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Original Research Article

Evaluation of Knowledge, Attitude and Practices on Immunization among Mothers of under Five Children of a Tertiary Care Hospital in Eastern India

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ABSTRACT

Objective: To identify maternal knowledge, attitude and practices (KAP) about immunization.
Methods: Cross sectional survey among mothers attending immunization clinic was performed for a period of 3 months. Mothers who wished to take part were considered as subject. Participants were interviewed with pretested structured questionnaires of knowledge, attitude and practice about immunization. Data were collected in a predesigned, pretested Case Record Form and analysed by appropriate statistical software.
Results: Total participant were 400. Complete immunization found in 82.25% (n1=329) whereas 17.75% (n2=71) were partially immunized. Most of the studied samples were from urban (80.5%), while the rest from rural area. Paramedical field workers were the main source of information (55.25%) followed by community leaders (22.25%), while doctors were the least (3.50%). Among fully immunized, 92.40% mothers were educated whereas in partial immunization 85.92% were educated. Most of the working mothers (83.39%) completed their children's immunization. Sickness was the most common cause for cessation of immunization, followed by social inhibition, forgetfulness and non-availability of the vaccine (53.43%, 22.73%, 15.91% and 7.93%) respectively.
Conclusion: Maternal education, attitude and source of immunization information were significant. Appropriate information dissemination through local languages and aggressive campaigning through involvement of community leaders are crucial for success of the programme.

Keywords: Under five children Immunization, Immunization & maternal education, KAP study.

INTRODUCTION

Immunization is the cost effective interventions that prevent a series of major illness thereby it can reduce many public health related problems. [1] It prevents 2 million deaths per year worldwide and is widely considered to be "overwhelmingly good" by the scientific community. [2,3] It is a protection shield from many major diseases. 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. [2] Vaccination coverage has now reached a plateau in many developing countries, and even where good coverage has been attained. [4] Success or failure of immunization programs depends upon so many factors such as knowledge, attitude and practices of parents. In developing countries information about knowledge, attitude and practices of mother about immunization is lacking. [5] To keep the children safe from diseases immunization

is a preventive measure; so routine immunization is an utmost necessity. [5] Approximately 34 million children are not completely immunized of which 98% of them in developing countries shown in a recent study. Roughly 3 million children die each year from vaccine preventable disease. [7]

Hence, our aim was to find out maternal knowledge, attitude and practice about immunization and to determine maternal characteristics and other determinants of full immunization status.

MATERIALS AND METHODS

A cross-sectional study of 400 mothers of under-five children was included in the study.

Selection criteria: Mothers attending the immunization clinic at The Department of Community Medicine for vaccination of their children in our study period and were agreed to participate in the study voluntarily were taken as subject and analysis were performed thereafter in The Dept. of Pharmacology. Mothers having children of age group less than 5 years on the date of interview were included. The interview was consists of questions about knowledge, attitude and practice of immunization and also the background characteristics of the child and mothers.

Background questions covered the demographic, occupation and education data and the source of immunization information. The results were categorized in two groups. Group-1 Completely immunized up to the presenting age and Group 2 was partially immunized, defined as those who missed any one vaccine out of the programme. Information regarding the administration of vaccine was obtained from immunization card or on the basis of recall by the respondents in case of unavailability of the card.

Variables analyzed were:

i) Respect to the studied mothers: Education, source of information about vaccination, causes of cessation of immunization, impact of education and mother's work.
ii) Respect to the children of the studied mothers: Gender and immunization status.

Inclusion Criteria:

1. Mothers who were having under-five children and attending the routine immunization clinic.
2. Mothers who willingly gave written consent for the study.

Exclusion Criteria: Mothers who were not willing to participate in the study.

Statistical analysis: The data for this study was subjected to standard statistical analysis using the IBM-SPSS ver.20 data processing software for windows seven. For all tests, the p-value was considered to be significant if it was less than 0.05 at a confidence level of 95%. Chi square test was done for statistical analysis.

RESULT AND ANALYSIS

Following inclusion criteria 400 participant mothers were interviewed in our study. Of those, 82.25% (n1=329) was completely immunized whereas 17.75% (n2=71) was partially immunized (Table 1).

More than half of the studied sample 221 (55.25%) were females and 179(44.75%) were males with male female ratio of 1:1.23. Child's gender was not a significant factor in immunization status as per our study showed (Table 2).

In our study, 80.50% of mothers were from urban and the rest were from rural areas. There were no significant association of mother's residence on immunization status as per study which showed completely immunised children belongs to 78.72% from urban and 21.28% from rural areas ($p > 0.05$) (Table 3). Among fully immunized, 92.4% mothers were educated whereas in partial immunization illiteracy was seen in only 14.08% mothers and the difference was statistically significant ($p<0.05$) (Table 4). The paramedical worker was found to be the major source of information to the

attendants of completely (91.40%) and partially immunized (8.60%) children; community leaders, on other hand were found to be the most important source of information among partially immunized children (Table 5).

A favourable attitude toward the immunization programme was expressed in 333 mothers (83.25%).

Positive attitude was significantly ($p < 0.0001$) highly associated with better immunization status (88.29% were fully immunized and 11.71% were partially immunized) than negative attitude such as mothers were afraid of and false belief or rumour about immunization. Negative attitudes were found in 52.24% of completely immunized and 47.76% of partially immunized children (Table 6). The mother's job did not affect the child's immunization (Table 7).

Table: 1 Distribution of studied population (N=400) according to their demographic profiles

Gender of Childs	**No (%)**	**Residence**	**No (%)**
Male	179 (44.75)	Urban	322 (80.5)
Female	221 (55.25)	Rural	78 (19.5)
Immunization status of Children	**No (%)**	**Education of mother**	No (%)
Complet	329(82.25)	Illiterate	35 (8.75)
Partial	71(17.75)	Primary	95 (23.75)
		Secondary	207 (51.75)
		University	63 (15.75)
Maternal occupation	**No (%)**		
Housewife	99 (24.75)		
Employed	301 (75.25)		

Table2: Distribution of children immunization status according to gender.

Sex	**Complete No.(%)**	**Partial No. (%)**	**Total No. (%)**	**$\chi 2$**	**p-value**
Male	146 (44.38)	33 (46.48)	179(44.75)	0.04	>0.05
Female	183 (55.62)	38 (53.52)	221(55.25)		
Total	329	71	400		

Table3: Immunization status according to residence.

Residence	**Complete No. (%)**	**Partial No. (%)**	**Total No. (%)**	**$\chi 2$**	**p-value**
Urban	259(78.72)	63 (88.73)	322 (80.5)	3.12	>0.05
Rural	70 (21.28)	8 (11.27)	78 (19.5)		
Total	329	71	400		

Table 4: Distribution of immunization status according to maternal education

Mother's education	**Complete No. (%)**	**Partial No. (%)**	**Total No. (%)**	**$\chi 2$**	**p-value**
Illiterate	25(7.60)	10(14.08)	35(8.75%)	23.27	<0.0001
Primary	75(22.80)	20(28.17)	95(23.75)		
Secondary	187(56.84)	20(28.17)	207(51.75)		
University	42(12.76)	21(29.58)	63(15.75)		
Total	329	71	400		

Table 5: Distribution of the source of immunization information of the studied group

Source	**Complete No. (%)**	**Partial No. (%)**	**Total No. (%)**	**$\chi 2$**	**p-value**
Paramedical workers	202(91.40)	19(8.60)	221(55.25)	40.48	<0.0001
Community leader	58(65.17)	31(34.83)	89(22.25)		
Doctor	7(50)	7(50)	14(3.5)		
Poster and miking	40(81.63)	9(18.37)	49(12.25)		
T.V.	22(81.48)	5(18.52)	27(6.75)		
Total	329	71	400		

Table 6: Immunization status according to mother's attitude towards vaccination

Mother's attitude	**Complete No. (%)**	**Partial No. (%)**	**Total No. (%)**	**$\chi 2$**	**p-value**
+ve attitude	294(88.29)	39(11.71)	333(83.25)	47.21	<0.0001
-ve attitude	35(52.24)	32(47.76)	67(16.75)		
Total	329(82.25)	71(17.75)	400		

Table7: Immunization status according to the mother's occupation

Mother's job	**Complete No. (%)**	**Partial No. (%)**	**Total No. (%)**	**$\chi 2$**	**p-value**
Housewife	78(78.79)	21(21.21)	99(24.75)	1.08	>0.05
Employed	251(83.39)	50(16.61)	301(75.25)		
Total	329(82.25)	71(17.75)	400		

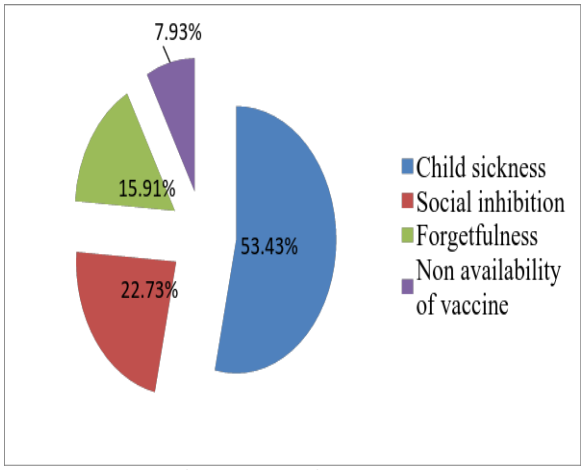

Figure 1: causes for cessation of immunization (partial)

The most often mentioned reason for incomplete immunization was child sickness which was reported in 53.43%, followed by social reasons, forgetfulness and others (Figure 1).

DISCUSSION

Vaccination in India is an obligatory programme, and maintained properly through a universal protocol. Inspite off all effort and initiatives taken by the Government, international agencies and helping hand through various non-governmental organisations, incomplete immunization of the children observed in our study. Partial immunization was observed in 17.25% of our studied population indicating that still there were some children lost to follow up and missed some vaccines. There was a statistically significant association between maternal education and immunization status, χ^2 (1) =23.27, p= <0.0001. In our study, completely immunised children was 82.25% and maternal literacy was 91.25%, and the gap between these was quite higher in contrast to the study carried out by Odusanya et al. in Nigeria in 2008 [8] where maternal literacy and complete immunisation rate were 83% and 81% respectively. Maternal education was a significant predictor of completeness of immunization as the highly educated mothers will be more aware of the seriousness of this issue. This role of maternal knowledge as an important determinant of vaccination coverage has been shown by several researchers. The lower than expected coverage observed in our study that reinforces the need for continuous motivation, regular supervision and continuous monitoring as well as evaluation to detect any declines in vaccination.

There was no statistically significant association between gender and immunization status, $\chi 2$ (1) =0.04, p= >0.05 and this is almost the same with the study carried out by Odusanya et al. in Nigeria in 2008. There was a statistically significant association between residence and immunization status, $\chi 2$ (1) =3.12, p=>0.05 in contrast to the study carried out by Chhabra et al. in India in 2007. [9]

There was a strong statistically significant association between source of immunization and immunization status, $\chi 2$ (1) =40.48, p= <0.0001. More than half of the attendants of immunized children received the information from paramedical workers. This was because the majority of the respondents had available services at primary and secondary health care levels and these health facilities seem to be most readily available and accessible to the people. The community leader played a significant role to promote immunisation. These findings are consistent with the finding of other studies such as Singh et al. in India in 1994 and Quaiyum et al. in Bangladesh in 1997. [10,11]

There was a strong statistically significant association between mother's attitude towards vaccination and immunization status, $\chi 2$ (1) =47.21, p= <0.0001. More than three fourth of the attendants of children had positive attitude toward vaccination which reflect a higher significance for complete immunization. The negative attitude such as fear from vaccination and some false beliefs played a highly significant role within the partial immunized group. This finding is in accordance with other studies such as Nisar et al. in Pakistan in 2010 and Saunders et al. in Combodia in 2005. [12,13]

Child sickness was the main reason behind cessation of immunization in our study, followed by social inhibitions, forgetfulness and non availability of vaccines during their stipulated date of immunization. These reasons were found to be similar to other study such as Impicciatore et al. in Italy in the year 2000. [14]

Similar findings were reported from developed [15] and developing countries. [16]

The government health facilities, especially at the primary level need to be more user friendly by making it accessible to all and also by reducing the waiting time and coordination between all tires of health facilities are also needed, so that the health system becomes efficient for the achievement of the goal of "Health to All". The insufficient knowledge of the people requires honest and sincere efforts on the part of the health professionals and policy makers to plan and execute the IEC "information, education and communication" initiatives.

There was no statistically significant association between mother's occupation and immunization status, $\chi 2$ (1) =1.08, p=>0.05.

CONCLUSIONS

We conclude that the maternal education, maternal attitude towards immunization and source of immunization significantly reflected on the state of immunization. Biased information, false beliefs and little knowledge about immunization make things difficult to make it completely successful. Appropriate information dissemination, aggressive campaigning, involvement of various community leaders and coordinated group work are crucial to make it and universally success programme.

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REFERENCES

1. Moss WJ, Griffin DE. Global measles elimination. Nat Rev Microbiol. 2006 Dec;4(12):900-8.
2. GIVS. Global Immunization Vision and Strategy 2006-2015. Geneva:WHO/UNICEF; 2005. Cited in http://whqlibdoc.who.int/hq/2005/WHO_IVB_05.05 .pdf [accessed on 8th December 2015].
3. Wright PF. Global immunization-a medical perspective. Soc Sci Med. 1995 Sep; 41(5):609- 16.
4. Expanded Programme on Immunization. The Social Science and Immunization Research Project. Wkly Epidemiol Rec. 1998 Sep; 73(37):285-8.
5. Immunization Handbook for Medical officers; Dept of Health & Family Welfare, Govt. Of India; pl0-5.
6. World Bank, World Development Indicators. Cited in www.google.com/public data [accessed on 8th December 2015).
7. Adeyinka D, Oladimeji O, Adeyinka F, et al. Uptake of Childhood Immunization among mothers of Under Five in South Western Nigeria. The Internet Journal of Epidemiology. 2009; 7(2):1-9.
8. Odusanya OO, Alufohai EF, Meurice FP, et al. Determinants of vaccination coverage in rural Nigeria. BMC Public Health. 2008 Nov; 381(8):1471-2458.
9. Chhabra P, Nair P, Gupta A, et al. Immunization in urbanized villages of Delhi. Indian J Pediatr. 2007 Feb; 74(2):131-4.
10. Singh MC, Badole CM, Singh MP. Immunization coverage and knowledge and practices of mothers regarding immunization in rural area. Indian Journal of Public Health. 1994; 38(3):103-7.
11. Quaiyum MA, Tunon C, Hel Baqui A, et al. Impact of national Immunization days on polio-related knowledge and practice of urban women in Bangladesh, Health Policy Plan. 1997 Dec; 12(4):363-71.

12. Nisar N, Mirza M, Qadri MH. Knowledge, attitude and practices of mothers regarding immunization of one year old child at Mawatch Goth, Kemari town, Karachi, Pakistan. Pak J Med Sci. 2010; 26(1):183-6.
13. Saunders N. Maternal knowledge, attitude and practices concerning child health among mothers of children younger than 60 months in kep District, Kingdom of Comodia. University of Toronto, Faculty of Health. Center for International Health. 2005; 1:2-30.
14. Impicciatore P, Bosetti C, Schiavio S, et al. Mothers as active parents in the prevention of childhood diseases: maternal factors related to Immunization status of preschool children in Italy. Prev Med. 2000 Jul; 31(1): 49-55.
15. Bond L, Nolan T, Pattison P, et al. Vaccine preventable diseases and Immunizations: a qualitative study of mothers' perceptions of severity, susceptibility, benefits and barriers. Aust N Z J Public Health. 1998 Jun; 22(4):441-6.
16. Shah B, Sharma M, Vani SN. Knowledge, attitude and practice of immunization in an urban educated population. Indian J Pediatr. 1991 Sep; 58(5):691-5.

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