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A Study To Evaluate The Effectiveness Of Structured Teaching Program On Knowledge Regarding Antibiotics Impact On Childhood Immunity Among The Parents At Selected Primary School Of Surat City, Gujarat.

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Abstract

Background: Antibiotics have saved millions of lives and have changed the history of infectious diseases. However, in recent years, antibiotic resistance has become a major problem for global public health. Antibiotic resistance challenges the treatment of common infectious diseases, increases mortality rates and treatment costs. A study was designed to evaluate the effectiveness of structured teaching program on knowledge regarding antibiotics impact on childhood immunity among the parents at selected primary school of Surat, Gujarat with the objectives to 1) assess the knowledge of parents about antibiotics impact on childhood immunity in selected primary school, Surat City, Gujarat. 2) assess effect of structured teaching programmed regarding antibiotics Impact on childhood immunity among parents of Surat City, Gujarat.3) To find out the association of the knowledge of primary school parents regarding antibiotic impact on childhood immunity with their selected demographic variables.

Methods: A Quantitative Research approach and pre-experimental one group pre-test post- test research design with non-probability convenient sampling technique was used to collect data from 60 parents of Children (Age group between 5 to 8 years) in selected primary school of Surat, Gujarat. A demographic tool, structured knowledge questionnaire was used to describe the findings.

Result: Analysis and interpretation of data collected from 60 samples, on antibiotic impact on childhood immunity and its interpretation among parents of selected primary schools of Surat. Knowledge was assessed by using descriptive and inferential statistics. The data gathered were summarized in the master sheet. Findings revealed that the level of knowledge regarding antibiotic impact on childhood immunity through pre-test and post-test. In pre-test out of 60 parents 34(56.66%) of parents had poor knowledge, 11(18.33%) of parents had average knowledge, 16(26.66%) of parents had good knowledge with regard

to post score 5(8.33%) parents had poor knowledge, 15(25%) of parents had average knowledge, 40(66.66%) of them had good knowledge.

The paired t-test results t=10.457. Since P-value=2.0015> 0.05 reveals the effectiveness of the Awareness package. The calculated value is higher than the tabulated value. The study aims to assess the knowledge and evaluate the effectiveness of the structure teaching programme on knowledge regarding antibiotics and impact on childhood immunity among parents of primary school children's around 60 samples were selected using Non probability purposing sampling technique. Data was generated and analysed by descriptive and inferential statistics.

The paired 't' test value of the study was 19.5 at the significance of 0.05. The calculated value is higher than tabulated (p-value) = 2.00. This shows highly effectiveness of the structured teaching programme among selected samples.

Association between pre-test knowledge score with their socio demographic variables regarding antibiotic impact on childhood immunity among parents of primary school children in selected school of Surat. Hence, it was assessed that Age, gender, No. Of children, Education of family, information, occupation, leaving the area does not have any significant association (Age $\chi 2$= 7.14, gender $\chi 2$ = 5.74, Number of children $\chi 2$ = 10.87, Education of head of family $\chi 2$= 4.22, Source of Information regarding antibiotics $\chi 2$ = 4.26, occupation of family head $\chi 2$=10.79, living area $\chi 2$= 4.50) and Monthly income $\chi 2$= 6.36. Other demographic variables such as Type of Family do have significant association in the study (Type of family $\chi 2$= 16.25)

Conclusion: The study was conducted to assess the effectiveness of structure teaching program on knowledge regarding antibiotics impact on childhood immunity among the parents at selected primary school of Surat, Gujarat. The finding of the study showed that structured teaching program about antibiotic impact on childhood immunity was effective among parents of primary school children.

Association between pre-test knowledge score and socio demographic variables regarding antibiotic impact on childhood immunity among parents of primary school children in selected school of Surat. Hence, it was assessed that, Type of Family and Monthly Income does have significant association in the study.

Keyword: Evaluate**,** Effectiveness**,** knowledge, Antibiotics, immunity.

Introduction

Antibiotics have a critical role in combating infections and improving public health. However, their overuse and misuse have led to the emergence of antibiotic resistance, posing a significant threat to global healthcare systems. Antibiotic resistance not only affects adults but also poses a considerable challenge in the context of childhood immunity. Parents, being primary caregivers, have a crucial role in determining the health outcomes of their children. Educating parents about the appropriate use of antibiotics and their impact on childhood immunity is of utmost importance to safeguard the well-being of children.

The primary school setting is ideal for this study as it provides a platform to engage with parents from various socio-economic backgrounds and educational levels. The research will be conducted with a mixed-methods approach, utilizing both qualitative and quantitative data collection methods. By combining surveys, interviews, and focus group discussions, we seek to gain comprehensive insights into parents' knowledge, beliefs, and attitudes towards antibiotics and their impact on childhood immunity.

This research statement outlines the significance of addressing the issue of antibiotic misuse and resistance in the context of childhood immunity. It emphasizes the need for targeted educational interventions to empower parents to make informed decisions for their children's health. The findings of this study are expected to contribute to the existing literature on public health, specifically in the context of antibiotic stewardship and childhood immunity.

Antibiotics have saved millions of lives and have changed the history of infectious diseases. However, in recent years, antibiotic resistance has become a major problem for global public health. Antibiotic resistance challenges the treatment of common infectious diseases, increases mortality rates and treatment costs. Each year, around 700, 000 deaths are caused by resistant infections. Antibiotic resistance occurs naturally; however, inadequate antibiotic use, poor patient adherence to antibiotics and insufficient regulation of antibiotics increases its propagation.

Antibiotics are vital in the treatment of bacterial infections in children. Meanwhile, all antibiotic use in humans, animals or agriculture is promoting the development of antibiotic resistance (ABR. This represents a serious threat to the global achievements in child health thus far. Low- and middle-income countries (LMICS) are particularly vulnerable to ABR development due to weak pharmaceutical governance, lack of sanitation and limited access to safe water. In recent years, antibiotic use in LMICS has increased rapidly and studies from Moshi in Northern Tanzania have revealed high use of antibiotics in children even in cases of minor symptoms indicating a common cold.

From the above facts it is clear that knowledge regarding antibiotics impact on childhood immunity among the parents is important aspect. Keeping these facts the researcher felt the needs.

Materials and Methods

A study was conducted among 60 parents on 18/11/2023 at selected primary school, Surat, Gujarat. The participants were selected by non- probability convenience sampling. The data were collected using Socio Demographic tool it consists 09 items, self-structured knowledge questionnaire for knowledge regarding antibiotic impact on childhood immunity among the parents at selected primary school of Surat city. Correct response was given a score of “1”and wrong response was “0”. It categories in 1-33% -poor, 34-66% -average, 67-100% - Good. Permission was obtained from A formal letter of permission was obtained from Kiran Nursing College, Vadod, Surat District. The study was conducted in selected School Gurukul kanya Vidhyalaya, Lal Gurukul, Surat District. After establishing rapport with the participants, an informed consent was taken prior to data collection explaining the importance of study and the data collection procedure. 60 from subjects who met the inclusion criteria were taken. Inclusion criteria for the study were, Parents who are willing to participate, Parents of children (age between 5 to 8

year) of selected school Surat, Parents who knows Gujarati and Hindi language. Exclusion criteria were parents who were not present during the time of study. The obtained data were analyzed in the terms of the objectives of the study using descriptive and inferential statistics. Socio demographic variables were assessed by using the frequency and percentage distribution using mean and standard deviation. The inferential analysis like calculated t-test was used to assess the knowledge and evaluate the effectiveness of the structured teaching program on knowledge regarding antibiotics and impact on childhood immunity among parents of primary school children. Chi square test (x2) was used to find out the association of knowledge of parents of children age 5 to 8 years regarding antibiotics impact on childhood immunity with their selected socio-demographic variables respectively.

Results

Demographic details of the samples:

In this study researcher found that majority of the population **38.34%** was in the age group of 29-33 years. Out of the 60 samples are 51.67 male and are **48.33** female. **36.67 %** parents from the total population of study had 1 child. **48.33%** parents from the total population of study had 2 children.**11.66 %** of the parents from the total population of the study had 3 children. **3.33%** parents from the total population of study had 4 or more children. **18.33 %** parent from the total population of the study were single parent, **70%** parents from the total population were in joint families, and the remaining **11.66 %** of parents from the total population of the study was nuclear .**60 %** of parents have a professional degree from the total population, **18.33 %** parents are undergraduate, **16.66%** parents are high/middle school and remaining **5%** parents are illiterate from the total population. Among the total selected population no one had knowledge regarding antibiotics and its impact on childhood immunity. Among **21.66%** of parents received knowledge through the public paper, **53.33%** of parents received knowledge through mass media,**10.66%** of parents received knowledge through family and remaining 8.33% receive knowledge through friends. Among **63.33 %** of parents who have a professional occupation, **18.33%** parents have semi-professional occupation, **13.33%** parents have shops/farm and remaining **5%** parents are skilled worker. Among **31.66 %** of parents live in rural areas and the remaining **68.33 %** of parents live in urban areas from the total population of the study. Among **65 %** parents have income 7770 and above per month, **21.66%** parents have 3808 to 7769 income per month, **11.66%** parents have 2253 to 3808 income per month and remaining 1.66 % parents have 1166 to 2253 income per month from the total population of the study

Table:1. Assess the knowledge score among parents at selected primary school regarding antibiotic impact on childhood immunity.

SCORE	GRADE	PRE-TEST		POST-TEST	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
0-7	Poor	34	56.66%	5	8.33%
8-14	Average	11	18.33%	15	25%
15-20	Good	16	26.66%	40	66.66%

The present study shows that **18.33 %** (11 out of 60) had average knowledge ,**56.66%** (34 out of 60) had poor knowledge and **26.66%** (16 out of 60) had good knowledge regarding antibiotics impact on childhood immunity among parents of primary school children. About 60 parents are selected by using probability sampling technique for study. Data was generated and analysed by descriptive and inferential statistics. The results of the study show that about his **8.33 %** (5 out of 60) has poor knowledge, **25%** (15 out of 60) has average knowledge and **66.66 %** (40 out of 60) parents have good knowledge about antibiotics impact on childhood immunity.

A pre-experimental one group pretest post-test study was conducted to assess knowledge and misconception of antibiotics impact on childhood immunity among parents of primary school children. About 60 parents were selected by using Non probability purposing sampling technique. Data was generated and analysed by descriptive and inferential statistics. The results of the study shows that about **8.33%** has poor knowledge, **25%** has average knowledge and **66.66 %** parents has good knowledge about antibiotics impact on childhood immunity.

Table 2: Evaluate the effectiveness of the structure teaching programme regarding the antibiotics impact on childhood immunity at selected primary school. Mean, standard deviation with their percentage (%) of pre- test and post-test. (n=60)

Knowledge score	Mean	mean difference	Standard deviation	Calculated value	Tabulated value	Level of significance
Pre-test	8.83	6.286	5.4389	10.457	2.0015	0.05
Post-test	15.116		3.59			

The present study shows the effectiveness of the program on knowledge regarding antibiotics and its impact on childhood immunity.

The paired t-test results t=10.457. Since P-value=2.0015> 0.05 reveals the effectiveness of the Awareness package. The calculated value is higher than the tabulated value. The study aims to assess the knowledge and evaluate the effectiveness of the structure teaching programme on knowledge regarding antibiotics and impact on childhood immunity among parents of primary school children's around 60 samples were selected

using Non probability purposing sampling technique. Data was generated and analysed by descriptive and inferential statistics.

The paired 't' test value of the study was 19.5 at the significance of 0.05. The calculated value is higher than tabulated (p-value) = 2.00. This shows highly effectiveness of the structured teaching programme among selected samples.

The table shows the pre-test knowledge of total were 8.83 mean, 5.4389 standard deviation.

The post-test knowledge shows that participants having adequate knowledge which were 15.116 mean and 3.59 standard deviation.

Association between pretest knowledge score and socio demographic variables:

For age group with knowledge scores, the calculated value of chi square is 7.14 was not more than 12.59, the table value of chi square at 6 degree of freedom and 0.05 level of significance, therefore age of samples was non -significant with knowledge score.

For gender group with knowledge scores, the calculated value of chi square is 5.74 was not more than 9.49, the table value of chi square at 4 degree of freedom and 0.05 level of significance, therefore gender of samples was non -significant with knowledge score.

For no. Of children group with knowledge scores, the calculated value of chi square is 10.87 was not more than 12.59, the table value of chi square at 6 degree of freedom and 0.05 level of significance, therefore no. Of children of samples was non -significant with knowledge score.

For type of family group with knowledge scores, the calculated value of chi square is 16.25 was more than 12.59, the table value of chi square at 6 degree of freedom and 0.05 level of significance, therefore type of family of samples was significant with knowledge score.

For education of family group with knowledge scores, the calculated value of chi square is 4.22 was not more than 12.59, the table value of chi square at 6 degree of freedom and 0.05 level of significance, therefore education of family of samples was non -significant with knowledge score.

For Source of information group with knowledge scores, the calculated value of chi square is 4.26 was not more than 12.59, the table value of chi square at 6 degree of freedom and 0.05 level of significance, therefore Source of information of samples was non -significant with knowledge score.

For occupation group with knowledge scores, the calculated value of chi square is 10.79 was not more than 12.59, the table value of chi square at 6 degree of freedom and 0.05 level of significance, therefore occupation of samples was non -significant with knowledge score.

For living area group with knowledge scores, the calculated value of chi square is 4.50 was not more than 5.99, the table value of chi square at 2 degree of freedom and 0.05 level of significance, therefore living area of samples was non -significant with knowledge score.

For Monthly income group with knowledge scores, the calculated value of chi square is 6.36 was not more than 12.59, the table value of chi square at 6 degree of freedom and 0.05 level of significance, therefore Monthly income of samples was non -significant with knowledge score.

The present study shows that Age, gender, No. Of children, Education of family, Source of information, occupation, living area and Monthly income does not have any significant association. Other demographic variables such as Type of Family does have significant association in the study (Type of family $\chi 2 = 16.25$)

Discussion

To assess the knowledge of parents about antibiotics impact on childhood immunity.

In the present study the researcher found that majority of the population **38.34%** was in the age group of 29-33 years. Out of the 60 samples are 51.67 male and are **48.33** female. **36.67 %** parents from the total population of study had 1 child. **48.33%** parents from the total population of study had 2 children.**11.66 %** of the parents from the total population of the study had 3 children. **3.33%** parents from the total population of study had 4 or more children. **18.33 %** parent from the total population of the study were single parent, **70%** parents from the total population were in joint families, and the remaining **11.66 %** of parents from the total population of the study was nuclear .**60 %** of parents have a professional degree from the total population, **18.33 %** parents are undergraduate, **16.66%**parents are high/middle school and remaining **5%**parents are illiterate from the total population. Among the total selected population no one had knowledge regarding antibiotics and its impact on childhood immunity. Among **21.66%** of parents received knowledge through the public paper, **53.33%** of parents received knowledge through mass media,**10.66%** of parents received knowledge through family and remaining 8.33% receive knowledge through friends. Among **63.33 %** of parents who have a professional occupation, **18.33 %** parents have semi-professional occupation, **13.33%** parents have shops/farm and remaining **5%** parents are skilled worker. Among **31.66 %** of parents live in rural areas and the remaining **68.33 %** of parents live in urban areas from the total population of the study. Among **65 %** parents have income 7770 and above per month, **21.66%** parents have 3808 to 7769 income per month, **11.66%** parents have 2253 to 3808 income per month and remaining 1.66 % parents have 1166 to 2253 income per month from the total population of the study.

To assess the effectiveness of structured teaching programmed regarding antibiotics Impact on childhood immunity among parents

The present study shows that **18.33 %** (11 out of 60) had average knowledge ,**56.66%** (34 out of 60) had poor knowledge and **26.66%** (16 out of 60) had good knowledge regarding antibiotics impact on childhood immunity among parents of primary school children. About 60 parents are selected by using probability sampling technique for study. Data was generated and analyzed by descriptive and inferential statistics. The results of the study show that about his **8.33 %** (5 out of 60) has poor knowledge, **25%** (15 out of 60) has average knowledge and **66.66 %** (40 out of 60) parents have good knowledge about

antibiotics impact on childhood immunity.

A pre-experimental one group pretest post-test study was conducted to assess knowledge and misconception of antibiotics impact on childhood immunity among parents of primary school children. About 60 parents were selected by using Non probability purposing sampling technique. Data was generated and analysed by descriptive and inferential statistics. The results of the study shows that about **8.33%** has poor knowledge, **25%** has average knowledge and **66.66 %** parents has good knowledge about antibiotics impact on childhood immunity.

To Evaluate the effectiveness of the structured teaching program regarding the antibiotics impact on childhood immunity at selected primary school.

The present study shows the effectiveness of the program on knowledge regarding antibiotics and its impact on childhood immunity.

The paired t-test results t=10.457. Since P-value=2.0015> 0.05 reveals the effectiveness of the Awareness package. The calculated value is higher than the tabulated value. The study aims to assess the knowledge and evaluate the effectiveness of the structure teaching program on knowledge regarding antibiotics and impact on childhood immunity among parents of primary school children's around 60 samples were selected using Non probability purposing sampling technique. Data was generated and analyzed by descriptive and inferential statistics.

The paired 't' test value of the study was 19.5 at the significance of 0.05. The calculated value is higher than tabulated (p-value) = 2.00. This shows highly effectiveness of the structured teaching program among selected samples.

To find out the association of the knowledge of primary school parents regarding antibiotic impact on childhood immunity with their selected demographic variables.

The present study shows that Age, gender, No. Of children, Education of family, information, occupation, leaving the area does not have any significant association (Age $\chi 2$= 7.14, gender $\chi 2$ = 5.74, Number of children $\chi 2$ = 10.87, Education of head of family $\chi 2$= 4.22, Source of Information regarding antibiotics $\chi 2$ = 4.26, occupation of family head $\chi 2$=10.79 place of living area $\chi 2$= 4.50) and Monthly income $\chi 2$= 6.36. Other demographic variables such as Type of Family do have significant association in the study (Type of family $\chi 2$= 16.25)

Conclusion: The study was conducted to evaluate the effectiveness of structure teaching program on knowledge regarding antibiotics impact on childhood immunity among the parents at selected primary school of Surat, Gujarat. This chapter deals with analysis and interpretation of data collected from 60 samples, on antibiotic impact on childhood immunity and its interpretation among parents of selected primary schools of Surat. Knowledge was assessed by using descriptive and inferential statistics. The data gathered were summarized in the master sheet. Findings revealed that the mean post-test knowledge score was higher than the mean pre-test. Paired t-test was used to analyze the effectiveness of antibiotic

impact on childhood immunity. Findings show a gain in knowledge which was significant at 0.05 level of significance. Hence, it was assessed that structured teaching program about antibiotic impact on childhood immunity was effective among parents of primary school.

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