

Knowledge and awareness of proper use of antibiotics for children in Shobak medical center in Jordan

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ABSREACT

Objective: to assess awareness toward proper use of antibiotics for children in Jordan and to assess parents behavior toward prescribed medicines.

Method: questionnaires were self admitted to parents both fathers and mothers, parents were persuaded for advantages of this study.

Results: after a statistical analysis, collected data showed weak awareness of parents regarding proper use of antibiotic for their children.

Conclusion: according to our study more effort is needed toward parent's awareness of proper use of antibiotics. Pharmacists and physicians should concentrate on patient counseling to reduce irrational use of antibiotics.

INTRODUCTION

Antibiotics resistance is now recognized as a global public health problem with major economic, social and political implications according to the World Health Organization (WHO, 1999).

Good awareness of antibiotics use for children has a great impact ensuring treatment efficacy and reducing rates of bacterial resistance. On the other hand, bad awareness may result in increasing adverse effects, therapy fail, increasing cost of treatment and increasing rate of bacterial resistance. Non compliance with treatment instructions is a common habit that also increase rates of treatment fail. Although antibiotics were discovered to treat bacterial infections, many parents still believe that antibiotics also can be used to treat viral infections, therefore, many of them use antibiotics for viral infections like influenza and other upper respiratory tract infections.

Bad awareness toward antibiotic has increased problems associated with self-medication and over-the-counter medications. Over-use and misuse of antibiotics are important problems in many countries, for example Turkey, Poland, Sudan, Oman and Jordan (Paluck et al., 2001; Al-bakri et al., 2005;

Sawair et al., 2009; Alzoubi et al., 2013; Alumran et al., 2013; Jose et al., 2013)

According to WHO, uneducated persons about proper use of antibiotics has a great impact on antibiotics use (WHO, 1999). Many studies approved the great effect of educational strategies on antibiotics awareness (Nimri and Batchoun, 2004; Huang et al., 2007; Zhang et al., 2008; Maor et al., 2011; Rousounidis et al., 2011)

MATERIALS AND METHODS

An ethical approval to perform this study was obtained from Royal Medical Services Directorate (DRMS).

This study was conducted in Shobak military medical center, one of the Royal Medical Services centers that cover the medical needs of Shobak area in south of Jordan. Parents of children referred to outpatient pharmacy were asked to fill a blind name questionnaire. The questionnaire was designed to include both open and closed ended questions. Questions were prepared and reviewed by the research team of this study. Results also reviewed by research team to assess its ability to accomplish this study.

This study took place between January and December 2014. Patients were chosen on weekly basis. A full

discussion for benefits and aims of this study expressed to parents. Parents with medical education were excluded (e.g. nurses, dentists and all other health care professionals).

The questionnaire had two parts first one for demographic distribution of parents chosen for this study (**table 1**), the second part asked about antibiotics use, compliance with dose, knowledge about type of medication, storage time, storage conditions and adherence to pharmacist notes (**table 2**). Samples size were chosen according to previous studies

RESULTS

During our study, 543 patients were asked to participate in this questionnaire, 519 of them (95.5%) agreed. table 1 shows the demographic distributions for participants . according to gender most of them are females (76.9%) which reflect nature of Jordan as women most of the time take care of the kids. More than half of the participants were academic (56.1%). age of participants almost between 20-40 years.

According to our study results (12.7%) of participants didn't know that antibiotics used to kill bacteria (table2). more than half of participants (67.1%) didn't know that three times daily means every eight hours. Most of them (81.5%) distinguished chlorpheniramine syrup as anti-allergic. most of participants don't use opened syrup after one month of storage but with a good proportion (38.7%) keeping their opened medications in drawers. About half of participants use antibiotic syrup less than five days, but around two thirds (69.9%) give the medications according to the prescribed dose. About half of parents (56.1%) prefer antibiotics prescribed three times daily. A good proportion of parents use antibiotics most of the times without prescription, but mostly (83.8%) choose a weak antibiotics as first choice. Most of parents (90.6%) recognize the symptoms of infection. Large proportions of parents give antibiotics for viral infection like cold and flu, but most of the parents in our study (89%) check the validity (expiry date) before using medications.

Table (1) Demographic characteristics of the participants (n= 519)

<i>Character</i>	<i>Number</i>	<i>Percentage</i>
Gender		
Male	120	23.1
Female	399	76.9
Education		
Academic	291	56.1
Non academic	228	43.9
Age		
20-30	216	41.6
30-40	243	46.8
40-50	60	11.6
Average of number of children less than 12 years	3.6	-

Table 2: Awareness and knowledge of parents about the use of children medications in Shobak military health care center (n = 519)

no.	Questions	no.	%
1	Antibiotics used to eliminate		
	Bacteria	66	12.7
	Microbes	435	83.8
2	Viruses	18	3.5
	Explain how can you use the antibiotic for children when prescriber write to use it three times a day?		
	right answer must show that we have to use it every 8 hours	171	32.9
	wrong answer would not mentioned every 8 hours	348	67.1
3	Why we use allerfin(chlorpheniramine maleate) syrup?		
	Right answer is allergy or cold	423	81.5
	wrong answer: antibiotic	22	6.4
	wrong answer: fever	22	6.4
4	Did you use an antibiotic suspension again which was opened more than one month ago?		
	Always	0	0.0
	Often	0	0.0
	Sometimes	39	7.5
	Rarely	156.0	30.1
	Never	324	62.4
5	Where did you keep the children medication at your home?		
	Fridge	315	60.7
	Drawer	201	38.7
	Kitchen	3	0.6
	others places	0	0.0
6	For how many days you use the children antibiotics usually?		
	3 days	264	50.9
	5 days	255	49.1
	others answers	0	0.0
7	Do you adhere to the recommended dose as it is prescribed?		
	Always	363	69.9
	Often	141	27.2
	Sometimes	15	2.9
	Rarely	0	0.0
	Never	0	0.0
8	Regarding number of doses, which antibiotic you prefer to use for your children?		
	that used once daily	126	24.3
	that used twice daily	102	19.7

	that used three times daily	291	56.1
9	Have you ever used children antibiotic without prescription?		
	Always	33	6.4
	Often	15	2.9
	Sometimes	228	43.9
	Rarely	117	22.5
	Never	126	24.3
10	Would you prefer to use strong or weak antibiotic as first choice for your children infection?		
	weak antibiotic	435	83.8
	strong antibiotic	84	16.2
11	Howdo you know that your child has an infection?		
	The right answer contains, fever, cough, tired, can't breathe, diarrhea, sweaty, headache.	471	90.8
	Wrong answer doesn't mention any symptoms related to illness.	48	9.2
12	Irrational use of children antibiotic can result in?		
	right answer	204	39.3
	wrong answer	315	60.7
13	Bacteria causative of cold? True or false		
	Yes	141	27.2
	No	378	72.8
14	Children antibiotics are safe no matter how we used them?		
	Yes	48	9.2
	No	471	90.8
15	What is the impact of giving a lot of antibiotics on the immunity of the child?		
	Decrease	519	100.0
	Increase	0	0.0
16	We have to give antibiotic forchildren who have a cold and flu?		
	Always	201	38.7
	Often	135	26.0
	Sometimes	111	21.4
	Rarely	57	11.0
	Never	15	2.9
17	Do you check the validity of the drug before using it ?		
	Always	462	89.0
	Often	27	5.2
	Sometimes	30	5.8
	Rarely	0	0.0
	Never	0	0.0

DISCUSSION

This is not the first study to focus on misuse of antimicrobial in our country.

However, this study highlighted different areas on misuse of antimicrobials.

Refusal rate to our paper was less than 5% which reflects a good response to our surveillance.

The questionnaire included questions that can be classified into three categories: a) Questions related to information about the disease. b) Questions regarding the usage of the drug. And c) Questions about the validity and storage of the drug.

Accordingly, answers of the 1st category questions reflects the awareness about the causative of the infections, symptoms of the disease, and what treatment to use. While the answers of the 2nd category questions reflect the awareness about the dosage of the antibiotic, the adherence to the prescribed instructions and the consequences of irrational use of the antibiotic. Finally, the answers of the 3rd category questions reflect the awareness of the right storage conditions and the validity of the antibiotic.

The results reveals that, although most of the parents gave the right answer for the causative and the symptoms of the infection disease, and most of them distinguished chlorpheniramine as anti-allergic, but there is a good percentage among the participants thought that an antibiotic should be given for cold and flu disease which indicates a confusion about bacterial and viral infections. The results show a weak awareness regarding the right use of antibiotics like the number of doses, the duration of time and the consequences of irrational use of antibiotics. Eventually, the results reflects a good awareness toward the right storage conditions of the suspension dosage forms although some of the parents still keeping the opened suspension in the drawers. The results also show good awareness toward checking the validity of the antibiotic before using it.

CONCLUSION

The absence of strict regulations against the wrong dispensing of antibiotics and increased the cost of private healthcare led to irrational use of the antibiotics in our

country and increased the tendency toward OTC use of antibiotics. Weak communication between the patients and the medical staff and lack of patient counseling contributed significantly in the weak awareness toward the right and rational use of the antibiotics.

RECOMMENDATIONS

More efforts should be done to increase the awareness of the rational use of the antibiotics through, increasing the awareness of the medical staff toward the importance of patients counseling and training the medical staff on how communicate with patients effectively. Strict regulations must be adopted to prevent the OTC dispensing of the antibiotics. Finally, a media Campaign should be carried out to increase the awareness of the people about the rational use of the antibiotics and the consequences of the irrational use of them.

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التوعية باستخدام الامثل للمضادات الحيوية للاطفال في المركز الطبي بالشويباك- الاردن طارق الصبره , محمد الفراجات , أمجد اليازجين , سمية النجادات , صلاح حدادين , فيصل النعيمي , هديل ظلفاح

الهدف : تقييم وعي وسلوك الاسرة تجاه الاستخدام الامثل للمضادات الحيوية للاطفال في الاردن.

الطريقة : تم توزيع استبيان على أسر الاطفال المرضى اباء وامهات.

النتائج : بعد عمل تحليل احصائي للمعطيات التي تم جمعها اظهرت النتائج ضعف الوعي لدى الاسر فيما يخص استخدام المضادات الحيوية للاطفالهم.

الاستنتاج : بناء على هذه الدراسة يجب بذل المزيد من الجهود لزيادة وعي الاسر تجاه الاستخدام الامثل للمضادات الحيوية للاطفال ويجب على الاطباء والصيادلة التركيز على تقديم المشورة للمرضى للمساهمة في تقليل الاستخدام غير الرشيد للمضادات الحيوية.