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KNOWLEDGE AND OPINION OF CAREGIVERS REGARDING CHILDHOOD ADDITIONAL VACCINES IN AGARTALA, WEST TRIPURA

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ABSTRACT

Introduction: Despite growing vaccine-preventable infections, immunization campaigns still suffer due to parental resistance. Knowledge and opinion of caregivers about childhood additional vaccines becomes imperative before we stress upon any such promotion under UIP. **Objective:** To assess knowledge and opinion of caregivers regarding childhood additional vaccines in Agartala, Tripura. **Methods:** Present study was undertaken during Jul-Dec 2011 in a child clinic at Agartala. Data was collected using pre-designed and pre-tested proforma by interview technique. Information regarding background characteristics of parents, source of information, knowledge and opinion regarding childhood additional vaccines was collected after obtaining written consent. Data analysed using Microsoft Excel and Epi_Info version 6.04. Chi-square test was used and $p<0.05$ considered statistically significant. **Results:** Information was gathered from parents of 180 children. Doctors (73.33%) were main source of information followed by television (18.89%). 26.67% and 32.78% parents respectively knew timing and against which diseases additional vaccines are used. 73.89% parents reported vaccination as best way to prevent these diseases. 76.11% opined additional vaccines should be available at govt. hospitals. 46.67% recognized polyvalent vaccines better than monovalent. Numbers of injections (89.29%), cost (21.43%), numbers of visits (16.67%) and less complications (15.48%) were cited for such preference. Financial constrain (46.11%), family disagreement (26.67%), time constrain (20%), fear of complication (18.89%) and non-availability (8.89%) were stated as barriers. Parents' education (69.44%) and economic status (41.11%) were stated as family related reason for poor acceptance of additional vaccines. **Conclusion:** Parents' knowledge-gap, opinion and operational issues should be addressed before launching and promoting any childhood additional vaccine campaign.

Keywords: Care givers, Childhood Additional vaccine, Immunization, Parents

INTRODUCTION

Immunizing children against vaccine preventable diseases responsible for child mortality and morbidity is not an easy task. In a resource poor developing country like India, the numbers of target population across geographically diverse regions and difficult areas make universal immunization a mammoth task.[1] Immunization coverage in India are still lagging and current level of 'fully immunized' children under the national immunization programme is quite low, as pointed by previous studies.[2,3] Factors such as parents' knowledge about routine and additional vaccination and their attitudes towards them does influence vaccine coverage. Despite growing and emerging vaccine-preventable infections, reassurance from researchers on safety and efficacy of

vaccines, and tremendous efforts by health care professionals, immunization campaigns still suffer on accounts of parental resistance.[4,5] It is imperative to understand the current level of knowledge and opinion of caregivers about childhood additional vaccines before we put emphasis on any such promotion to be included under the national immunization schedule as suggested by Indian Academy of Paediatrics (IAP) [6] in India and especially in remote and difficult part of north-east India like Tripura state.

Objective: The present study was conducted to assess knowledge and opinion of caregivers regarding childhood additional vaccines in Agartala, West Tripura.

MATERIALS AND METHODS

Study setting: The present facility based observational study was undertaken during July-December 2011. For this purpose, a specialist child clinic situated in the urban area of Agartala, Tripura served as study center. The child clinic has a regular OPD attendance of around 20-25 children (upto 12 years age) per day. The clinic is run by a senior child specialist and 2 trained medical assistants.

Data collection: Data was collected by a pre-designed and pre-tested proforma using interview technique by senior child specialist at the child speciality clinic. Each parent(s) of children aged 2-5 years attending the clinic were explained about need of the study and those who consented to participate in the study after proper description and rationale of the interview questionnaire, were included in the study. Information regarding background characteristics of parents, source of information, knowledge and opinion regarding childhood additional vaccines was collected.

Additional vaccines: For study purpose, optional vaccines recommended by IAP[6] such as H influenza B (HiB), Hepatitis A, Chicken Pox, Meningococcal Vaccine, Pneumococcal Vaccine, Influenza Vaccine and Rota Virus Vaccine were considered as childhood additional vaccines.

Data analysis: The data were analysed using Microsoft Excel and Epi_Info software package version 6.04. To compare data sets Chi-square test was used and $p < 0.05$ was considered statistically significant (Yates' correction applied wherever applicable).

Ethical consideration: Written consent was obtained from all the study participants before assessing their knowledge and opinion about childhood additional vaccines.

RESULTS

Knowledge and opinion regarding childhood additional vaccines were gathered from parents of total 180 children. Among them, 112 (62.22%) were parents of male and 68 (37.78%) parents of female children. Majority (96.67%) of the respondents were Hindu and 104 (57.78%) belonged to joint families. 131 (72.78%) mothers of children were graduate and 144 (80%) were housewives. 151 (83.89%) fathers were graduate and 107 (59.45%) were in service. *(Table 1)*

Knowledge regarding additional vaccines

Doctors (73.33%) were main source of information regarding childhood additional vaccines followed by television (18.89%) and friends (17.78%). 48 (26.67%) and 59 (32.78%) parents respectively knew the timing of these additional vaccines and against which diseases these vaccines are being used. 133 (73.89%) parents reported vaccination as best way to prevent these diseases. 86 (76.79%) parents of male children reported that vaccination is the best approach to prevent these diseases as compared to 47 (69.12%) parents of female children *($p=0.033$)*. Further, 101 (56.11%) parents correctly knew the routine immunization schedule. *(Table 2)*

Opinion regarding additional vaccines

137 (76.11%) parents opined that additional vaccines should be available at govt. hospitals. 84 (46.67%) parents recognized polyvalent vaccines better than monovalent vaccine. Numbers of injections (89.29%), cost (21.43%), numbers of visits (16.67%) and less complications (15.48%) were cited for such

preference. Financial constrain (46.11%), family disagreement (26.67%), time constrain (20%), fear of complication (18.89%) and non-availability (8.89%) were stated as barriers; and parents' education (69.44%) and economic status (41.11%) were stated as foremost family related reason for poor acceptance of childhood additional vaccines. *(Table 3)*

DISCUSSION

Study findings indicate that knowledge and opinion of parents regarding childhood additional vaccines pose as significant factor towards successful immunization campaign. Doctors remained important source of information (73.33%) for parents in regard to childhood additional vaccines. Majority of parents opined that vaccines are best method to prevent these diseases (73.89%) and those vaccines should be made available in govt. hospitals (76.11%). These results are similar to findings documented by previous researchers. [7,8] However, in the present study, only 26.67% and 32.78% parents respectively knew the timing and rationale of selected childhood additional vaccines. Previous researchers have mentioned that modus-operandi towards knowledge and concerns raised by parents regarding childhood immunization determines action taken by parents, and thus immunization coverage in particular area.[9,10] It has been recommended that parents who resist immunization campaign because of background characteristics, traditional beliefs or situational perceptions; health care providers must assess the socio-cultural, economic and scientific basis for resistance before promoting such campaign.[11]

Financial constrain, parental knowledge, family disagreement, fear of complication and non-availability of additional vaccines were stated as main barriers for poor acceptance and coverage of childhood additional vaccines. Similar findings has already been compiled and documented in this respect through studies conducted in Africa and Asia.[12] In general, parents' knowledge about childhood additional vaccines still remains poor in third world countries. However, it has been argued that public often accepts vaccination despite limited knowledge about it.[13] It is recommended that parents' knowledge and concerns must be addressed to promote and maintain childhood additional vaccination campaign once we plan to start this campaign.

Further, to improve vaccination coverage and child survival, a sense of urgency is must from national as well as community level.[14] Measures which can lever promotion and popularization of childhood additional vaccination may include addressing knowledge gap among parents and their concerns, making these vaccines available at govt. hospitals, engaging private health providers/facilities and monitoring the progress to sustain the impact. Performance of MCH services still remains a matter of concern in India and it has been recommended to engage and monitor services rendered by anganwadis towards improvement of immunization services. [15] The strong association between parents' education and vaccination coverage has been recognized in NFHS-3 and UNICEF coverage surveys in India and other developing countries. [16, 17] This fact may also be may be utilized considering higher education level of parents in the study area to promote and sustain coverage of childhood additional vaccines in the study are as suggested by Indian Academy of Paediatrics.

Limitations:

Debatable limitations of the present study may include urban setting of the study and already sensitized respondents otherwise clients of the same private health care facility. This arguably may have led to an inflated response and thus puts question on application of the study findings in other difficult, remote and rural India.

CONCLUSION

Parents' knowledge and opinion regarding childhood additional vaccines is a matter of concern. This knowledge-gap and other operational issues should be addressed before launching and promoting any such campaign.

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Table 1: Background information of study population

Characteristics	Total N=180	Male Child N=112	Female Child N=68	Chi-square [p value]
Religion				
Hindu	174 (96.67)	107 (95.54)	67 (98.53)	0.43
Other	6 (3.33)	5 (4.46)	1 (1.47)	[0.511]
Type of family				
Nuclear	76 (42.22)	43 (38.39)	33 (48.53)	1.78
Joint	104 (57.78)	69 (61.61)	35 (51.47)	[0.182]
Mother's Education				
Upto 12 std	49 (27.22)	33 (29.46)	16 (23.53)	0.75
Graduate and above	131 (72.78)	79 (70.54)	52 (76.47)	[0.386]
Father's Education				
Upto 12 std	29 (16.11)	17 (15.18)	12 (17.65)	0.19
Graduate and above	151 (83.89)	95 (84.82)	56 (82.35)	[0.662]
Mother's Occupation *				
House wife	144 (80)	95 (84.82)	49 (72.06)	5.78
Service	32 (17.78)	14 (12.5)	18 (26.47)	[0.056]
Other	4 (2.22)	3 (2.68)	1 (1.47)	
Father's Occupation				
Service	107 (59.45)	62 (55.36)	45 (66.18)	2.19
Business	65 (36.11)	45 (40.18)	20 (29.41)	[0.334]
Other	8 (4.44)	5 (4.46)	3 (4.41)	

(Figures in parenthesis indicate percentages)

Table 2: Knowledge of care givers regarding additional vaccines

Characteristics	Total N=180	Male Child N=112	Female Child N=68	Chi-square [p value]
Source of information *				
Doctor	132 (73.33)	79 (70.54)	53 (77.94)	
TV	34 (18.89)	19 (16.96)	15 (22.06)	
Friends	32 (17.78)	22 (19.64)	10 (14.71)	4.43
Posters	17 (9.44)	10 (8.93)	7 (10.29)	[0.489]
Radio	4 (2.22)	1 (0.89)	3 (4.41)	
Other Sources	12 (6.67)	9 (8.04)	3 (4.41)	
Have knowledge about routine immunization schedule	101 (56.11)	54 (48.21)	47 (69.12)	7.51 [**0.006**]
Know schedule of additional vaccines	48 (26.67)	25 (22.32)	23 (33.82)	2.86 [0.091]
Have knowledge against which diseases additional vaccines are being used	59 (32.78)	42 (37.5)	17 (25)	3.00 [0.083]
Best way to prevent such diseases				
Vaccination	133 (73.89)	86 (76.79)	47 (69.12)	
Healthy diet and hygiene	23 (12.78)	17 (15.18)	6 (8.82)	
No idea	16 (8.89)	7 (6.25)	9 (13.24)	8.71
Other	8 (4.44)	2 (1.78)	6 (8.82)	[**0.033**]

(* Multiple responses, Figures in parenthesis indicate percentages)

Table 3: Opinion of care givers about additional vaccines

Characteristics	Total N=180	Male Child N=112	Female Child N=68	Chi-square [p value]
Additional vaccines should be available in Govt. Hospitals	137 (76.11)	80 (71.43)	57 (83.82)	3.58 [0.059]
Recognize combination vaccines better than single vaccine	84 (46.67)	51 (45.54)	33 (48.53)	0.15 [0.696]
Reason *	**[N=84]**	**[N=51]**	**[N=33]**	
Less number of Injections	75 (89.29)	51 (100)	24 (72.73)	
Cheaper	18 (21.43)	8 (15.69)	10 (30.30)	8.22
Less visits	14 (16.67)	11 (21.57)	3 (9.09)	[**0.042**]
Less complications	13 (15.48)	5 (9.80)	8 (24.24)	
Barriers of additional vaccination *				
Financial constrain	83 (46.11)	47 (41.96)	36 (52.94)	
Family disagreement	48 (26.67)	30 (26.79)	18 (26.47)	
Time constrain	36 (20)	28 (25)	8 (11.77)	10.86
Afraid of complications	34 (18.89)	25 (22.32)	9 (13.24)	[0.054]
Non-availability	16 (8.89)	6 (5.36)	10 (14.71)	
Other	18 (10)	11 (9.82)	7 (10.29)	
Reason for poor acceptance of additional vaccines *				
Parents' education	125 (69.44)	85 (75.89)	40 (58.82)	
Economic status	74 (41.11)	41 (36.61)	33 (48.53)	
Number of children	8 (4.44)	6 (5.36)	2 (2.94)	4.89
Parents' occupation	6 (3.33)	5 (4.46)	1 (1.47)	[0.429]
Sex of the child	4 (2.22)	3 (2.68)	1 (1.47)	
Other	21 (11.67)	13 (11.61)	8 (11.77)	

(* Multiple options, figures in parenthesis indicate percentages)