Original Article

Self-Medication Among Saudi Children by Parents in Al-Qassim Region, Saudi Arabia

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Abstract

Background and Aims: Use of over the counter (OTC) medications in children is a common practice by parents in developing countries. Specific doses for OTC medications are required, according to a child's age and weight. Parents' awareness about the risk of OTC is essential, and it needs to be raised to minimize OTC risk. This study aims to explore Saudi parents' knowledge, attitude and practice toward self-medicating their children.

Methods: A cross-sectional survey was conducted among Saudi parents aged 18–50 years, for over a period of 3 months, from May 2018 to August 2018. The total Saudi parents participated in this study 481 from multiple cities in Qassim region, Saudi Arabia.

Results: Synthetic medicines were predominantly administered by the parents to their children (86.1%), meanwhile 29.3% of the participants self-medicated their children more than four times a year. The most common symptoms for taking OTC medication were fever (64.7%), and flu (50.3%). With respect to parents' actions, in cases where the child did not improve with self-medication, 59.3 % of them attended a hospital. The primary sources of medicine were administered by the hospital (48.6%), and pharmacy (27.4%), with paracetamol being the most frequently used (82.5%). Top sources of information regarding medication for the parents were the doctor (81.6%), pharmacist (45.9%) and internet (26.4%).

Conclusion: There is generous use for OTC medication for children by their parents in Qassim region, Saudi Arabia. Most of the respondents were educated but their knowledge about OTC is insufficient.

Keywords

Knowledge, Saudi, Medicine, Parents, Children

الملخص

خلفية: يعتبر استخدام الأدوية غير الموصوفة للأطفال من قبل والديهم من الممارسات الشائعة في الدول النامية. جرعات الأدوية غير الموصوفة لتكون بالاعتماد على عمر ووزن الطفل. ويعتبر وعي الوالدين حول مخاطر الإفراط في إعطاء هذه الأدوية غير الموصوفة لأطفالهم أمراً ضرورياً ويجب تحسين استخدامهم لها لتقليل مخاطر هذه الأدوية. تهدف الدراسة لتقييم معرفة الآباء وسلوكهم وممارساتهم اتجاه العلاج الذاتي لأطفالهم.

طريقة البحث: أجريت هذه الدراسة المقطعية على الآباء السعوديون الذين تتراوح أعمارهم بين ١٨-٥٠ سنة على مدى ثلاث أشهر من شهر مايو ٢٠١٨ الى أغسطس ٢٠١٨ وشارك فيها ٤٨١ من الآباء السعوديين من مدن مختلفة بمنطقة القصيم بالمملكة العربية السعودية.

النتائج: فيما يتعلق بالمعرفة والممارسات من الآباء تجاه الدواء كانت الأدوية الصناعية تستخدم في الغالب من قبل الوالدين لأطفالهم بنسبة ٨٦.١ ٪. ما يقارب ثلث المشاركين (٢٩.٣٪) يقومون بالعلاج الذاتي لأطفالهم أكثر من أربع مرات في السنة. فيما يتعلق بفعل الآباء، إذا كان الطفل لم يتحسن في العلاج الذاتي، معظمهم يذهب إلى المستشفى بنسبة ٥٩.٣ ٪. المصادر الرئيسية للأدوية هي المستشفى (٤٨.٦ ٪) والصيدلية (٢٧.٤ ٪)، في حين كانت الأعراض الأكثر شيوعاً هي الحمى (٦٤.٧ ٪) والانفلونزا (٥٠.٣ ٪). الأدوية الأكثر استخداما كانت الباراسيتامول (٨٢.٥ ٪). أهم مصادر المعلومات للآباء عن الدواء كان الطبيب (٨١.٦ ٪)، الصيدلي (٤٥.٩ ٪) والإنترنت (٢٦.٤٪). يقدم الممارس الطبي دورًا محوريًا في تغيير نظرة الآباء في استخدام الأدوية غير الموصوفة. هناك حاجة إلى المزيد من التعليم للآباء والأمهات لضمان إعطاء الأدوية لأطفالهم بشكل سليم. والأهم من ذلك، المشاركة المستمرة بالنصائح حول تحسين صحة الطفل.

الكلمات المفتاحية: المعرفة، سعودي، دواء، آباء، أطفال

Introduction

Children represent a large proportion of the community in developing countries, and they are prone to various diseases [1]. Minor ailments are the most frequent episode during childhood [2]. The first response by most parents when children have any disease is self-medication [3]. Moreover, the parents prefer to treat common illnesses such as fever, cough and diarrhea without consulting a physician either in developed or developing countries [4]. Antipyretic, cough syrups and decongestants are common to be used by parents to treat their children [5].

The attitudes of parents towards some illnesses might directing them to use OTC medicine. Many studies showed that knowledge of parents about fever is still inaccurate. In addition, a large percentage of parents are unaware about which medication can be given to their child to control the pain or fever associated with minor conditions. Some minor symptoms could be treated with OTC medications, such as antipyretic, or with some herbal medication, without seeking pediatrician consultation [6].

The World Health Organization (WHO) has defined self-medication as 'the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms' [7]. Several regulatory agencies carefully select OTC medicines to promote safe and effective use of medication for pediatric patients without physician's care. However, OTC medicines may cause harm to child's life, because some interact with other medicines, supplements, food and drinks, and others cause comorbidities in people with certain medical conditions [8]. Parents might get advice by family member, media, friends or other sources which affect their responses toward the illness [6]. Most of the parents consider an illness of mild nature when it that does not require physician's care [9]. There are some advantages for self-medication, such as convenience, saving time for parents and cost effective, if it is used in appropriate way for minor illnesses [10].

Parents may be unaware of indications, doses, contraindications, and medication interactions when they use OTC medicines for their children [11]. Many studies have evaluated the administration of OTC medicines by parents to their children and have shown various problems because parents do not have adequate and proper knowledge about self-medication [12, 13]. Also, several studies have evidenced that the use of self-medication is influenced by personal, organizational and environmental factors [14, 15]. The objective of this study is to explore the parents' knowledge, attitudes and practice toward self-medicating their children.

Methods:

Study Design: A cross-sectional survey was conducted among Saudi parents of 18–50 years of age over a period of 3 months, from May 2018 to August 2018. The questionnaire was previously designed, and validated to assess parents' knowledge, , attitudes and awareness about OTC medication (12). We used Google

forms for the questionnaire, and it was sent via WhatsApp application. The questionnaire was sent through twelve volunteers living in different cities at Qassim region, to all their phone contacts. The aim of this study beside the importance of the data and its confidentiality were explained to participants, who subsequently provided informed consents in Arabic language, prior to answering the questionnaire. The ethical approval for this study was obtained from Prince Nourah Bint Abdulrahman University (IRB registration Number is H -01-R-059).

The population Qassim region is approximately one million, of whom 81 % are Saudis, and 19 % are non-Saudis. The capital city of Qassim region is Buraidah and it comprises about 50% of the total population of the region. the sample size calculated with an estimated absolute error to be 5% and a 95 % confidence interval. The required sample size is 384 using n=z2pq\d2. However, to guarantee accuracy, and considering minor data loss and non-response rates, the sample size was increased to 481.

The questionnaire included three main sections. The first part asked for the parents' demographics data, such as age, gender, level of education, the city of living in Qassim region, and children number. The second part evaluated the parents' knowledge and practice toward administration of OTC medicines to their children, which consisted of nine questions. Moreover, it assessed the most frequent used medicines, and the parents' action if the child's health did not improve with self-medication. The third part explore the parents' attitude, and the reasons behind self-medication. All questions were recorded, according to the 3 Likert 3-point scale, and "agree", "neutral", and "disagree" were the answer options. There are eight questions included for the practice of self-medicating and the scale of 1 =Always to 3 = Never has been used. Total KAP scores were calculated by summing up the Likert scale responses for each category.

We used chi-square test on table to measure the association between level of attitude and socio demographic characteristics of participants with p-values which indicates whether the association is statistically significant. We used p-$\leq$0.05 as a cutoff point of significant level for all statistical tests.

Ethical approval

The ethical approval for this study was obtained from Prince Nourah Bint Abdulrahman University (IRB registration Number is H -01-R-059). Informed consent was obtained from parents before completing the questionnaire

Results:

A total of four-hundred eighty-one participants were recruited in this study, of which 280 (58.2%) were females, and 201 (41.8%) were males. Among them, the age distribution was as follows: 18 – 20 years old (2.3%), 21 – 25 years old (7.9%), 26 – 30 years old (15.6%), 31 – 35 years old (18.7%), 36 – 40 years old

21.4%, 41 – 45 years old 16.0%, 46 – 50 years old 8.5%, and more than 50 years old 9.6%. Furthermore, 56.1% were non-healthcare employees, 15.6% were healthcare employees, and 28.3% were unemployed. Three-fourth (75.7%) of the participants graduated from the University, of which 6.7% had postgraduate education, while 12.9% finished tertiary school, and (4.8%) finished less than tertiary school. The description of socio-demographic characteristics of participants is in Table 1.

Table 1: Socio-demographic characteristics

Study variables	N (%) (n=481)
Gender	
Male	201 (41.8%)
Female	280 (58.2%)
Age group in years	
18 – 20 years old	11 (2.3%)
21 – 25 years old	38 (7.9%)
26 – 30 years old	75 (15.6%)
31 – 35 years old	90 (18.7%)
36 – 40 years old	103 (21.4%)
41 – 45 years old	77 (16.0%)
46 – 50 years old	41 (8.5%)
> 50 years old	46 (9.6%)
Resident location	
Buraidah	80 (16.6%)
Unayzah	184 (38.3%)
Arras	86 (17.9%)
Albadaya	62 (12.9%)
Al Khabra	38 (7.9%)
Others	31 (6.4%)
Occupation	
Healthcare employee	75 (15.6%)
Non-healthcare employee	270 (56.1%)
Unemployed	136 (28.3%)
Educational level	
Less than tertiary school	23 (4.8%)

Tertiary school	62 (12.9%)
Graduate	364 (75.7%)
Postgraduate	32 (6.7%)
Number of children	
One	85 (17.7%)
Two	98 (20.4%)
Three	73 (15.2%)
Four	89 (18.5%)
More than four	136 (28.3%)

Number (N), percentage (%)

Knowledge and practices of parents toward OTC were summarized in Table 2. Most of the participants (86.1%) predominantly used synthetic medicines, while 13.9% used herbal medication. Importantly, parents self-medicated their children at different frequencies during one-year period (29.3% of them more than 4 times, 6% four times, 12.1% three times, 15.8% twice, 10% one time, and 26.8% never did). Regarding parents' actions, if the child's health did not improve with self-medication, 59.3% of them attended the hospital, 30.4% private clinic, 6.9% consulted the community pharmacist, 2.5% searched medication online, 0.6% cases sought advice from friends and/or relatives, and 0.4% cases continued with self-medication. Majority of the parents (86.1%) used OTC medication when child's symptoms were mild, 13.9% in the presence of moderate symptoms, and no participant chose to use self-medication in severe or critical conditions.

Table 2: Knowledge and practices of parents toward OTC

Study variables	N (%) (n=481)
Type of treatment	
Synthetic Medicine	414 (86.1%)
herbal treatment	67 (13.9%)
The frequency of self-medication by parents to their children in 1 year.	
Never	129 (26.8%)
One time	48 (10.0%)
Two times	76 (15.8%)
Three times	58 (12.1%)
Four times	29 (6.0%)
More than four times	141 (29.3%)

Parent action if the child did not improve with self-medication	
Go to hospital	285 (59.3%)
Go to a private clinic	146 (30.4%)
Consult community pharmacist	33 (6.9%)
Search internet	12 (2.5%)
Seek advice from friends and/or relatives	03 (0.6%)
Continue self-medication	02 (0.4%)
Parents usually used the medication in the following cases.	
mild symptoms	414 (86.1%)
moderate symptoms	67 (13.9%)

Number (N), percentage (%)

The medicine providers varied as well, 48.6% were provided by a hospital, 27.4% by a pharmacy, 18.5% by a private clinic, while 3.3% were received from friends and relatives. The sources of medical information were the doctor (84.6%), followed by the pharmacist (45.9%), internet (26.4%), relatives (10.4%), newspaper (9.6%), and friends (7.1%). The most frequent OTC used by the parent were antipyretics (82.5%), cough syrups (35.3%), anti-allergy medication (27%), antiemetic (12.9%), and antibiotics (12.3%) as revealed in figure1.However, fever (64.7%) was most common symptoms in children treated with OTC followed by flu (50.3%), diarrhea (35.8%), vomiting (26.4%), and skin rash (4.4%) as shown in figure 2. Moreover, Reasons for parental self-medication to their children stated in Table 3.

Table 3: Reasons for parental self-medication to their children

Statement	Disagree N (%)	Neutral N (%)	Agree N (%)
1.Waiting time on the clinic is too long	64 (13.3%)	97 (20.2%)	320 (66.5%)
2.Consultation fees are too expensive	115 (23.9%)	128 (26.6%)	238 (49.5%)
3.The nearest clinic is too far away	185 (38.5%)	151 (31.4%)	145 (30.1%)
4.Bad attitude of healthcare workers	177 (36.8%)	154 (32.0%)	150 (31.2%)
5. Lack of sufficient health information from the medical provider	173 (36.0%)	155 (32.2%)	153 (31.8%)
6.I am expert enough	119 (24.7%)	185 (38.5%)	177 (36.8%)
7.Awareness of side effect medication	44 (9.1%)	116 (24.1%)	321 (66.7%)
8.Awareness about my children disease from the symptoms	67 (13.9%)	102 (21.2%)	312 (64.9%)

(%) Number (N), percentage

The level of attitude toward medicine has been calculated by adding all responses from attitude questionnaires, "Reasons of parental self-medication to their children" (Table 3). For the ease of analysis, strongly disagree and disagree has been merged and coded as 1, neutral has been coded as 2 and agree and strongly agree has been merged and coded as 3. Based on the analysis, the mean score was 17.8, the minimum score was 8 and the maximum score was 24. This result has been recoded into two categories such as; 8 – 12 as negative attitude with 32 (06.7%) and 13 - 24 as positive attitude with 449 (93.3%).

We used chi-square test on table to measure the association between level of attitude and socio demographic characteristics of participants with p-values which indicates whether the association is statistically significant. We used p-≤0.05 as a cutoff point of significant level for all statistical tests. Based on analysis, among socio demographic characteristics that we included in the table, only resident location found to be statistically significant (p-0.044). Other demographical variables included in the table shows negative association in the level of attitude as shown in Table 4.

Table 4: Association between attitude toward medicine and socio demographic characteristics of participants (n=481)

Study variables	Positive (n=449) N (%)	Negative (n=32) N (%)	P-value §
Gender			
Male	325 (72.4%)	30 (62.5%)	0.230
Female	124 (27.6%)	12 (37.5%)	
Age group in years			
≤35 years old	200 (44.5%)	14 (43.8%)	0.930
> 35 years old	249 (55.5%)	18 (56.2%)	
Resident location			
Buraidah	80 (17.8%)	0	**0.044 ****
Unayzah	172 (38.3%)	12 (37.5%)	
Arras	79 (17.6%)	07 (21.9%)	
Albadaya	54 (12.0%)	08 (25.0%)	
Al Khabra	34 (07.6%)	04 (12.5%)	
Others	30 (06.7%)	01 (03.1%)	
Occupation			
Employed	325 (72.4%)	20 (62.5%)	0.230
Unemployed	124 (27.6%)	12 (37.5%)	

Educational level			
Tertiary and below	79 (17.6%)	06 (18.8%)	0.869
Graduate and above	370 (82.4%)	26 (81.2%)	
Number of children			
• 1 – 3	240 (53.5%)	16 (50.0%)	0.705
• >3	209 (46.5%)	16 (50.0%)	

*.P-value has been calculated using chi-square test. ** Significant at p≤0.05 level[§]*

Discussion

This study measured the parents' knowledge, attitude, and practices of administering OCT medicines to their children, in Al-Qassim, Kingdom of Saudi Arabia. Various published articles unveiled that OTC medication has been widely practiced by parents for their children regardless of the side effect it might cause. This practice should be carefully assessed due to some contradiction that might be encountered during the course such as; child allergy to medicine, improper dosage, wrong medicine, expired medicine and other related drug complications [16].

Our study results show that most of the participants were mothers with more than eighty percent of the parents were college graduate or above. Regarding knowledge and practices of parents toward medication, synthetic medicine was predominantly used by the parents to their children with 86.1 %, and (29.3%) using self-medication for their children more than four times per year. The parents' action, if the child not improved in self-medication, more than half of them will go to a hospital with 59.3 percent.

In Saudi Arabia, Eldalo et al. reported that more than 95% of the parents used self-medication to treat minor illness, of which 86.7% used synthetic medicines. The most common medicines used were paracetamol and antibiotics to treat symptoms like fever. The primary sources of medications were community pharmacist, followed by the hospital, and private clinics. He also reported that the health information generally derived from the doctors, pharmacist, and relatives. These findings were congruent with our study results where we also exemplified the same frequencies for the following occasions such as the used of medicine to treat children, most common disease as fever, paracetamol as frequently used of medicine and doctor as the primary sources of information. We only observed a difference in the medicine provider, as our study indicated hospital as the primary source, whereas the Eldalo et al. identified pharmacy [12].

In Madinah, Saudi Arabia, it was reported that 63% of parents used medicine without medical prescription for common indications, such as fever [17]. They also conveyed that antipyretic and cough medicines were the most commonly used medicines the parents used to

treat their children's symptoms. When comparing this report with our study, our results showed a higher prevalence for self-medication, while it showed similar on common diseases with a minor difference in most common diseases. A group of researchers from Central, Saudi Arabia, evidenced that 51% of the OTC consumables were antibiotics and analgesics/antipyretics, the most sold medicine to treat minor illness [18].They also indicated that physicians and pharmacists were the most common sources of health information. Furthermore, their study of knowledge, perception, and attitude characteristics toward self-medication revealed that the majority of the consumers had poor knowledge, while more than 60% had a positive attitude, and more than half of them had a negative perception. In contrast to this study, our results only illustrated parents' knowledge, attitude, and perception, whereas Central Region study focused more on the consumers' perspectives, which could distinctively influence the study outcome. In general, both studies exhibited the same pattern of OTC consumption by both consumers and parents.

Albsoul et al. reported that more than 90% of the parents in Jordan believed OTC medication was effective and safe, and most of them indicated that pharmacists were the source of information. Albsoul et al. survey was deemed the closest project results, as both indicated more than 85 percent of the parents practiced self-medication, and the most commonly used of medicine and most common symptoms of kids [19].

Eldalo et al. conducted a study on Sudanese parents, which showed that 84% of them used western medicine from private pharmacies and public hospitals for self-medication [13]. They provided further details, such as that 72.4% of the children did not have any drug-related allergy, the most frequently used medicines were antibiotics and paracetamol to treat the most common symptoms, and that doctor and pharmacist were the primary sources of health information. Additionally, they confirmed that parents tended to go to the hospital if self-medication did not improve the children's condition. It also showed a positive association between attitude and parents' education and occupation. International surveys indicated different points of views about OTC and self-medication. For example, in Spain, only 8.2% of the parents administered OTC drugs for colds, analgesic and antipyretics, the most commonly used medications [20].

Just like any other study, this study has also subjected to some limitations. First, the plurality of the participants in this study were mothers. Achievement of a 50:50 gender distribution of parents might not be possible as the mothers usually taking care of children. Second, we could not determine if parents' economic status was contributing to self-medication because the income data were not collected. Lastly, adding more important variables would be more beneficial especially when studying the knowledge and practices of parents toward self-medication.

Conclusion

There is generous use for OTC medication for children by their parents in Al Qassim region, Saudi Arabia . Most of the respondents were educated but their knowledge about OTC is insufficient. the long waiting time in the hospital is the main reason for parents to practice self-medication for their children. Further education to parents is required to ensure proper administration of medicine to their child, principally emphasizing that the mishandling of medication can aggravate child condition. More importantly, continuous tips and advice sharing about health improvement could improve child health. Future studies should investigate this topic in more depth by conducting a study at the national level, and recruiting parents from all over the country, where the general population would determine the substantiality of the study outcome.

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Competing interest

The author declared no conflict of interests.

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