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Attitudes of mothers towards over the counter antibiotics for their children in Baghdad city

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Abstract:

Objectives *to evaluate mothers` attitudes toward OTC antibiotics without consultation, and common reasons for this practice*

Methods *A cross- sectional design conducted at primary health care centres in Baghdad city. Sample of (225) mothers were selected to participated in the study. Data were collected from the period of the 15th October 2015 to the 15th May 2016. A constructed questionnaire format was used to evaluate mothers` attitudes containing 20 items.*

Results *the result of the study showed (45.3%) of mothers at 25-34 years, (24.4%) have primary school education, (65.8%) was housewives, (45.7%) have moderate income, (55.1%) use medication without prescription, (46.2%) their source for medication from pharmacists, and (26.7%, 26.2%) their reasons for self medication were mothers experiences and not availability of near health services. The mean score of mothers` attitudes showed mothers with un accepted attitudes toward OTC antibiotics.*

Conclusion *OTC antibiotics practice was accepted in Iraqi population, mothers` showed un accepted attitudes toward this behaviours. Economical status, level of education, and their age showed a significant association with mothers` attitudes.*

Recommendation *Increased parent awareness toward side effects of antibiotics and bacterial resistance by active communication and social media in addition to activated the governmental role about medication control.*

Keywords attitudes, over the counter, antibiotics

Introduction:

Over the counter medicines can be described as “drugs that used without medical prescription”, it was reported that (25%) of individuals in the world tend to use medication without medical prescription [1, 2]. Many literatures mentioned medication was overused globally and this phenomenon consider as important health issue [3]. OTC medication behaviours used for adults and children mainly by their parents, especially antibiotics [4]. OTC antibiotics are accepted behavior in some countries especially in developing one and its prohibition is not easy in spite of its adverse outcomes [4-6]. Consuming antibiotics were increasing that the chance of inappropriate use was common, especially in setting with lack availability of health care services and low health awareness [7]. The incorrect used of antibiotics can cause potential harm for human health and cause bacterial resistance [2, 5, 7]. A European study documented that antibiotics used is increasing worldwide, especially in developing countries, and (20–50%) of antibiotics consumption was incorrect [5-8]. Public knowledge and attitudes toward OTC is needed to be focus to increase the awareness about antibiotic resistance, avoid the adverse outcomes, and be judicious consumers [2, 9-11]. Nurses can play a good role through parental education for proper use of antibiotics [12]. Identifying the reasons for these behaviors is helpful to correct some unhealthy practices among people [3, 4].

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Material and Methods:

A cross- sectional design conducted at primary health care centres in Baghdad city. Sample of (225) mothers were selected conveniently at their visit to these centres during the period of the study. The data was collected from the period of the 15th October 2015 to the 15th May 2016. Their consent form was obtained before data collection. The questionnaire format was adopted and developed from a similar study in Saudi Arabia [8], the approval obtained from the authors by the e-mail. The questionnaire consisted of sociodemographic characteristics that include mothers` age, marital status, and educational level, occupation, monthly income, and reasons for self medication. In addition to the mother`s attitude concerning over the counter usage which included (20) items including positive and negative attitudes toward antibiotic used. The content validity and reliability was performed to the tool of study before used, a pilot study was conducted before data collected with (7) mothers and they were excluded from study sample.

Data collected by direct structural interview by the researchers within 20–30 min. Each question was format according to the 5 point Likert scale: 1 = strongly agree, 2 = agree, 3 = uncertain, 4 = disagree and 5 = strongly disagree.

Ethical considerations were concerned throughout study process, and the Research Ethical Committee at College of Nursing was approved the questionnaire format.

The data was analysed by SPSS programme version 22. Frequencies, percentages, and mean score were used. Logistic regression used for studying relationships between variables, at P. value ≤ 0.05. The mean scores of mothers attitudes and believes were strongly agree = (1-1.79), agree = (1.80-2.59), disagree = (2.60-3.39), strongly disagree = (3.40-4.19), uncertain = (4.20-5), these means were used to explained the result of attitudes.

Results:

Table (1) Mothers` Sociodemographic Characteristics

Variable	(n=225) %
Mother's Age (Years)	
15-24	(42) 18.7%
25-34	(102) 45.3%
35-44	(70) 31.1%
45-54	(11) 4.9%
Mother's educational kevel	
Unable to read and write	(8) 3.6%
Primary school	(55) 24.4%
Intermediate school	(54) 24%
High school	(42) 18.7%
Diploma and Bachelor	(54) 24%
Graduate degree	(12) 5.3%
Mother's job	
Work	(77) 34.2%
Do not work	(148) 65.8%
Monthly income	
Not enough	(42) 18.7%
Somewhat enough	(103) 45.7%
Enough	(80) 35.6%
Use self medication	
Yes	(124) 55.1%
No	(101) 44.9%

Source of information about self medication	
Pharmacist	(104) 46.2%
Nurse	(36) 16%
Internet and television	(53) 23.6%
Family and friends	(32) 14.2%
Reasons for self medication	
low financial state	(27) 12%
not serious child condition	(43) 19.1%
not availability of health care services	(59) 26.2%
mother experiences	(60) 26.7%
same medication always described	(36) 16

This table shows that (45.3%) of mothers at 25-34 years, (24.4%) have primary school education, (65.8%) have no occupation, (45.7%) have somewhat enough income, (54.2%) have antibiotics at home, (55.1%) use medication without prescription, (46.2%) their source for medication from pharmacists, and (26.7%, 26.2%) their reasons for self medication were mothers experiences and not availability of near health services respectively.

Table (2) mothers` attitude toward over the counter antibiotics

	Items	Mean ± SD
1	I think using antibiotic is unnecessary and more than demand	2.8500 ± 1.18386
2	I tend to buy medication from pharmacy only	2.5500 ± .96792
3	Physician spent time to teach clients about medication usage	2.4800 ± 1.11446
4	I do not keep antibiotics at my home	2.7600 ± .98596
5	I used antibiotic by medical prescription only	2.7300 ± .96248
1	Antibiotics can decreased the fever	2.5500 ± .80873
2	I visit another physician when described same medication	2.5600 ± .91365
3	I tend to use the previous medication for the same symptoms	2.4400 ± 1.01822
4	I think antibiotics can cure most of diseases (flu)	2.6700 ± 1.00559
5	I ask advice of antibiotics other than pharmacist or physician	2.1500 ± 1.08595
6	I know many persons who used self-medication	2.3100 ± .90671
7	Self-medication is accepted in my community	2.2300 ± .98324
8	I used self-medication for my sick child and he get better	2.0000 ± 1.07309
9	I stop the course of antibiotics when symptoms relived	2.2400 ± .91143
10	I prefer IM than oral medication	2.9900 ± 1.26726
11	L think antibiotics remove most uncomfortable signs	2.0200 ± .90988
12	Antibiotics have no adverse effects	2.2800 ± 1.27192
13	I changed antibiotics when symptoms not relived quickly	2.8000 ± 1.03475
14	Price and taste of medication affects on its choice	3.0000 ± 1.20605
15	I prefer use of medications than natural methods	2.0300 ± 1.00960

Ms: Mean of score (weighted mean); SD: Standard Deviation; Not Accepted Attitude =(3.4-5)NA; Natural =(3.3-1.7)N; Accepted Attitude=(1.6-1)AA;)

This table shows that mothers response with agreement about (2 items out of 5) concerning the positive attitudes, while they response with disagreement about (3 items out of 15) concerning the negative attitudes.

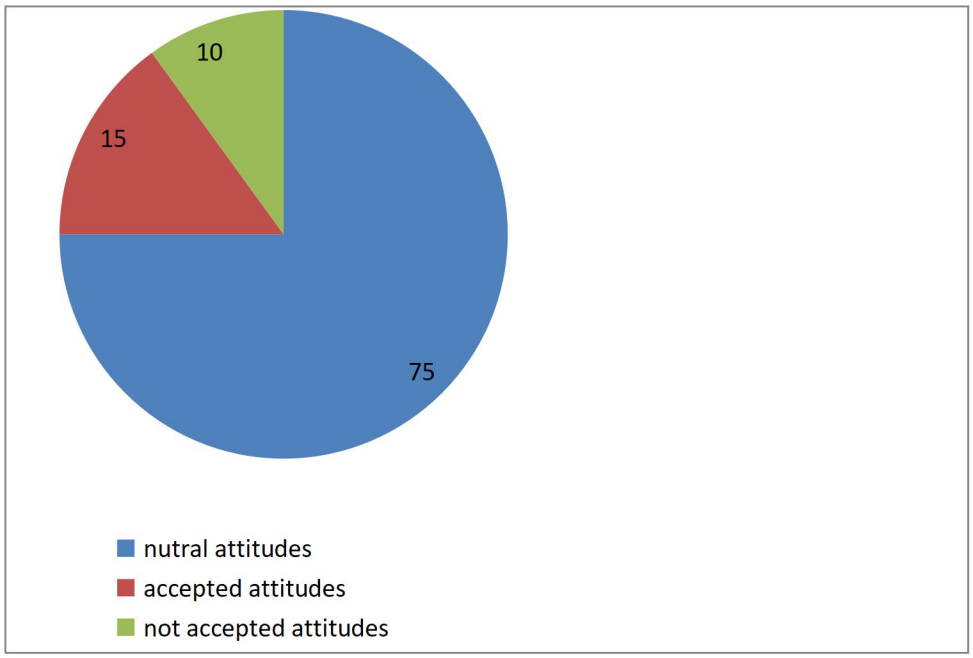

Table (3) Logistic regression between socio-demographic data and mothers` attitude

Variables	B	SE	Sig	95%CI EXP(B)	
				LOWER	UPPER
Mothers age	1.649	.744	.036	.109	3.188
Mother education level	3.165	1.313	.018	.551	5.780
Mother job	1.521	.406	.000	.712	2.330
Sources of information about self medication	7.463	3.644	.045	.171	14.756
Use self medication	43.176	13.376	.002	16.552	69.799
Reasons for self medication	2.141	.547	.000	1.052	3,231
Monthly income	41.716	10.113	.000	21.586	61.845

P ≤0.05

This table shows that a significant association between mothers' attitudes about over the counter antibiotics to their children and all study variables.

Discussion:

In our study we included only mothers' attitudes toward OTC antibiotics because they were most contacts closely with their children and the main care giver. The result of the study reveals that more than half of mothers (55.1%) used antibiotics for their children without physician consultation. This result supported by a study in Erbil city about adult misuse of antibiotics, the authors reported (46%) of the participants used self medication [8]. In Al Najaf city also documented the problem of mother self medication was common [13]. Another similar study in Saudi Arabia about parent attitude and knowledge about antibiotics used documented that (68.6%) of parents use it without consultation [7, 14]. While in Sri Lanka in a similar study the statistics mentioned (95%) of mothers were used OTC antibiotics for their children without prescription [3].

The result shows near half of mothers (46.2%) depend on the pharmacists as a source of antibiotics information, (23.6%) depend on internet and social media, and (14.2%) depend on family and friends as another source. In Cyprus a similar study documented most of parents depend on the pharmacist as source of medication information [5]. In Saudi

Arabia a study mentioned that most of parents reported doctors as source of medication information [7, 14]. While in Egypt a similar study described that majority of parents (86.7%) depend on the physician as a source of medication [4]. Siddiqui et al. mentioned in their study physician was mostly the source of antibiotics information [15]. While another study in Pakistan reported that (56.7%) of parents depend on the leftover of antibiotics as a source of information [17].

One third of mothers (26.7%, 26.2%) rationalized their using of antibiotics without consultation by their experiences and not availability of near health services. These reasons were not accepted for using antibiotics without prescription for their children. A similar study about self medication mentioned the common reasons for this practice were previous experience and non availability of health services [3]. Another study mentioned (32%) of parents used previous prescription for the similar symptoms [4]. Study by Eiland et al. concerning the evaluation of caregiver perception about non prescription medication showed most of those caregivers using inappropriate medications for their children, and they used medication depending on their experience but they follow the labelling instruction of medication [11]. In a similar study parents rationalized their attitudes by their child status was not serious and do not have enough time to see physician [14]. Lack of health services mentioned as a reason for self medication [15]. Mother previous experience mentioned as main reason for OTC antibiotics [12, 17]. OTC practices were common when the health services not availability and lack control of medication selling [18, 20].

Regarding mothers` attitudes the finding reported that the mean score reflects agreement of mothers about the acceptance practice of OTC antibiotics in Iraqi country, they know many persons used this action, they used medication for their sick child without physician consultation and he get better. In Iraqi society generally, the behaviour of OTC medicine was accepted and ongoing. The educational levels play a role in increasing individuals' awareness about using of antibiotics and its adverse outcomes. A study in Jorden about parents self medication reported that majority of them agreed that OTC medications were safe and effective [19].

The finding reveals more than half of mothers have low educational level (less than high school graduation) and a statistical relation between mothers' attitudes and their educational levels. A similar study about antibiotics usage documented the educational level of parents affects on their attitudes [4]. In Pakistan a similar study showed an association between low educational levels of mothers and their attitudes, and the housewives mothers were more reported using over the counter antibiotics [3]. In Japan the educational level of caregivers reflected an association with their attitudes [9]. In Cyprus a study about parental attitudes toward antibiotics usage showed the educational level was correlated with their attitudes about over the counter [5].

The participants also shows disagreement about using antibiotics by medical prescription only, they asked the advice of antibiotics other than pharmacist or physician. The mean score shows mothers using medication for their sick child without consultation and he get better. Mainly the common reason for these attitudes was the availability and easily access of antibiotics in most pharmacies without prescription [4].]. In Iraqi study about antibiotic misuse near half of the participant (46%) asking the advice of antibiotics other than physicians and pharmacists and this percentage was similar in Jordan [8]. Al-Dosari in his study about parent self medication mentioned antibiotics can be bought easily without medical prescription [7]. In Saudi Arabia conducted study showed majority of parents purchased antibiotics without prescription [14]. A conducting study in Palestine documented near half of parents agreed that the antibiotics accepted to sell in pharmacies without prescription [10]. Another study in Yemen showed (26%) of participant used previous medication and (74%) of them purchased antibiotics without prescription [3].

Mothers` also agreed about using antibiotics for fever, they used the previous medication of the same symptoms; they stop the course of antibiotics when symptoms relived. This behaviour may exposure their children for serious harm. Most of those mothers have low educational level and were house wives (65.8%) which can contribute in decreasing their awareness toward antibiotics used. A study in Erbil about antibiotics misuse showed (46.2%) of the participants used antibiotics for fever, cold and flu [8]. In Palestine a similar study reflected (73.3%) of mothers purchased antibiotics for their children without prescription for fever and cold, (37.2%) used the previous antibiotics to treat the similar symptoms, and (28.9%) used antibiotics from their friends to treat their children [10]. Al Ayad documented in his study that most of parent who used prescribed antibiotics stop the course of antibiotics when the symptoms disappeared [14]. Soleimani et al. in their study reported (35.5%) of parents used antibiotics for fever [15]. Another study showed half of parents stop the

course of medication [18]. Another study reported most of parents used antibiotics for their children during common cold [19, 21].

The monthly incomes of families showed a relation with mothers` attitudes, (45.7%) of mothers showed moderate family income which influence on their antibiotics choice. They show agreement about the price and taste of medication affects on its choice. A study in Pakistan about self medication reported the low socioeconomic status was associated with attitudes toward this practice [3]. Another study by Mansour and Mohammed showed the socioeconomic status was affected on parents' attitudes [7]. A study in Erbil found some of participant influence by the colour and price of antibiotics [8]. The cost of health care services and time consuming contributed in using OTC medication [9]. Other study in Palestine reported the economical is important factor in using non prescribed medication and its affects on medication choice [10].

They show agreement toward preferring use of medications than natural methods (e.g. warm liquids and honey) to decrease symptoms of their sick child. This may mainly to their belief that medication has faster actions and easily preparation. They agreed about using antibiotics can remove most uncomfortable signs, and the antibiotics have no adverse effects. They disagreed that using antibiotic is unnecessary and more than demand, and they visit another physician when he described the same medication. In a study concerning antibiotics misuse among Erbil city population reported that more than half of them did not know about the adverse effects of antibiotics [8]. More than half of participants in Japan agree that non prescribed medication do not have dangerous side effects when they use over the counter medication [9]. Lack of parent knowledge about adverse effects increased the problem of bacterial resistance [16]. Mostly parent agreed that the physician prescribed the same medication and the same antibiotics were advised by friends or family member [15]. (44.9%) of parents believed that OTC antibiotics have no serious side effects [21]. most of parents agree that most diseases need antibiotic [16]. half of parents did not know that antibiotics have side effect [15].

Conclusion

OTC antibiotics practice was accepted in Iraqi population, mothers` showed un-accepted attitudes toward this behaviour. Economical status, level of education, and their age showed a significant association with mothers` attitudes.

Recommendation

Increased parent awareness toward side effects of antibiotics and bacterial resistance by active communication and social media in addition to activated the governmental role about medication control.

Compliance with Ethical Standards

Conflict of Interest None.

Source of Funding None.

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