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CORRELATION BETWEEN THE KNOWLEDGE, ATTITUDE AND PRACTICE OF PARENTS REGARDING IMMUNISATION AND THE VACCINATION STATUS OF THE CHILDREN AGED 1-18 YEAR – A CROSS SECTIONAL STUDY

Paediatrics

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ABSTRACT

Objectives:
1.To assess the immunisation status of the children between 1-18 years of age
2.To correlate the immunisation status with the knowledge, attitude and practice of parents towards immunisation
Design: Prospective observational cross-sectional study **Setting:** Paediatric department of Vijaya Health Centre, Vadapalani, Chennai during September to November 2018. **Participants:** 354 healthy children between 1-18 years of age, selected as consecutive sample. **Procedure:** A validated questionnaire was duly filled in by the parents of the children belonging to the study population. The immunisation status of the study population was assessed and correlated with the knowledge, attitude and practices on immunisation. The obtained data was statistically analysed. **Main Outcome Measures:** Majority of the children were completely immunised (64.7%). Majority of the parents were educated graduates (51%). Most parents scored a perfect score on knowledge (32%) and good score on practice section(69%) with an average score in attitude section (65.8%). **Results:** Completion of immunisation is found to be correlating significantly with parental educational status(p =0.00). Parental knowledge(p=0.011) and practices(p=0.032) in immunisation were also significantly associated with complete immunisation. **Conclusion:** The study concludes better immunisation cover follows better parental knowledge and practices.

KEYWORDS

Immunisation, Knowledge, Attitude, Practice

INTRODUCTION:

Immunisation has been one of the greatest success stories of the last century and vaccines have proved to be one of the most successful health interventions that bring about significant reductions in infectious diseases and adverse health consequences and improve quality of life in the population.[1] Ever since the introduction of the small pox vaccine by Edward Jenner, the number of vaccines occupying slots in any immunisation chart is constantly increasing with the advent of new antigens at frequent intervals.

Over the years vaccines have provided highly cost effective improvements to human health by reducing avoidable human suffering, costs of care and treatment, economic consequences of work i.e. lower productivity and loss of work[2]. More and more diseases have attained the status of being vaccine preventable with the most common being rubella, measles, diphtheria, tetanus, pertussis and polio.[3]

The eradication of small pox and polio following suit only reiterate the importance garnered by vaccines since their introduction. The WHO estimated a reduction in the death rate from infectious diseases between 2 and 3 million each year.[4]

However, 2.5 million deaths a year continue to be caused by vaccine preventable diseases, mainly in Africa and in Asia among children less than 5 years.[5] with over 5 lakh deaths in India annually.[6] Although in the past few decades developed countries have seen sufficient improvement in vaccination coverage, low rates of complete vaccination still pose a problem in the developing countries which have reached a plateau.[3]

An effective national immunisation strategy can help decrease childhood mortality and morbidity, especially in developing countries. India has been using vaccines since late 1970s in its National Immunisation Program (NIP) and currently running one of the largest mass immunisation programs in the world. The Expanded Program of Immunisation was started in 1978 and the Universal Immunisation Programme in 1985 to exponentially increase the vaccine coverage.[7] However according the NFHS 4, the coverage is only 62% in India and 69.7 % in Tamil Nadu which is far from the intended results.[8]

Success or failure of immunisation programs depends upon so many factors such as knowledge, attitude and practices of parents that contribute to their vaccination decisions.[9] Parental decisions regarding immunisation are very important for increasing the immunisation rate and compliance and for decreasing any possible immunisation errors. Many parents believe that mild illness is associated with vaccine contraindication, and as a reason for not giving their children up-to-date vaccinations apart from false propaganda on social media and the ever increasing anti-vaccine lobby. With the emerging vaccine hesitancy, parental knowledge, attitude and practices towards immunisation go a long way in ensuring complete immunisation of their children.[10]

Hence a prospective observational cross sectional study was conducted among 354 parents of children between 1 – 18 years of age to study the immunisation status and to correlate it with the knowledge, attitude and practice among parents with regard to immunisation.

AIMS AND OBJECTIVES:

1. To assess the immunisation status of the children between 1-18 years of age
2. To correlate the immunisation status with the knowledge, attitude and practice of parents towards immunisation

METHODS:

A prospective observational cross sectional study was conducted among 354 parents of children between the ages of 1 – 18 years in Chennai. To ensure adequacy of sample, proportion of fully immunised children was taken as 0.62[8] with a confidence interval of 95% and absolute precision of 5% prevalence, the sample size was calculated as 363. The study tool was a pretested, validated questionnaire. Participants were recruited consecutively during September to November 2018 and the exclusion criteria included very sick children and children whose parents refused consent. The questionnaire was duly filled in by the parents of the children and after removing incomplete forms, 354 responses were analysed.

Complete immunisation is defined as a child receiving all the vaccines for age according to the IAP excluding vaccines for high risk groups.[11] Mandatory vaccines include only those vaccines which are included in the Universal Immunisation Programme (UIP).[12] Incomplete immunisation includes those children who have missed one or more doses of vaccines appropriate for age.[13]

The questionnaire consisted of 4 parts, the first being demographic details followed by knowledge - 7 questions, attitude – 15 questions and practice – 4 questions as single choice questions from multiple answers provided for each equation. Each question was then allotted a

score and the knowledge, attitude and practice were below average, average and high scores. Information regarding immunisation status was determined by vaccine card or based on recall by respondents.

Statistical analysis:
The immunisation status in the study group was determined along with the assessment of the knowledge, attitude and practice regarding immunisation among parents. The knowledge, attitude and practices were correlated with the immunisation status. The data collected was analysed statistically using the STATA11 and Microsoft Excel. Descriptive Statistics, Pearson's chi-square and Fischer's exact T-test were applied to analyse the study data. A p value < 0.05 was taken as statistically significant.

RESULTS:
Out of the 354 parents who participated in the study, majority were between 20 to 35 years of age (72.3%) with female preponderance (78.2%). Most were graduates (51%) followed by post graduates (45%) and majority were employed (59%). Among the children, majority belonged to the 1-5 years of age (42%) category with equal male and female representation. Immunisation status was significantly associated with the educational status of the parent (p=3.29E-14). Majority of the parents visiting the hospital stayed within 1-5 km of their vaccination centre, which was not significantly correlating with immunisation status.

All the children were born out of institutional deliveries (100%), and majority (75.4%) were first born. With regards to the vaccination status, majority were completely immunised (64.7%) according to the IAP schedule followed by those administered only mandatory vaccines (26.8%). Still 8% of the children are incompletely immunised.

In the knowledge section, majority had a perfect score (32.8%) of which 74% were completely immunised. The knowledge score was found to correlate significantly with the vaccination status (p = 0.011).In the attitude section, most parents scored in the average zone and it was not significantly associated with the vaccination status (p=0.137). In the practice section, majority (69%) had a perfect score of which 62.6% were immunised completely, .and it was found to correlate significantly with the vaccination status of the children.(p= 0.032).

DISCUSSION:
Despite all the efforts taken by the Government of India and international agencies, the proportion of unimmunized and partially immunized children remain quite high and we lag far behind the National socio-demographic goal of 85% coverage of all the vaccines[13].There is an urgent need to increase the coverage of UIP (Universal Immunisation Programme) vaccines and necessitates the information on the existing knowledge, attitude and practices of the parents with respect to the different aspects of immunisation. This study therefore provides us an important insight into the existing level of awareness among the people and the areas that need attention.

The percentage of immunisation coverage with complete immunisation was found to be 64.7% as against the national coverage of 62%[8]. The study did not reveal a significant correlation between the vaccination status and the parental age, occupational status, and the age and sex of the child and the distance of the home from vaccination centre similar to the findings of Chen W et.al.[15]

The study revealed majority of the parents to be graduates (51%) followed by postgraduates and a significant correlation between the educational status of the parent and the completion of immunisation of the child (p=3.29E-14) similar to the findings of study by Dutta SK et.al[9] and Habib RF et.al.[16]and refuted by the findings of Chen W et.al.[15]

It was found that majority of the parents had a perfect score (32.8%) in the knowledge section and the knowledge status of the parents was found to significantly correlating with the complete immunisation of the children (p = 0.011) as seen in the study by Al-lela et.al[10] and Bamatraff et.al.[17]and against the findings of Trushitkumar et.al[18] study.

The study revealed that majority of the parents scored an average score in the attitude section. There was no statistical correlation between the attitude scores and the complete immunisation status in the children (p=0.137) as against the results found by Dutta SK et.al[9] which revealed a significant association.

It was also noted in the study that majority of the parents had a good score in the practice section and that the scores were found to correlate significantly with the immunisation status of the children (p= 0.032) as supported by the finding of Devkotta S et.al study[19].

Thus it can be understood from the study that immunisation status of the children is influenced by the educational status of the parents and their decisions based on their knowledge, attitude and practice towards immunisation. However the educational status, knowledge and practice of parents had a significant correlation with the immunisation status.

The limitations of the present study include the fact that the questionnaire was filled based on memory of the parents regarding the immunisation status. This study was conducted at a tertiary care centre catering to higher socioeconomic strata, so the results cannot be generalised to the community as a whole. Further studies including the above points can provide further understanding in this regard

CONCLUSION:
The study concluded that higher rates of immunisation coverage is associated with better parental education, parental knowledge and practices regarding immunisation. Based on this study, good parental knowledge, attitude and practices go a long way in ensuring complete immunisation of children. Health programmes should shift their focus on these areas to improve the immunisation status as a whole.

Table 1: Characteristics Of The Study Population (n=354)

S.No	VARIABLE	FINDING	PERCENTAGE
1	AGE	20-35years	72.3%
2	SEX	Female	78.2%
3	EDUCATION STATUS	Graduates	51%
4	EMPLOYMENT	Employed	59%
5	AGE OF CHILD	1-5 years	42%
6	DISTANCE BETWEEN HOME TO VACCINATION CENTRE	1-5 kms	48%
7	IMMUNE STATUS	Complete	64.7%

Table 2: Scores On Knowledge, Attitude And Practice

S.No	SECTION	SCORE	PERCENTAGE
1	KNOWLEDGE	GOOD	32.8%
2	ATTITUDE	AVERAGE	65.8%
3	PRACTICE	GOOD	69%

Table 3: Correlation Between Immunisation Status And Parental Knowledge, Attitude And Practice

S.No	VARIABLE	p VALUE	SIGNIFICANCE
1	EDUCATION STATUS	0.00	SIGNIFICANT
2	KNOWLEDGE	0.011	SIGNIFICANT
3	PRACTICE	0.032	SIGNIFICANT

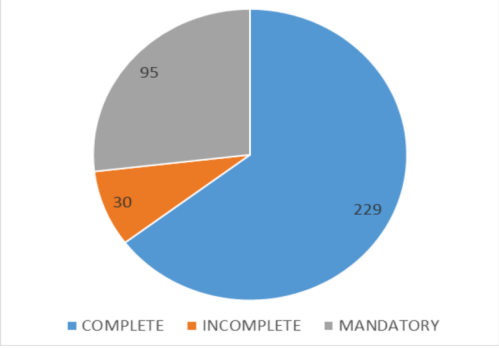

Figure 1: Distribution Of Population Based On Immunisation Status