



Research Article

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Saudi Parents' Knowledge, Attitudes, and Practices Regarding Antibiotic use for Upper Respiratory Tract Infections in Children

Abdullah Alzaid¹, Muteb Alosaimi^{1*}, Khalid Faisal Alkahtani¹, Badr Ali Alshehri², Abdullah Essa Asiri², Abdullatif Mohammed Asiri², Suha Abdulrahman S Althibait², Wejdan Saleh Aldrees³, Amro Khalid Althwayqib³, Omar Abdulrhman Almakhayitah³, Mojtaba Jameel Almarzooq³, Fahad Rashed Aldossary³, Mohammed Attia Alomari⁴, Alaa Mohammed Albishri⁵

¹ Faculty of Medicine, Department of Family Medicine, Al Imam Muhammad ibn Saud Islamic University, Riyadh, Saudi Arabia

² Faculty of Medicine, Department of General Surgery, King Khalid University, Abha, Saudi Arabia

³ Faculty of Medicine, Department of Internal Medicine, King Faisal University, Hafouf, Saudi Arabia

⁴ Faculty of Medicine, Department of Internal Medicine, King Abdulaziz University, Jeddah, Saudi Arabia

⁵ Faculty of Medicine, Department of Internal Medicine, Umm Al-Qura University, Makkah, Saudi Arabia.

*Email: [Dr.Mealosaimi @ gmail.com](mailto:Dr.Mealosaimi@gmail.com)

ABSTRACT

A lot of experiments have been carried out in Saudi Arabia concerning the misuse of antibiotics and buying them without being prescribed by a doctor. However, despite all these studies, a few or none of them have appraised the parental awareness, practices and attitude toward the use of antibiotics in the treatment of URTIs in their children. As such, the objective of this experiment was to document and analyze the parental levels of knowledge, attitudes, and practices (KAP) regarding the use for upper respiratory tract infections in children. This is a cross-sectional study that was conducted across 8 cities: Riyadh, Jeddah, Taif, Makkah, Dammam, Al Ahsa, Albaha and Asir Saudi Arabia from 01/09/2019 to 26/09/2019, according to which a total of 714 parents took part in the study. Convenience sampling was the method that was used to select the participants of the experiment. The findings of the current research were found to be the same as those of the studies that were conducted before in Palestine. The researcher found out that the parents in Saudi Arabia lack adequate knowledge regarding the use of antibiotics in the treatment of URTIs and this led to their wrong practices and attitudes toward the same. Despite all these, the study established a relationship of trust between the subjects and the doctors, meaning that there is a trust in the information and recommendations that the doctors give them concerning the medications.

Key words: URTI, Antibiotic use, Parents knowledge, Antibiotics Knowledge, Awareness.

INTRODUCTION

The field of medicine has seen significant evolutions as there has been a considerable development in recent years. A lot of items have evolved from the technology that involves equipment and the drugs that are used for the treatment of various diseases. This is perhaps the reason people are putting a lot of trust in their doctors in terms of the management of various illnesses that affect them. In the centers that offer primary care, the cases of upper respiratory tract infections in children which are usually abbreviated as URTIs are a very common. Such conditions are regarded as the key cause of children not attending schools on a daily basis or even parents not going to work regularly. Some are usually severe while others appear to be mild. [1] The only difference is how

one chooses to deal with the infections. Moreover, these conditions in children have too much economic drain on the parents as well as the healthcare system. Notwithstanding the fact that the source of most of the infections are viral, their antibiotic prescription is regular in the medical facilities. [2]

Wrong prescription of antibiotics is also seen as the major cause of increasing resistance to antibiotics. Parents together with pediatricians are considered as the important reasons for the growth of the resistance to antibiotics in children. The expectations and beliefs of parents are vital factors in the establishment of whether there is a prescription of an antibiotic. When fear grips the parents as regards acute disease, we find that it results in regular visits to paediatric wards for the conditions leading to the use of antibiotics that are not even necessary. [3] As such, several studies have examined the factors that bring about the overuse of antibiotics. Such factors encompass information, beliefs and attitudes concerning the use of antibiotics, conducts, contentment in terms of patient treatment, the relationship between the patient and the doctor, and the experiences of the patients with regard to the use of antibiotics. [4]

Adequate public awareness and attitude toward the use of antibiotics is a very critical aspect in the proper use of antibiotics, and hence, reducing the cases of increased resistance. Nonetheless, the intense pressure that doctors find themselves in for the purposes of attaining the expectations of the patients is considered a key factor that contributes to recommending the use of antibiotics for the infections. [5] As a consequence, the awareness, practice and attitude of the parents with regard to the use of antibiotics in managing these infections in their children is very important. A lot of experiments have been carried out in Saudi Arabia concerning the misuse of antibiotics and buying them without being prescribed by a doctor. [6] These experiments have examined the level of storage together with wastage of antibacterial agents in households in Saudi Arabia, the purchase and use of antibiotics without prescription, as well as the patterns of antimicrobial recommendation among the hospitalized individuals. However, despite all these studies, a few or none of them have appraised the parental awareness, practices and attitude toward the use of antibiotics in the treatment of URTIs in their children. As such, this experiment is among the first in Saudi Arabia to try and examine the parental KAP with regard to the use of antibiotics in pediatrics. [7] It is therefore expected that the current experiment be critical to offer a framework for creation of strategies to be used for the purposes of educating or informing the local health authorities.

Researches have shown that resistance to antibiotics is a major issue and increasingly becoming a problem worldwide. [8] Some studies have shown a connection between the use of antibiotics and the increasing resistance. Nations that have the highest rates of antibiotics consumptions report the highest cases of resistance.

Objectives

Upper respiratory tract infections is a condition that usually attacks children and has been regarded as one of the major causes of minor sickness. These diseases are usually of viral etiology with particular occurrence seasonally. The conditions commonly result in signs of the common cold and throatiness. It is also possible to find pharyngitis as well as rhinitis and in some instances, there may also be signs of otitis media. [3] Most of these conditions are self-regulating, which means that there are very low possibilities of any form of complication as its management encompasses self-care as well as symptomatic treatment. Improper use of these antibiotics for such infections in the children has been studied in various experiments even though there exists no clinical proof of the practice in majority of the cases. [9] It has been established that parents have either a direct or indirect influence on the decision of doctors to recommend antibiotic use for their children who have these conditions. There are a lot of misunderstandings among the parents with regard to the use of antibiotics. Their awareness concerning the etiology of the common conditions and the use of antibiotics is usually minimal. [10] Their misuses of antibiotics like not completing the dose or even stopping their use when the signs disappear have been reported as common. As such, the objective of this study is to document and analyze parental levels of knowledge, attitudes, and practices (KAP) regarding antibiotic use for upper respiratory tract infections in children. The findings of this study would be important for both parents, medical practitioners and the healthcare system as a whole. The parents would be able to know the right thing to do when they notice early signs or even how to identify the signs of such infections. [4] The medical practitioners would also be able to continue improving their knowledge and practice, while the healthcare system and the government would be in a position of formulating policies to guide the sector.

METHODS

Study Design and Setting

A cross-sectional study was conducted across 8 cities: Riyadh, Jeddah, Taif, Makkah, Dammam, Al Ahsa, Albaha and Asir Saudi Arabia from 01/09/2019 to 26/09/2019. This study sought to explore the following hypothesis: In

Saudi Arabia, the lack of adequate knowledge regarding the use of antibiotics in the treatment of URTIs leads to wrong practices and attitudes toward the same.

Participants

A total of 714 parents from 8 cities namely; Riyadh, Jeddah, Taif, Makkah, Dammam, Al Ahsa, Albahaa and Asir/Saudi Arabia took part in the study. Convenience sampling was the method that was used to select the participants of the study. Convenience sampling can be described as a statistical approach of obtaining sampling data by means of selecting individuals due to the ease of reaching them or even choosing units as a result of their availability. The benefits of this method for selecting participants for the study include the availability and promptness or speed with which the collection of data can be done. On the other hand, the drawbacks of the sampling method include the risk that the population of participants might not be a true representative of the entire population and there might be bias since it mainly depends on voluntary participation.

Data Sources/Management

In this study, an author-developed questionnaire in Arabic language after the examination of the related research was used. Majority of the questions that were formulated were obtained from the past validated studies that had been published in Palestine and were designed to fit the local setting as well as assuring its relevance. It consists of four major parts which include demographic data about the subjects of the study, attitude, knowledge and practice with regard to the use of antibiotics. Since it was a research that was conducted in Palestine, it had to be modified by adding a few items so that it could fit Saudi context.

The suitability and validity of the contents of the survey was ascertained by some professionals with vast experience in the area of infectious illnesses, paediatrics as well as biostatisticians. There was an experimental study that was done among the subjects for the purposes of confirming the survey's readability and clarity so that they would avoid any form of confusion during the actual study. The survey's final version was fine-tuned and amended on the basis of the response from the subjects.

The first part included the demographic information of the participants such as age, levels of education, gender, levels of income, the children, residence, the status of health insurance as well as if the children or child had experienced any instances or cases of chronic illness. The second part encompassed items regarding the awareness of the parents about the usage of antibiotics. The parents were required to mark the names of antibiotics from a group of the six mostly used medications and then to respond to questions concerning the general usage of antibiotics, severe effects together with their use in the viral illnesses. In addition, the section examined the origins of data concerning the antibiotics use.

The third section encompassed the items regarding the attitudes of parents toward the usage of antibiotics. They were required to state the possible alternatives for medication for the management of these infections. Furthermore, they were particularly required to state the most severe signs that they have seen in their children before they visiting the doctor. Some additional questions that they were required to explore included whether they believed that antibiotics were effective with regard to various signs. As such, they were required to show their anticipations for the usage of antibiotics in correspondence with the signs of the infections and to indicate the justifications for the usage of the antibiotics without prescriptions from a medical doctor.

The last section showed the responses of the parents to the questions regarding the field. Moreover, they were required to show whether their doctor spends sufficient time explicating the disease and giving recommendations for the usage of antibiotics in the treatment of the disease of the child, and also whether they are influenced by their need to suggest antibiotic for the child.

A self-administered questionnaire was developed in Arabic after reviewing the related studies. The questionnaire is comprised of four main sections: demographic data related to participants; and knowledge, attitude, and practice concerning the use of antibiotics.

Some items were added, and the questionnaire was modified to be used in Palestinian setting.

RESULTS

The researcher collected a total of 701 questionnaires out of the total 714 that were distributed. A high percentage of the respondents (63%) were women and their average age was 31.6 (SD \pm 7). From the respondents, 75 percent of them described their earning as being moderate. About 70 percent of them reported that their doctor acted as the major source of information concerning the usage of antibiotics. Pharmacists was the second with 35% and

then the media came third. When the participants were told to differentiate between antibiotics and some other drugs, more than half of them managed to successfully identify moxycillin as an antibiotic, whereas only 8.3% managed to identify cefuroxime as an antibiotic.

Approximately 79 percent of the participants reported to agree with the fact that the inappropriate usage of antibiotics was the major cause of the resistance to antibiotics. Despite these, about 80 percent of the respondents said that they would still give the drugs to their children as they believe that this is the fastest way of managing the conditions. 60 percent of them disagreed that the infections are majorly viral originally and are also self-regulatory and does not require the usage of antibiotics. 19 percent of the respondents believed that antibiotics do not have any serious side-effects; whereas, 81 percent were sure about the drugs having some serious side-effects on the body. In addition, 72 percent of the respondents believed that there is always an emergence of some new and stronger antibiotics in the market for use.

When the respondents were asked about the potential alternatives for treatment of the infections, about 75 percent of them recommended antibiotic, while 65 percent of them went for analgesics, as just 15 percent of them said that inhalers would be the best option. Moreover, when the participants were told to name the most severe signs that takes them to the doctor, 78% chose fever, and 44% chose ear pain. 20% of the respondents said that they would ask their doctor for antibiotics for the management of nasal drainage; while, 10% for dry throat. The biggest percentage of the respondents that is 68% said that they would give their children an antibiotic for an earache, 64 percent for fever, 50 percent for cold, 32 percent for cough and 29 percent for vomiting.

DISCUSSION

The objective of this experiment was to document and analyze the parental levels of knowledge, attitudes, and practices (KAP) regarding antibiotic use for upper respiratory tract infections in children. The subject of this research is not quite new in the population of Saudi Arabia and it is regarded as being a branch of social science which usually lags behind. From the experiment, it is evident that there is a good relationship between the parents in Saudi Arabia and pediatricians; that is, a bigger percentage of the parents trust the information that are given by the doctors. This is particularly true because just a few of the parents would consider changing their doctors if they find out that they over-prescribed or under-prescribed the antibiotics in the treatment of the infections in their children.

The current study aimed to analyze knowledge and attitudes concerning antibiotic use and practices in the management of childhood URTIs in a large sample. Moreover, 76.6 percent asserted that they usually adhere to the suggestions given to them by the doctors while about 70 percent of them claimed that their doctors are their main if not the only source of information regarding the usage of antibiotics. Even though they reported that their doctors are their major source of information, other sources reported by the parents included media. Majority of them believed what they were told by their doctors that the misuse of antibiotics is the reason why there is a development of resistance among their children in management of infections. This is in contrary to 60% of the parents who disagreed that the infections are mainly viral and are also self-regulatory; thus, do not require the usage of antibiotics.

Nevertheless, it is wrong to assume that 60% of the participants only preferred the usage of antibiotics for the treatment of the infections among their children due to the fact that majority of them also preferred other alternatives that are available for the management of the signs like inhalers, analgesics and even antihistamines. The findings of the present study established that the signs of fever accompanied with the infections in children were the most prevalent and the major reason for the parents' visit to their doctors whereby they were sure of being recommended to use antibiotics.

The subjects reported that their children experienced the same conditions since they had the same signs, thus, they would offer them antibiotics, and only think of taking them to the doctor when the conditions is worsened by not showing any signs of change. It is amazing that about 50% of the participants preferred antibiotics as their best option for the management of the infections among their children notwithstanding the fact that 76 % of them know that the use of antibiotics is linked with negative effects on the body systems, particularly hepatotoxicity. Moreover, 73 percent of the participants reported that the use of antibiotics was too much that required.

The findings of the current research were found to the same as those studies that were conducted before in Palestine. To some extent, this could be associated with the behaviours and recommendation practices of antibiotics by the doctors in the country considering the fact that it is one of the fast growing nations in the continent of Middle East which is reported as having the highest rate of resistance to antibiotics. Moreover, there

are a number of factors that might have brought about the improper recommendations of the antibiotics such as uncertainty in the diagnosis processes, economic and socio-cultural pressures, inadequate information or awareness, and the fear of lawsuit, as such cases are always taken seriously in many jurisdictions because they affect the lives of people and can be considered as negligence, which is strongly prohibited in the nursing or medical profession. The study also showed that several general practitioners are well informed about the management of the infections.

CONCLUSION

The researcher found out that the parents in Saudi Arabia lack adequate knowledge regarding the use of antibiotics in the treatment of URTIs and this led to their wrong practices and attitudes toward the same. Despite all these, the study established a relationship of trust between the subjects and the doctors, meaning that there is a trust in the information and recommendations that the doctors give them concerning the medications. Many people usually put their trust in their doctors and they would take seriously whatever they are told or recommended to do. This is also confirmed by the fact that just a few of them would consider changing their doctors in accordance with the patterns of the antibiotic recommendations. The problems only come about when the doctor over-prescribes the drugs or even under-prescribes them. Nonetheless, the subjects also felt that wrong use of antibiotics greatly hampers their effectiveness and results in the development of resistance to them. It is interesting that a bigger percentage of the subjects disagreed that the infections are mainly viral. Most of them also believed that the infections are self-regulatory and the use of antibiotics for the management of the conditions is a choice as there are also some other treatment alternatives. As such, the study recommends that having awareness programmes for the doctors and parents would be important in the reduction of the cases of developing resistance to antibiotics due to the wrong usage such as shared antibiotics and leftovers. Implementation and enforcement of the pharmacy policies that are in relation to the OTC sale of the drugs is essential and necessary for the community pharmacies.

Strengths of the Study

This is among the studies to be conducted in Saudi Arabia to examine the parental levels of knowledge, attitudes, and practices (KAP) regarding antibiotic use for upper respiratory tract infections in children. The study had a rate of response of 94%; accordingly, this is impressive enough considering the community level.

Limitations of the Study

This current study also had its limitations. Most of the limitations were concerned with the sampling method that was used to identify the participants. The method of sampling that was used in the study was that of convenience sampling. This method might not be a true representative of the entire population in the country as it is largely based on voluntary participation. Moreover, whereas there were attempts to ensure that there was achievement of a representative sample, the over representation of some cities and the higher levels of education among the sample might show potential bias in the process of selection. The other drawback that the study might have experienced is that the participants were required to respond to a number of questions regarding their experience and the usage of antibiotics in the past, and this might result in giving false or uncertain information. Finally, comparative analysis was quite difficult to perform due to the small size of the subgroups in the sample. For instance, a comparison between the people who live in the refugee camps and those that live in the eight cities that were samples would have been essential in identification of the best groups to provide with the awareness programs.

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