Original Article

Assessment of Awareness Level Among Parents Regarding Foreign Body Ingestion in Children in Arar, Saudi Arabia

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Abstract

The study aimed to assess the awareness level of parents about the substances which could be ingested by the children. A survey has been conducted among the willing participants from Arar - Saudi Arabia. The first part of the questionnaire contains questions about age, gender, number of children, and level of education. The second part contains statements focusing on parental knowledge regarding foreign body ingestion in children. The third part assesses the parental practices toward foreign body ingestion. Twenty-six percent of the parents narrated that they encountered an incident in which their children ingested foreign bodies. A significant number (94%) of the parents know the most susceptible age group of children which may ingest foreign bodies. Most of the parents (89%) think that peanuts should not be given to children aged less than 4 years. Sixty-six percent of parents think that they should try to search and take out the foreign body from the mouth of a child with their hand even if the substance is invisible to them. The awareness level among the parents was deficient regarding substances such as safety pins, magnets, screws, needles, keys, and pieces of marble that can be ingested by the children.

Data analysis on the current study showed that a significant number the parents had encountered an incident of foreign body ingestion in their children. Knowledge was deficient among the parents about some common substances was found that could be ingested by children.

Keywords: Foreign body, Ingestion, Children, Awareness

Introduction

Ingestion of foreign bodies among children is quite prevalent. Foreign body ingestion most frequently occurs in children with age less than four years [1]. An annual increase in the number of cases of foreign body ingestion by children has been reported [2]. The possible reasons for foreign body ingestion by younger children include the absence of molar teeth in this age group, and the habit of children evaluating the thing by putting them in their mouth and chewing while talking, laughing, or running [3]. The foreign bodies ingested by the children include coins, button batteries, safety pins, toys, parts of toys, magnets, screws, needles, rings, fish bones, nails, keys, beverage tops, balloons, buttons, and marbles [4, 5].

In certain cases, the foreign bodies may cross the gut without any problems but in some persons, these may cause abrasion, ulceration, and necrosis of the bowel mucosa as well as gastrointestinal tract obstruction [1]. Another important problem of foreign bodies is the aspiration of swallowed contents which may lead to choking and suffocation. The risk of aspiration of the swallowed content is more in children with anatomic and developmental abnormities. The foreign bodies may completely or partially obstruct the airways which would lead to hypoxia resulting in more severe morbidity and even death of the child [6]. The studies conducted in the other regions of the kingdom of Saudi Arabia revealed that the knowledge among the parents regarding foreign body ingestion and choking is deficient [7, 8]. It would be important to evaluate the baseline awareness level among the parents residing in Arar city, KSA. This will ensure that the appropriate strategies can be made in light of the finding of the current study for the prevention and better care of such cases. The main objective of this study is to evaluate the level of awareness and practices among parents regarding foreign-body ingestion in children in Arar City, KSA.

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Materials and Methods

After the approval of this research project by the institutional ethical board, a survey was conducted among willing participants from Arar city - Saudi Arabia. It has been enrolled by using social media, personal interviews, and paper-based questionnaires. The questionnaire includes three parts, the first part contains questions about demographics such as age (in decades), gender, number of children, level of education, and a question about the previous experience in which their children ingested the foreign bodies. The second part of the questionnaire contains statements focusing on parental knowledge regarding foreign-body ingestion in children. The final part contains the statements to assess parental practices toward foreign body ingestion by the children. The questionnaire does not include any specific personal information such as name, email address, phone number, or residential address so that the respondent could not be identified or traced.

Results and Discussion

Three hundred and eighty-four filled responses have been received which included 168 responses from male and 216 from female participants. Out of 384 parents, 101 parents reported the incidence of foreign body ingestion in their children. The majority of parents are unaware that the safety pins, magnets, screws, needles, keys, and pieces of marble can be ingested by the children. The results are shown in **Table 1**.

The significant majority (94%) of the parents are aware that the highest risk of oral intake of foreign bodies is in the under 4 years age group. Eighty-nine percent of the parents think that children aged less than 4 years should not be allowed to eat peanuts while 96% of the participants of this study know that talking during chewing increases the risk of aspiration of food contents. The majority (80%) of the respondents to the questionnaire think that the absence of choking gives assurance that the foreign body is not aspirated but rather it is ingested. Sixty-six percent of parents think that they should try to search and take out the foreign body from the mouth of a child with their hand even if the substance is invisible to them. Most of the parents (67%) believe that they should carry out back slaps and abdominal thrusts in case of choking or if the child is unable to speak after the intake of foreign body.

The assessment of awareness among the people regarding potentially preventable health problems is quite important for the development of strategies for the reduction of the burden of ailments in the community. The analysis of the current study showed that 26% of the parents who participated in this study had encountered an incident of swallowing of foreign bodies by their children. The oral intake of foreign bodies is quite a common problem all over the world and it is very much prevalent among children. The reported figures of foreign body ingestion by the children may not depict the real picture as most of the time, this incident may have occurred in the absence of adult family members and the child may be asymptomatic. The risk of foreign body swallowing is high in children under three years of age [1]. Foreign body ingestion has been reported more in male children [4].

In the present study, the awareness level among the parents was quite high regarding the most susceptible age group of children (age less than 4 years) for the risk of swallowing non-edible substances and the increased chance of foreign body aspiration in case of the ingestion of peanuts and talking during the chewing food. These findings are following the published paper from the Al Qaseem Region – KSA [7].

The current study also revealed that a significant number of parents are not aware of the items such as safety pins, magnets, screws, needles, keys, and pieces of marble that may be ingested by the children.

The ingestion of foreign bodies could be asymptomatic but may also obstruct the gut. Serious complications may also result due to the ingestion of button batteries such as perforation of the esophagus and mediastinitis [9]. The foreign body which is stuck in the upper portion of the gut may be removed by endoscopy [10].

The orally ingested foreign bodies may be lodged in the airways and can cause partial or complete blockage of airways leading to respiratory distress, cyanosis, and cerebral ischemia [11]. The ingestion of foreign bodies by children could be a life-threatening emergency [12]. Food ingestion and inhalation are important causes of suffocation with significant mortality among the younger age group [13].

It would be of paramount importance to raise the awareness level among the parents regarding the substances which could be ingested by the children. This awareness level among the parents would reduce the incidence of foreign body ingestion among the children.

Table 1. Awareness level of the parents about the items that can be ingested by the children

	Do you know that the following items can be ingested by the children	Yes (n)	%	No (n)	%
1.	Coins	327	85	57	15
2.	Button Batteries	222	58	162	42
3.	Safety Pins	157	41	227	59
4.	Toys & parts of toys	238	62	146	38

5.	Magnets	135	35	249	65
6.	Screws	137	36	247	64
7.	Needles	87	23	297	77
8.	Rings	213	55	171	45
9.	Nails	194	51	190	49
10.	Keys	84	22	300	78
11.	Beverage Tops	213	55	171	45
12.	Balloons	194	51	190	49
13.	Buttons	236	61	148	39
14.	Marbles	50	13	334	87

Conclusion

A significant number of parents reported the incident of foreign body ingestion in their children. The parents have sufficient knowledge regarding the susceptible age group of children who could ingest foreign bodies. A deficiency of awareness level among the parents was found regarding some substances such as safety pins, magnets, screws, needles, and keys.

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