



IS THEIR ANY ROLE OF KNOWLEDGE, ATTITUDE AND PRACTICES ON CHILDHOOD VACCINES IN PARENTS VISITING TERTIARY CARE CENTRE.

Paediatrics

Dr. Prathiba N.D	Associate Professor, Department of paediatrics, Rajarajeswari medical college and hospital, Bangalore
Dr. Sanjana Kishore	Junior Resident, Department of paediatrics, Rajarajeswari medical college and hospital, Bangalore
Dr. Adarsh. E	HOD and professor, Department of paediatrics, Rajarajeswari medical college and hospital, Bangalore

ABSTRACT

Background: Immunization is one of the most effective public health interventions in the world. Personal and herd immunity is achieved by high vaccine coverage rates. Many factors influence the decision of parents to vaccinate their children including the sociodemographic characteristics, level of knowledge and their attitude towards immunisation. **Aim:** The aim of the study is to assess knowledge, attitude and practices on childhood vaccination in parents visiting Rajarajeshwari hospital. **Methods:** An Observational study, questions were asked to parents of children aged from day 1-15 years. **Results:** Of the 500 index children, 99.8% of the caregivers were aware of the immunization practices. But, awareness of immunization had no role with parents education status and the area they are residing. Families having more than 2 children had 100% positive attitude about the importance of herd immunity.

KEYWORDS

INTRODUCTION:

Vaccination is one of the most important discoveries in medicine. It is one of the main preventive measures in national public health policies. It is one aspect of public health that is considered most cost effective in reducing the prevalence of various infectious diseases mainly in children^[1].

Ministry of health (UNICEF) observed that global vaccination continues to decline in 2021 with 25 million children missing out on life saving vaccines which is 2 million more than in 2020.^[10]

The concept of immunization is not only limited to one person but concerns the whole of the community, as the vaccinated children not only protect themselves from vaccine preventable diseases (VPD) but also others in the community, this is known as Herd immunity^[3].

In order to maintain a high vaccination coverage rate, we need to maintain a positive family attitude towards their children vaccination, intervention must be targeted on the basis of areas of interest such as parents knowledge and attitude towards the same.

Furthermore, parents awareness is a key factor in determining their practices. Working on educating parents should be the foundation for obtaining better attitudes and behaviors because knowledge immediately influences their attitude.

The aim of the study was to assess the current knowledge, attitude and practices of parents visiting pediatric opd at Rajarajeshwari hospital Bangalore for their children vaccination.

METHODS:

An observational study with sample size of 500 parents was carried out at pediatric OPD in Rajarajeshwari hospital, Bangalore between June 2021 to Jan 2022. Data for the study were based on interview with parents of the children aged between day 1 to 15 years.

The study questionnaire included open and closed questions. Data collection was done through personal interviews with parents (caregivers)

The survey contained general Demographic variables (Age, gender, no of children in family, address, education status, marital status, income, principal care gives) questionnaire enquired into parents knowledge, their attitude and practices concerning vaccines.

Knowledge was assessed by asking, if they were aware of vaccines included in the National Immunization programme, routes of administration and the diseases that can be prevented.

Attitude of the parents were assessed by asking, if they have a belief in vaccine or antibiotics can alone help to fight against disease. Parents were asked if vaccinating their children will help in herd immunity.

Practices were assessed between the caregivers and the health practioners, if caregivers were being made aware of the disease prevented by that vaccine, possible adverse effects or post vaccination precautions. Parents were asked about vaccination health card and verbal informed consent was obtained from all the parents before administration.

Data collected were analyzed with IBM SPSS shortlist for windows version 23.0. To describe about the data descriptive shortlist frequency, analysis, percentage Analysis were used for 33 categorical variables the means 3 S D were used for continuous variables. To find the significance in qualitative categorical data chisquare test was used similarly if the expected cell frequency is less than 5 in 2 x 2 table fishers exact test was used.

RESULTS:

We surveyed 500 parents for the study mostly those who visited pediatrics OPD for their children vaccination. The Sociodemographic and other characteristics of the participants are summarized in table 1. In our study, 57% were between the age of 0- 5 years, 29.4% were between 5 to 10 years, children 13.6% between 10 to 15 years.

Among the study subject 286 were male children, 214 were female children. Among the caregivers involved in children vaccination mothers were 50.6%, fathers were 30.4% and grandmothers were 19%. 48% of the parents are from urban area and 52% from rural area. 82.2% of the parents were educated, 17.8% of the parents were uneducated. Mean average monthly income of the parents was 20,120. Most of the parents 99.9% were aware of immunizing their children, 98.8% parents are aware of the government providing the vaccines. 35% children in the family were not immunized completely and 62% children completely immunized but, majority of the parents 92% believed that vaccinating their children will help others in the community (Herd Immunity) and only 58.2% believed that vaccination is definitely necessary over antibiotics.

Most of the parents 86% were informed about the importance of the vaccine being administered, only 14% were not informed. 35% parents were informed about the precautions to be taken post vaccination, 65% parents were not informed. 77% of the parents had their child's vaccination health card and 23% of parents have lost their health card.

Vaccination:

10.2% parents were only aware of BCG, 12.8% parents were aware of BCG, OPV. 14% were aware of BCG, OPV, HEP B, 15.8% parents

were aware of BCG, OPV, MMR. 6.85% parents were aware of BCG, OPV, HEP B, DPT, Typhoid. 1.2% parents were only aware of OPV and the remaining parents were not completely aware of their children vaccination 39.2%

Table 1 : Description Of Sample's Characteristics

Variable	N (%)
Gender	500
Female	214(42.8)
Male	286 (57.2)
Age	
0-5 yrs	285 (13.2)
5-10yrs	147 (29)
10-15yrs	68 (57)
No of children in family	
1	156 (31.2)
2	284(56.8)
3	59 (11.8)
4	1 (0.2)
Address	
Rural	26(52)
Urban	240 (48)
Marital status	
Married	468 32 (3.2)
Single parent	(93.6)
Principal care givers	
Father	152 (30)
Mother	253 (50)
Grandparents	95 (19)
Immunization status of Index case	
Completely	881 (97.5)
Partially	22 (2.4)

Table 2 : Awareness of immunization with the area of residence

	Address		Total
	Rural	urban	
No	0	0.4	0.2
Yes	100	99.6	99.8
total	100	100	100

	Value	DF	Asymptotic significance (2 sided)	P – Value
Pearson Chi-square	1.086	1	–	.480

Table 3 : Awareness of immunization with educational status

	Education		Total
	Educated	Uneducated	
No(%)	0	1.1	0.2
Yes (%)	100	98.9	99.8
total (%)	100	100	100

	Value	DF	Asymptotic significance (2 sided)	P – Value
Pearson Chi-square	4.627	1	0.31	.178

Table 4 : Attitude if vaccination is necessary/ antibiotic among the principle caregivers

	Principle care giver			Total
	Father	Grandmother	Mother	
No (%)	69.1	100	3.6	41.8
Yes (%)	30.9	0	96.4	58.2
total (%)	100	100	100	100

	Value	DF	P – Value
Pearson Chi-square	330.863	2	0.0005

Table 5 : Attitude of principle caregivers on adverse effects

	Principle care givers			Total
	Father	Grandmother	Mother	
No(%)	94.7	98.9	71.9	84
Yes (%)	5.3	1.1	28.1	16
total (%)	100	100	100	100

	Value	DF	P – Value
Pearson Chi- square	56.224	2	0.0005

Table 6: Information regarding precautions post vaccination among principle caregivers

	Principle caregivers			Total
	Father	Grandmother	Mother	
No(%)	52	70.5	70.8	65
Yes (%)	48	29.5	29.2	35
total (%)	100	100	100	100

	Value	DF	P – Value
Pearson Chi- square	16.291	2	0.0005

DISCUSSION:

The study represents the evaluation of parent's knowledge, attitude and behavior on childhood vaccine and vaccination. In this study, 99.8% of the parents were found to be aware of the immunization given for their children. On assessing the awareness of immunization with respect to the area they are residing, i.e, urban and rural using Pearson chisquare test with P value 0.480 which is not statistically significant (Table 2) which means , awareness on immunization is not associated with the area they are residing . All the caregivers (father, mother, grandmother) 99.8% were aware of the immunization practices. Awareness of immunization with parent's education status shows Pearson chisquare test with P value 0.17 which is statistically not significant (Table 3) which means that awareness of immunization has no role with parent's education.

According to a research by Swetha E. Jose et al, have evaluated the attitudes and knowledge of fathers regarding vaccination, compared to mothers. The father's participation is crucial for the child's immunisation to be successful, according to several research. Given that men are the leader of the family and are responsible for all decisions, including those regarding their health and finances, their engagement in the child's immunisation is crucial for its success. Fathers who are knowledgeable in vaccination practises are more likely to advise their kids to evaluate immunisation services.^[7]

According to our study, we have found that all caregivers including fathers have a good knowledge and attitude towards vaccination practices.

On assessing the Attitude of the parent if they believe vaccinating their children will help others in the community(Herd immunity) by using Pearson chisquare test shows P value .0005 which is statistically significant. It suggests parents having more than two children have 100% positive attitude and on assessing parents educational status, 100% of the educated parents had positive attitude using pearson chisquare test with, P value of 0.0005 which is statistically significant and among the uneducated parents, 55.1% had a positive attitude. 92% of the principal caregivers believed that vaccinating their children will help others in the community and on assessing the adverse effect post vaccination showed pearson chisquare test with P value 0.0005 which is statistically significant (Table 5) which means 84% of the children did not face any side effect .

On assessing the attitude of the principal care givers if the vaccination is necessary or antibiotic alone is enough for prevention of diseases showed Pearson chisquare with P value 0.005 which is statistically significant (Table 4) which means 100% of grandmothers had a belief that antibiotic is better over vaccination to prevent diseases but, 96.4% of the mothers had positive attitude that vaccination is important over antibiotics.

On assessing the practices followed before the administration of the vaccination it was found that 86% of the principal caregivers were informed about the importance of the vaccination before administration by using Pearson chisquare test with P value 0.0005 which is statistically significant (Table 6) which means good practices were followed by practioners. On assessing if the caregivers were not informed about the precautions to be taken post vaccination by using pearson chisquare test showed P value 0.0005 which is statistically significant which means more than half, that is 65% of caregivers were informed, out of which 93.3% were uneducated.

On assessing the index case vaccination status, most of the children, 97.5% of the children were completely immunized, rest were un-immunised.

In a study done by Aleena Sunny et al, considerable mothers had satisfactory knowledge , attitude and practise regarding vaccination, around 25 % of the children were identified as un-immunised ^[9] .

In a study by Matta et al conducted outside India reported that more emphasis to be given on importance of this relationship between parents and physicians, the need to consult them and mentioned that it is important to identify new strategies to highlight the need for immunization and to immunize and educate parents on an individual and public health level. ^[5]

A study conducted in Turkey by Kara S.S et al ^[7] commented on the knowledge parents had on optional vaccines and it was directly associated to parents education status.,family sociodemographic characteristics were not associated with decision to vaccinate. History of vaccine related adverse events was reported by almost 90% of parents. Our study showed awareness of immunization was not related to sociodemographic characteristics and only 16% of parents noticed adverse effect post vaccination.

In a study done by Antonietta Filia et al ^[8] , pediatricians must be knowledgeable about vaccine dangers, vaccine safety, and false contraindications, beliefs any self-doubts they may have regarding false myths, and be able to effectively communicate vaccine facts to parents if they are to sustain high levels of vaccination uptake. They aim to improve paediatricians' understanding of immunisations and confidence in handling parents' concerns. they are focusing on involving pediatricians more frequently in the choice-making process for immunisation tactics.

CONCLUSION:

Vaccination is a vital part of public health that saves millions of lives every year. In our study, educational status and the area of residence have been found to play no role in awareness of immunization. Parents having more than 2 children had 100% positive attitude regarding that vaccination will help in herd immunity.

Proper awareness about the vaccination and the latest updates can be discussed through social media like television, radio, giving brochure and by sending messages to the registered phone numbers for all the parents. This creates awareness in parents about the vaccination being administered, its importance and possible adverse effects. This aids in increasing the vaccination coverage in surrounding area.

Limitation:

Our questionnaires did not have an assessment on Optional vaccines. Hence further studies should be focused on other important vaccines which are not in the National immunisation schedule

REFERENCES

1. The Lancet Infectious Diseases. The imperative of vaccination. *Lancet Infect Dis.* 2017;17(11):1099.
2. Fine P, Eames K, Heymann DL. "Herd immunity": a rough guide. *Clin Infect Dis.* 2011;52(7):911-6.
3. Kara SS; Polat M; Cura Yayla B; Bedir Demirdag T; Tapisiz A; Tezer H; et al. Parental vaccine knowledge and behaviours: a survey of Turkish families. *East Mediterr Health J.* 2018;24(5):451-458. <https://doi.org/10.26719/2018.24.5.451>
4. Gust DA, Woodruff R, Kennedy A, Brown C, Sheedy K, Hibbs B. Parental perceptions surrounding risks and benefits of immunization. *Semin Pediatr Infect Dis.* 2003;14(3):207-12. PMID:12913833
5. Matta et al. *BMC Public Health* (2020) 20:1439 <https://doi.org/10.1186/s12889-020-09526-3>
6. Jose, Swetha & Navya, C.J. & Sheela, Soorya & Joshy, Vidhu. (2020). Knowledge, attitude and practice of fathers about childhood immunization: a tertiary care hospital based cross sectional study. *International Journal Of Community Medicine And Public Health.* 7. 1932. 10.18203/2394-6040.ijcmph20202008.
7. Kara SS, Polat M, Yayla BC, Demirdag TB, Tapisiz A, Tezer H, Camurdan AD. Parental vaccine knowledge and behaviours: a survey of Turkish families. *East Mediterr Health J.* 2018 Jul 17;24(5):451-458. doi: 10.26719/2018.24.5.451. PMID: 30043964.
8. Filia A, Bella A, D'Ancona F, Fabiani M, Giambi C, Rizzo C, Ferrara L, Pascucci MG, Rota MC. Childhood vaccinations: knowledge, attitudes and practices of paediatricians and factors associated with their confidence in addressing parental concerns, Italy, 2016. *Euro Surveill.* 2019 Feb;24(6):1800275. doi: 10.2807/1560-7917.ES.2019. 24.6.1800275. PMID: 30755294; PMCID: PMC6373065.
9. Sankar BK, Rameh S, Sunny A (2018) A Study to Assess and Correlate the Knowledge, Attitude and Practices of Vaccination among Mothers with Educational Status in a Teaching Hospital in South India. *Prim Health Care* 8: 290
10. <https://www.unicef.org>