drug use in children and what they should do when side effect appears on child. In addition, could be related to difficulty of getting to health care and access to health services.

Concerning mother's self medication practice regarding common health problems without doctor consultation, it was revealed that half of the studied mothers following pharmacist instructions without physician consultation in calculating the dose of medication (Table 4). It could be justified by staying of mothers along time in doctor clinics. The findings of current research are in line with Silva B et al., (2017) While the findings of Gohar UF et al., (2017) are incongruent with the finding of the present research who reported that majority of studied mothers administered previously prescribed medication dose (*Gohar et al., 2017*).

The findings of the present research reflected that significant relations between the total score of studied mothers' self-medication practices and their age (Table 5) where nearly two thirds of studied mothers who had good practices were in age group 20<30 years. These findings could be explained in the light of the studied mothers in this age were more active and concern to care about their child's health. These findings supported by Gohar UF et al., (2017) (*Gohar et al., 2017*). This result is incongruent with the finding of Silva B et al., (2017) who reported that there was no association between mother age and self-medication practice (*Silva et al., 2017*).

The finding of present research illustrated that more than half of the mothers who obtained poor score of practice where in rural area (Table 5).

This could be explained by insufficient health care facilities available in rural area and long distance to reach to it. This finding is in line with the finding of Nazir Set al, (2015) who reported that rural population had high tendency to self-medication (*Nazir et al., 2015*). On the contrary, Salami K and Adesanwo J (2015) reported that there was high rate of the practice of self-medication among urban children in Nigeria (*Salami and Adesanwo, 2015*).

The findings of current research also revealed that more than two thirds of mothers who obtained poor practices score were working (Table 5). These findings could be attributed to studied mothers could not get enough time to visit physician/health care facility. This finding is contradicting with Silva B et al., (2017) who reported that most of the mother who practiced self-medication was unemployed (*Silva et al., 2017*).

Regarding education level, the findings of the present research reflected that about two thirds of studied mothers who obtained poor score had secondary school or diploma (Table 5). It could be justified by with increased level of education of mothers they thinking they not need of doctor consultation. This finding is in line with the finding of Nazir S et al. (2015) who reported that high prevalence of self-medication is seen in high school educated mothers (*Nazir et al., 2015*). The finding also in agreement with Pretere A et al. (2015) who report that there were association between self-medication practices and parents with high education status (*Peter et al., 2015*).

The finding of present research revealed that there were significant differences between the number of children and total score of practice whereas the highest score of poor practice obtained by mothers who had 3 children (Table 5). This could be justified by the mothers who had more children depend upon their previous experience in dealing with child common health illness, so they practiced self-medication. This result is in line with Silva B et al., 2017 who reported that a significant association was found between the number of children and tendency of self-medication and more self-medication was practiced when the number of children increased (*Silva et al., 2017*).

The findings of the current research recognized that there was a statistically significant relation between mothers' self-medication practice and socioeconomic level where slightly

more than two thirds of mothers who obtained poor score of practices were low socio-economic level (Table 5). These findings could be attributed to they had no enough money to get fees of physician, transportation and more family responsibilities. This finding is in line with Gohar UF et al., (2017) who reported that parents with low to moderate monthly income practiced more self-medication to their child (*Gohar et al., 2017*). This finding contradicted the finding reported by Du Yand Knop F., 2009, who reported that self-medication practice was more in families with high income (*DU and Knop, 2009*).

Conclusion

- The finding of the present study concluded that more than two thirds of mothers self medicated their children without doctor consultation regarding common health problems in case of cough, vomiting, diarrhea and fever. In addition, one third of the mothers self medicated their children even with doctor consultation.
- Educational levels of mothers, working, residence, number of children and socio-economic level were the most significant variables which increase self-medicated practice among mothers have children under-five years.

Recommendations

- The study highlights the need for an educational program, workshops and videos/booklets to improve mother practice regarding medication dose according age and weight of child by doctor consultation. The education of the mothers should be conducted about harmful impact of self medication practice on health consequences of children less than 5 years.
- Health services should be more accessible and low cost to parents especially in rural area.
- Policy should be developed for advertisement of drugs to include discouragement of practice of self-medication.

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