

# Perception of Antibiotic Usage among Parents of Pediatric Patients Attending a Govt Dental Hospital Setup- A Cross-Sectional Observational Study

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## ABSTRACT

**Background:** Antibiotics play a pivotal role in saving the lives of millions of patients worldwide. Since their landmark discovery, the use of antibiotics has grown enormously. However antibiotic utilization is not void of dangers, as inappropriate prescription of antibiotics by physicians and overuse of antibiotics by the public raises serious concerns about the emergence of resistant bacterial strains. Thus, the aim of this study is to determine the knowledge, attitude and practices of antibiotic usage among parents of pediatric patients attending a Govt Dental Hospital setup in Srinagar.

**Methods:** A cross-sectional study was carried out among 400 parents of children in the age range of 3-13 years attending Govt Dental Hospital setup in Srinagar city. A researcher-made questionnaire was used as the tool for the measurement of knowledge and practices of parents related to antibiotics usage in children. Eighteen questions were included in the questionnaire regarding parental knowledge and parents were asked to answer "YES" or "NO" with a score of 1 and zero, respectively. The data collected was analyzed for p value using chi square test. **Results:** Most of the parents answered correctly to the question do antibiotics treat dental infection (95%-yes). While assessing the parent's attitude towards antibiotic usage sixty three percent did not agree that more expensive antibiotics are more effective. Fifty three percent agreed upon prescribing antibiotics to their children based on previous experience with the same illness. Majority of parents agreed that they kept a record of any specific Antibiotic in which you might have noted any side-effects. **Conclusion:** Proper knowledge needs to be provided to parents about antibiotic usage to limit the misuse of antibiotics and development of antibiotic resistance.

**Keywords:** WHO-World Health Organization.

## INTRODUCTION

Antibiotics play a pivotal role in saving the lives of millions of patients worldwide. Since their landmark discovery, the use of antibiotics has grown enormously. However antibiotic utilization is not void of dangers, as inappropriate prescription of antibiotics by physicians and overuse of antibiotics by the public raises serious concerns about the emergence of resistant bacterial strains. Controlling the public's misuse of antibiotics requires a multi-disciplinary plan that involves the effective cooperation between both health care professionals and members of the public. Children are the major consumers of antibiotics, with findings showing a higher intake among children aged 1 to 5 years (65%), in comparison with teenagers (38%). However, antibiotics consumption, whether in adults or children, has not been always rational or appropriate and errors could be encountered in the antibiotic indication, choice, dose or duration, administration or even adherence to therapy.<sup>[1,2]</sup> Thus, the aim of this study is to determine the knowledge, attitude and

practices of antibiotic usage among parents of pediatric patients attending a Govt Dental Hospital setup in Srinagar.

## MATERIALS AND METHODS

A cross-sectional study was carried out among 400 parents of children in the age range of 3-13 years attending Govt Dental Hospital setup in Srinagar city. However parents of special children and parents of children with chronic infections requiring regular antibiotic therapy were not included in the study. The study was performed between February 2019 and march 2019. Prior to conduct of study approval was taken from the Institutional research review board of Govt. Dental College, Srinagar.

Informed consent was taken from the parents regarding participation in the study. Parents were provided information about the goals of the study. A researcher-made questionnaire was used as the tool for the measurement of knowledge and practices of parents related to antibiotics usage in children. Eighteen questions were included in the questionnaire regarding parental knowledge and parents were asked to answer "YES" or "NO" with a score of 1 and zero, respectively. The data collected was analyzed for p value using chi square test.

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## RESULTS

Most of the parents answered correctly to the question do antibiotics treat dental infection (95%-yes). While assessing the parent's attitude towards antibiotic usage sixty three percent did not agree that more expensive antibiotics are more effective. Fifty three percent agreed upon prescribing antibiotics to their children based on previous experience with the same illness. Majority of parents agreed that they kept a record of any specific Antibiotic in which you might have noted any side-effects.

While analyzing the patient-doctor relationship, ninety two percent parents agreed that they give antibiotics to their children only till the time and dosage the dentist has recommended.

Regarding the respondent's practice towards antibiotic 64.1% agreed that left over antibiotics should not be given to others and 78% agreed that antibiotics are not to be prescribed based on pharmacist recommendations.

### Percentage of respondents giving correct response to statements

Statement	Percentage (%)
Do you think Antibiotics can cure Dental Infection?	95
Do you think Antibiotics should be obtained only with Doctor's prescription?	92
Do you think self-medication of Antibiotics promote Antibiotic resistance?	81.4
Do you feel it is dangerous for children if pathogens become resistant to Antibiotic?	79.4
Do you think that more expensive the Antibiotic, more effective it will be?	63
Do you think Prescription medicines should be given to others?	64.1

### Reasons For Giving The Child Antibiotic Without The Physician's Advice As Disclosed By Parents

What according to you is the source of information for self-medication?

- a) Family & Friends
- b)  Pharmacist
- c) Expertise Doctors
- d) Previous Illness
- e) Television

Have you kept a record of any specific Antibiotic in which you might have noted any side-effects?

- a)  Yes b) No

Reason for Self-medication?

- a)  Previous experience with similar Illness
- b) Minor Illness
- c) Time Saving
- d) Low cost
- e) Inaccessibility

Do you keep stock of Antibiotics at your home as an Emergency treatment?

- a)  Yes b) No

Have you ever given your leftover medicine to others?

- a) Yes b)  No

Have you ever given Antibiotics to your child without consulting a Dentist?

- a) Yes b)  No

Have you ever given Antibiotics as a Preventive treatment before signs & symptoms appear?

- a) Yes b)  No

Have you ever received Antibiotic prescription via phone call without any Clinical examination?

- a)  Yes b) No

Have you ever continued with Antibiotics beyond the prescribed dosage without asking the Dentist?

- a) Yes b)  No

## DISCUSSION

Due to widespread availability of antibiotics, these are being irrationally used in many developing countries which results in increase in antibiotic resistance. Non-compliance with recommended and prescribed therapy involving self-medication, incomplete treatment, missing the doses, taking suboptimal doses and reuse of left over antibiotics leads to increased healthcare cost, increased failure of treatment, frequent and prolonged hospitalization and so on. Self-medication of antibiotics by parents leads to over-the-counter sale of antibiotics. Misuse and over prescription of antibiotics leads to antibiotic resistance in children.<sup>[3-5]</sup> Several studies have reported that age, education, and socioeconomic status are factors associated with patient knowledge about antibiotic usage.<sup>[6]</sup>

World Health Organization (WHO) in November of 2015 conducted a study titled "Antibiotic Resistance: Multi-Country Public Awareness Survey." Results of the WHO study demonstrated that there is an overall gap in knowledge when it comes to antibiotic usage and as such it is necessary to educate parents about the same.<sup>[7]</sup>

Antibiotic and its resistance is a topic which needs focus by health professionals, general public as well as government to control the antibiotic resistance. Several studies across the globe have focused on it and it has led to an improvement about the usage of antibiotics.

Similar studies in the past have been conducted and they reported that 92.8%,<sup>[8]</sup> 81.38%,<sup>[9]</sup> and 40.1% of respondents want to consult doctor before starting antibiotics.<sup>[10]</sup> (58.1%) of respondents in study conducted by Tarao disagreed that the more the antibiotic is costly the more its efficacy is not true as seen in this study.<sup>[10]</sup> This study indicated a need for further research at national level with inclusion of all sections of the community. Moreover, government should introduce and implement guidelines for the sale of antibiotics. Not only this but also, there should be guidelines on prescription and rational use of antibiotics.

Although several studies have been reported on this topic before, however this study adds to the literature through its focus on the identification of beliefs and other factors that impact patient expectations regarding the use of antibiotics in their treatment and how to improve patient-provider communication about the appropriate use of antibiotics among children. This study also helps to acknowledge the fact that it is necessary to educate the parents about the appropriate use of antibiotics in their treatment. Parents are still confused about the activity range of antibiotics and only 42% knew they were used to treat bacterial infections. This finding is in agreement with the result of another survey conducted in India where more than 45.9% of parents believed that antibiotics can be used to treat both bacterial and viral infections.<sup>[11]</sup> Patient satisfaction is a highlighted result metric in today's health care arena as well as a contributing factor to health management plans. Multiple studies indicate that suppliers will prescribe antibiotics to patients even if they are not stated in hopes of enhancing satisfaction, and prior study suggests that the perception of enhanced patient satisfaction is a major driver for physicians to decide on antibiotics.

## CONCLUSION

The lack of education, understanding and inadequate results in the sense of resistance to antibiotics has developed disorders in the present health scenario. Antibiotics are generally accessed from prior disease residual antibiotics or pharmacy without prescription.<sup>[12,13]</sup> It is therefore found that well-structured interventions are needed based on generating more awareness of antibiotics provided to kids, bacterial resistance and its causes, indications for the use of antibiotics, and how to cope with them simultaneously with parents.

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