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ORIGINAL ARTICLE

Immunization Status of Children with Acute Diarrhea Presenting to a Tertiary Care

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ABSTRACT

Background: Children less than 2 years of age must be fully vaccinated which may reduce the burden of life threatening diseases.

Objective: The aim of this study was to find out the Immunization status of children with acute diarrhea presenting to a tertiary care hospital

Materials and Method: The current cross sectional study was carried out at the department of Paediatrics Sheikh Zayed Hospital Rahim Yar Khan from October 2022 to March 2023 after taking permission from the ethical board of the institute. 416 children of both sexes, ages 0–2 years, who had severe diarrhea and had at least three loose stools daily for a period of not more than two weeks were enrolled . Data was obtained from each individual who visited the emergency room or OPD with severe diarrhea. Through EPI cards, the parents of these individuals were asked about the children's immunization status. The percentages and frequencies of each qualitative variable, including sex and immunization status (full, partial, or not immunized), were analyzed. Age and other quantitative factors were measured using mean + standard deviation. The male-to-female ratio was computed for gender. Tables and graphs were used to display the results. SPSS version 24 was used for data analysis.

Results: A total of 416 children with acute gastroenteritis of both gender and different age groups (1-2 years) were examined in this study. Out of which male were 277 and female were 139. 1 to 2 years of children were enrolled in which the most prevalent age group was 5-8 months 206(49.5%)**.** The immunization status revealed that 167 (40.1%) had completed their vaccinations, 84 (20.1%) had not fully completed, and 165 (39.5%) were not immunized. The distribution of immunization status by age reveals that 56 (40%) were fully vaccinated, 28 (20%) were partially vaccinated, and 56 (40%) were not immunized at or below 5 months of age. The distribution of individuals by sex showed that 56 (40.2%) female and 112 (40.4%) male had completed their vaccination. On the other hand, 56 (40.2%) of the children in the non-immunized group were female, and 109 (30.3%) were male**.**

Conclusion: The current study concluded that only 40 % of the children of 1 -2 years of age were fully vaccinated and this immunization status is not satisfactory. It is necessary to raise public awareness and educate the public about the value of vaccinations.

Keywords: Immunization; Children; Acute diarrhea**.**

INTRODUCTION

Immunizations have shown to be among the most inexpensive public health measures to date. It has saved millions of lives and also significantly reduced the number of children who suffer from disease and disabilities. Global coverage rates for the third dose of the DTP3 vaccination, which protects against diphtheria, tetanus, and pertussis, increased from 20.0% in 1980 to 86.0% in 2018. But it has not become significantly better in the past ten years. Eighty-three nations have failed to meet the Global Vaccine Action Plan objective of 90.0% or higher coverage with DTP3.[1] Furthermore, the percentage of children worldwide who obtain the required vaccinations has not changed significantly over the past few years.[2] The decline in the number of children in the state of Maharashtra who are fully immunized with vaccine like Bacillus Calmette Guerin, measles, and three doses of oral polio vaccine and Diphtheria tetanus a cellular pertussis in the 12-23-month age group has been one of the most prominent findings in the National Health and Family Survey over the years. The percentages decreased from 78.4 percent in NHFS 2, to 58.8% in NFHS 3 & 56.3% as of right now, according to NFHS4.[3] In 1974, the World Health Organization (WHO) launched the Expanded Program on Immunization (EPI) in response to the fact that less than 5% of children worldwide received vaccinations against six diseases during their first year of life: polio, measles, TB, tetanus, pertussis, and diphtheria.[4] Beginning in 1978, Pakistan's Expanded Program of immunization aimed to lower morbidity and death from 6 diseases that may be prevented by vaccination. Furthermore, in July 2001, Hepatitis B immunization was included to EPI.[5]

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According to the findings of a local research carried out in Kohat university Pakistan, 402 families (85.9%) out of the whole sample frame had completely immunized children. There were 49 cases, or 10.5 percent of the families, who did not vaccinate their children. Just 3.6% of parents choose to vaccinate their children only partially.[6] Information on the immunization status of 50 children was obtained from parents in order to evaluate the immunization status of children ages 1-2 who were visiting the Children Hospital and Institute of Child Health, Lahore. According to the findings, 47% of the vaccinations were administered at government facilities. Approximately 40% of the youngsters received their first vaccination at birth.[7] Therefore the current study was carried out to determine the Immunization status of children with acute diarrhea presenting to a tertiary care

MATERIALS AND METHOD

The current cross sectional study was carried out at the Department of Paediatrics Sheikh Zayed Hospital Rahim Yar Khan from October 2022 to March 2023 after taking permission from the ethical board of the institute. 416 children of both sexes, ages 0–2 years, who had severe diarrhea and had at least three loose stools daily for a period of not more than two weeks were enrolled . Children with diarrhea for more than two weeks, children without EPI cards but claiming complete or partial immunization, children who have not got the entire course due to contraindications, and children who got the incomplete vaccination on National Polio Days were not included in the research. Data was obtained from each individual who visited the emergency room or OPD with severe diarrhea. Parents or other family members of individuals gave their signed, informed permission. Through EPI cards, the parents of these individuals were asked about the children's

immunization status, including if they were fully or partially immunized, as well as the reasons behind their lack of or partial immunization. A proforma created specifically for this purpose had all of this information as well as other personal data including name, age, and sex. The percentages and frequencies of each qualitative variable, including sex and immunization status (full, partial, or not immunized), were analyzed. Age and other quantitative factors were measured using mean + standard deviation. The male-to-female ratio was computed for gender. Tables and graphs were used to display the results. SPSS version 24 was used for data analysis.

RESULTS

A total of 416 children with acute gastroenteritis of both gender and different age groups (1-2 years) were examined in this study. Out of which male were 277 (66.5%) and female were 139(33.4%) hence male to female ratio was 2:1. as shown in figure 1.1 to 2years of children were enrolled in which the most prevalent age group was 5-8 months 206(49.5%) followed by age below 5 months 70(16.8%) and more than 8 months 140(33.6%) respectively. Ages in the study varied from 3 to 9.5 months. Age ranged from 6 months to +1.87 SD on average as presented in table 1. When participants with acute diarrhea appeared, their immunization status revealed that 167 (40.1%) had completed their vaccinations, 84 (20.1%) had not fully completed, and 165 (39.5%) were not immunized. The distribution of immunization status by age reveals that 56 (40%) were fully vaccinated, 28 (20%) were partially vaccinated, and 56 (40%) were not immunized at or below 5 months of age. Likewise, age groups older than eight months 29(41.4%) had received all recommended vaccinations, while 13 (18.5%) had not completed their vaccination, and 28 (40%) had not received any vaccine as presented in table 2. The distribution of individuals by sex showed that 56 (40.2%) female and 112 (40.4%) male had completed their vaccination. Likewise, of the children who were partly immunized, 56 (20.2%) were men, while 27 (19.42%) were female. On the other hand, 56 (40.2%) of the children in the non-immunized group were female, and 109 (30.3%) were male as shown in table 3.

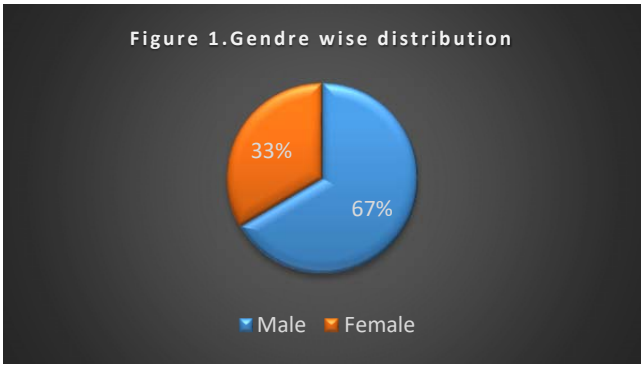

Table 1: Age wise distribution of the study population n= 416

Age in months	Frequency /percentage
5 to 8 months	206 (49.5%)
Below 5 months	140 (33.6%)
Above 8 months	70 (16.8%)
Total	416(100%)

Table 2.Distribution of Immunization Status by Age

	Status of immunization			
	Not immunized	Incomplete immunized	Complete immunized	Total
Age in months				
5 to 8	81(39.3%)	43(20.8%)	82(39.80%)	206(100%)
Less than 5	56(40%)	28(20%)	56(40%)	140(100%)
Above 8	28(40%)	13(18.5%)	29(41.4%)	70(100%)
Total	165(39.6%)	84(20.1%)	167(40.1%)	416(100%)

Table 3. Distribution of immunization status by sex

	Sex		
	Male	Female	Total
Age in months			
Not immunized	109(39.3%)	56(40.2%)	165(40.0%)
Incomplete immunized	56(20.2%)	27(19.42%)	83(20.1%)
Complete immunized	112(40.4%)	56(40.2%)	168(40.7%)
Total	277	139	416(100%)

DISCUSSION

The most economical child health intervention is vaccination. As a result of growing urbanization, migration, slum expansion, high population density, ongoing introduction of a new pool of infectious agents, and low primary immunization coverage, there is a growing risk of an outbreak of diseases that can be prevented by vaccination. In this study Immunization status of children 1 to 2 years of age were determined. The current study revealed that 167 (40.1%) had completed their vaccinations, 84 (20.1%) had not fully completed, and 165 (39.5%) were not immunized. The finding of our study are not similar to the study conducted by Mathew et al. They reported that 25 percent of the study population were completely vaccinated .[7] In the same way the findings of the study by Kumar et al. revealed that just 58 children (17.8%) received vaccinations up to the age of one year, while 48% received only partial vaccinations and 34.15% did not receive any vaccinations.[8] Our study's findings demonstrate a lower immunization level than the national average, which was 43.8% of children completely vaccinated in the NFHS 3 (2005–2006)[9] The majority of previous studies was conducted on children who were either in the outpatient department or from slums or rural areas. In this study, patients admitted to the hospital examined. Since unvaccinated children are more likely to contract infections and need to be admitted to the pediatric ward, this could be the cause of the lower coverage. The children who received full vaccinations in our research were mostly male, whereas the female children were more likely to stay in the non- vaccinated or partially-vaccinated group and less likely to obtain full vaccinations. The results of further studies also matched these conclusions.[10] Parents of both male and female children in our study knew more about the vaccination schedule, despite the fact that our culture values male children more than females. However, distinct findings have been reported from rural Iraq, in which more females were immunized than males (P<0.001)[11] and Wasif et al. [12] from Egypt have reported higher immunization status in men than in females, which is comparable to our study. Some studies suggest that the main cause is a lack of motivation. According to a survey conducted at a clinic, the main causes were inadequate financing and lack of awareness. The majority of respondents said that the best strategy to encourage vaccination was to educate the mother.[13] This was proved realistically in another research that was carried out in a Karachi town, which was able to increase the

community's immunization rate by providing instruction to mothers.[14] After five years of continual surveillance and education, a research conducted in a few regions within Pakistan discovered that mothers' awareness levels had risen beyond 90% and that vaccination coverage had grown from 48% to 90%.[15] Although education should be the main priority, it is important to remember that a second issue has always been a lack of facilities. For this reason, government and international organizations still need to improve policies for vaccine provision. This improves the case that raising awareness is the most crucial step towards full nationwide immunization.

CONCLUSION

The current study concluded that only 40 % of the children of 1 -2 years of age were fully vaccinated and this immunization status is not satisfactory. It is necessary to raise public awareness and educate the public about the value of vaccinations by planning a continuous campaign. Through the implementation of health education initiatives, we must eventually raise the educational levels of not just our mothers but the whole nation.\

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