

www.jmscr.igmpublication.org

Impact Factor 3.79

ISSN (e)-2347-176x



A Comparative Study on Awareness about Immunization in Hindu-Muslim Mothers in a Rural Area, Bankura District, West Bengal

Authors

Dr Samir Kumar Roy¹, Dr Kusumita Mandal², Dr Kamalika Mandal³

¹R.M.O. Cum Clinical Tutor, Bankura Sammilani Medical College, Bankura. India

²R.M.O. Cum Clinical Tutor, Medical College, Kolkata India

³Post Graduate Student in Psychiatry, Bhavnagar Medical College, Bhavnagar, India

Email: skrr80@yahoo.in, kusumita22@yahoo.in, kamalika21@gmail.com

Corresponding Author

Dr. Samir Kumar Roy

R.M.O. cum Clinical Tutor, Department of Pediatrics, Bankura Sammilani Medical College,
Gobindanagar, Bankura. PIN -722102

Email-skrr80@yahoo.in

ABSTRACT

Universal Immunization Programme aims at completing primary immunization for all infants before they complete one year of age. Preventable infections are major cause of childhood mortality and morbidity in South Asia.

Research question: *To assess and compare the awareness about immunization among Hindu and muslim mothers in a rural area.*

Setting: *Rural health training centres attached to Department of Community Medicine, Bankura Sammilani Medical college and Hospital, Bankura*

Study design: *Cross-sectional*

Participants: *Mothers of children aged between 12 and 23 months attending rural training centres.*

Methods: *Data was collected for period of six months by administering structured and pre tested questionnaire to eligible mothers registered at rural health training centres.*

Statistical analysis used: *Descriptive statistics using IBM SPSS 20.0*

Results: *Awareness regarding DPT, HBV, Meseals and additional vaccines, were significantly higher*

[p<0.001] in Hindu mothers. Awareness regarding the schedule for administering BCG and OPV was highest and HBV lowest among all mothers in both groups. Hindu mothers were more aware in terms day of immunization, next visit and recommending immunization. Anganwadi workers were the main source of information regarding immunization. Higher educational status played significant role in awareness about day of immunization in both areas

Key words: *Immunization, Awareness, Hindu and Muslim Mother, HBV, Measles*

INTRODUCTION

Immunisation is a highly cost effective way of improving survival in children in developing countries^[1,2] Every year throughout the world, however, an estimated 27 million children and 40 million pregnant women do not receive the basic package of immunisations (as defined by WHO and Unicef), and two to three million people die from diseases that can be prevented with vaccines^[1,3] Immunisation rates are in part based on official statistics and might be over-reported.^[4,5] In India, immunisation services are offered free in public health facilities, but, despite rapid increases, the immunisation rate remains low in some areas. In May 1974, the WHO officially launched Expanded Programme on Immunization (EPI) to protect all children of the world against six vaccine-preventable diseases by the year 2000. The Indian version, the Universal Immunization Programme, was launched on November 19, 1985. The National Health Policy aimed at achieving universal immunization coverage of the eligible population by 1990. But studies show that the immunization coverage is below the target level to be achieved. Reasons for the decreased coverage are lack of awareness and knowledge about immunization among the mothers^[6]. This may cause difference in coverage

of immunization in term of area(urban and rural), Religion^[7]. Thus in spite of the efforts put by the government and other health agencies; the coverage of all children under the universal immunization programme appears to be a distant dream. There is an urgent need to find the gaps that are preventing from achieving the desired targets of immunization^[8] Hence, this study was undertaken with an aim to determine awareness about immunization in both Hindu and Muslim mothers, as no data about this is available in this part of the country.

MATERIALS AND METHODS

The study was carried out using a structured questionnaire in the Rural health training centres attached to Department of Community Medicine, Bankura Sammilani Medical College, Bankura period of 6 months to validate the questionnaire. Study was carried out for a period of six months and all eligible mothers who visited centre during this period were invited to participate in the study, after explaining them the purpose of study. Only mothers who had children in the age group of more than 12 and <23 months were included in the study. Written informed consent was taken, study subjects were interviewed by investigator and data was entered on a structured proforma. At

the end of six months, 372 eligible mothers from Hindu community and 321 eligible mothers from Muslim community were included in the study. Data collected was tabulated in MS Excel sheet and analysed using IBM SPSS 20.0 software. A p-value of <0.05 was taken as statistically significant.

RESULTS

Among the 372 and 321 participant mothers from Hindu Community and Muslim community, mean age of the mothers was 25.6 ± 4.4 years in Hindu Community and 24.6 ± 4 years in Muslim community mothers. Significant difference was seen in the working status [working Muslim 13.8%, working Hindu 39.2%] as well as educational status of mothers in the two groups [literate 96.9% Hindu, literate Muslim 78.6%].

Awareness regarding schedules of BCG, OPV and DPT was high in Hindu and Muslim mothers compared to schedule of HBV and measles vaccines [Table-1]. Both the group had poor idea regarding additional vaccines, only 2.2% Muslim mother heard about those vaccines in comparison to 6.4% Hindu mother. Our study found significant difference between awareness regarding measles schedule^[4] and HBV schedule. Hindu mothers (73.7%) are significantly more aware than Muslim mother (39.9%) about Hepatitis B vaccine. Whereas 20.4% Hindu mother and 37.45% Muslim mother did not hear about measles vaccines. Awareness regarding day of immunization, date of next visit and recommending immunization to others, other

services offered along with immunization was better in Hindu mothers than Muslim mothers and the difference is significant [$p < 0.05$] [Table-II]. Awareness regarding immunizing sick child, adverse effect following vaccination is parallel, statistically significant. 43.6% Hindu mother said, they will not give vaccine to their child if their baby is sick and 40.2% Muslim mother stated same. Both the group had insufficient knowledge regarding immunization doses and schedule. Maximum mother (90.3% Hindu and 91.3% Muslim) did not say actual timing and doses of vaccines. When they were asked about vaccine preventable diseases, they could answer majority only about polio and tetanus. Knowledge about other vaccines including BCG, Diphtheria whooping cough is not clear. In both urban and rural areas, majority of mothers were aware that anganwadi was the place of immunization. Majority Muslim mother (60.7%) believed, it will keep their baby healthy and Hindu mother (71%) believed that it was to prevent disease.^[1,13] Immunization gap and failure is significantly higher in Muslim population (15%) in compare to Hindu group (9.7%). Lack of knowledge and migration was the main cause of immunization gap. Sickness is the main cause of immunization gap in Hindu population. Health worker play the bulk of the role in knowledge dissemination in community in both group.

Table I: Awareness regarding various vaccine schedules in Hindu and Muslim mothers

	Hindu Mother (n=372)	Muslim Mother (n=321)	P value
BCG			>0.5
Aware	360(96.7%)	302(94.1%)	
Not Aware	12(3.3%)	19(5.9%)	
OPV			>0.5
Aware	364(97.8%)	306(95.3%)	
Not ware	8(2.2%)	15(4.7%)	
DPT			<0.001
Aware	342(91.9%)	274(85.3%)	
Not ware	30(8.1%)	47(14.7%)	
HBV			<0.001
Aware	274(73.7%)	128(39.9%)	
Not ware	98(26.3%)	193(60.1%)	
Meseals			<0.001
Aware	296(79.6%)	201(62.6%)	
Not ware	76(20.4%)	120(37.4%)	
Additional Vaccines			<0.001
Aware	24(6.4%)	07(2.2%)	
Not ware	348(93.6%)	314(97.8%)	

Table II: Comparison of awareness about immunization between Hindu-Muslim mothers

	Hindu Mother (n=372)	Muslim Mother (n=321)	
Day of immunization			<0.001
Wednesday	342(91.9%)	254(79.1%)	
Other days	30(8.9%)	67(20.9%)	
Advice given for next visit			<0.001
Yes	356(95.7%)	294(91.6%)	
No	16(4.3%)	27(8.4%)	
Recommend immunization			<0.001
Yes	360(96.8%)	276(86%)	
No	12(3.2%)	45(14%)	
Immunizing sick child			<0.001
Yes	24(6.4%)	20(6.2%)	
Will take advise	186(50%)	172(53.6%)	
No	162(43.6%)	129(40.2%)	
Adverse effect of vaccines			<0.001
Yes	58(15.6%)	54(16.9%)	
No	36(9.7)	38(11.8%)	
Don't know	278(74.7%)	229(71.3%)	
Other services offered during immunization			<0.001
Yes	16(4.3%)	62(19.3%)	
No	356(95.7%)	259(80.7%)	
Immunisation visit			<0.001
Appropriate Answer	36(9.7%)	28(8.7%)	
Inappropriate Answer	336(90.3%)	293(91.3%)	

Table III: Awareness regarding factors affecting immunization [Includes Multiple Answers]

	Hindu Mother (n=372)	Muslim Mother (n=321)	Total
Immunization place			
1. Anganwadi	322(86.6%)	301(93.8%)	623(89.9%)
2. Government Hospital	94(25.3%)	124(38.6%)	218(31.5%)
3. Private	35(9.4%)	26(8.1%)	61(8.8%)
Reason for immunization			
1. To prevent disease	264(71%)	104(32.4%)	368(53.1%)
2. To keep baby healthy	88(23.6%)	195(60.7%)	283(40.8%)
3. Advised by health workers	58(15.6%)	102(31.8%)	160(23.1%)
Reason for Immunization failure	36(9.7%)	48(15%)	84(12.1%)
1. Ignorant	10(27.8%)	14(29.2%)	24(28.6%)
2. Sick child	19(52.8%)	09(18.7%)	28(33.3%)
3. Migrated	3(8.3%)	12(25%)	15(17.9%)
4. Lack of knowledge	4(11.1%)	13(27.1%)	17(20.2%)
Information source			
1. Health workers	356(95.7%)	290(90.3%)	646(93.2%)
2. Doctors	68(18.3%)	48(14.6%)	116(16.7%)
3. Relatives and friends	52(14%)	78(24.3%)	130(18.8%)

DISCUSSION

Mother is the prime care giver to their baby. Mother's knowledge awareness, literacy level is utmost important factor to improve the child's wellbeing including immunization status. Demographic factors including socioeconomic status, religion, area (Rural or Urban) also determine important role for immunisation. Hindu mother adhered better with the immunization schedule in terms of immunization date(91.9%vs79.1%),next visit(95.7% vs 91.6%) and recommendin immunization(96.8%vs 86%). This is most probably educational level, socioeconomic status and women empowerment is better in Hindu community. Mothers from both

the community don't have clear knowledge regarding immunization order and schedule, adverse effect if any. They majority don't know (74.75&71.3%) whether to give vaccines to their sick child. This needs mass campaign for immunisation. Health works involvement particularly at the root level, media and overall political involvement required to highlight the benefits and advantage of immunisation. As the mother is the prime care giver, they have to motivated and awarded about immunization from the antenatal period with very first contact. A survey by Institute of Economic Growth University Enclave, Delhi India found only 46.5 Hindu and 36.1 Muslim fully immunized. The

current study observed that non immunized rates in Hindus were 9.7% compared with 15% in Muslims. A study in Vikas Nagar North India also observed a lower immunization rate in Muslim families (65.4%) compared with Hindus (85.2%).^[9] A study in Delhi showed that Muslims contributed significantly more cases of diphtheria than Hindus.^[10] Another study showed a significant difference in immunization by religion: Muslim children were significantly less likely to be immunized.^[11] A survey in Goa ^[12] reported that 83.7% infants in Hindu households were fully vaccinated whereas 2.4% were unimmunized, compared to 56.0% and 16.0% in Muslim households. Another survey ^[13] of over 4000 children in 16 states showed that 60% infants from Hindu households were fully vaccinated compared to 40% in Muslim households. A vaccination coverage survey in West Bengal ^[14] reported 68.2% complete vaccination among Hindu general caste, 47.5% among Hindu scheduled caste/tribe, and 57.1% among Hindu other backward class. It was 39.8% among Muslims; and 50.0% among people of other religions. A 30-cluster vaccine coverage survey covering half of Assam's districts ^[15] reported higher complete vaccination among infants from Hindu households (62.5%) than Muslim households (55.9%).

Complete immunization was significantly higher among Hindus in the present one whereas this result did not collaborate with the result of study done by Tagbo B.N. et al ^[16] as it revealed religious denomination was not significantly

associated with immunization status. The difference may be due to geographical differences. Nath B et al ^[17] found that incomplete immunization was more among children of illiterate mothers, Muslims, mothers living in joint families.

Studies by Roos M et al ^[18] revealed that the reasons were lack of transport, fear of side effects and misconception (development of autism). Other studies by Kumar D. et al, ^[19] Mukherjee B. et al ^[20] Manjunath U et al ^[21] and Gupta R.S. et al ^[22] also found that inadequate knowledge about immunization and subsequent dose, belief that vaccine causes side-effects, lack of faith in immunization, the major obstacles were busy schedule of mother, illness of child on the day of immunization and also due to lack of information respectively. Our study in the study of Nath B et al ^[17] that was conducted in Lucknow, 68% and 63% knew correct age and dosage of BCG vaccination. Less than half of the care-givers knew correct age of DPT and measles. Singh M.C. et al ^[23] in Wardha reported that 60% of the mothers knew the correct age of DPT and OPV while the percentage for measles was 45%. The reason could be due to of different bio-social characteristics of the care-givers and different implementation strategies. Therefore it can be said that, IEC activities focused on immunization need to be implemented with more sincere efforts with special attention on incomplete immunized group of children. ^[24]

Our results shown that health worker is the main resources of information for the mother of the

both community. Muslim mother had different knowledge, they believe immunization make their child more healthy (60.7%) than prevention of diseases (32.4%). A study in rural Kashmir in Muslim population showed that health institutions were the major sources of immunization and believed that immunization

prevents diseases and that there were no problems with immunization[24]. These results are consistent with our study. In both Hindu and Muslim community, majority of mothers were aware that anganwadi was the place of immunization and they believed that it was to prevent disease confirmed by other studies (Jha Ranjit et al ^[6]). Health workers were the main source of this information ^[25] [Table-III]. Study by Paul B et.al showed that major source of information on immunization was health care providers and knowledge regarding 7 killer diseases was satisfactory.^[26]

CONCLUSION

Awareness regarding OPV, BCG, and DPT is higher compared to HBV and Meseals. Hindu mothers are better aware regarding schedule of all vaccines compared to muslim mothers mothers and this difference is significant statistically in DPT Meseals, HBV and additional vaccines immunization. Mothers of Hindu community were better aware regarding day of immunization, date for next visit and importance of immunization to other children. This is probably due to better socioeconomic status, literacy level and women empowerment in Hindu community. Hindu

mothers were more aware about immunizing sick child, immunization status of children at home and other services offered along with immunization like advice regarding family planning to mothers and nutrition to children. Majority of the mothers of both the community are aware that anganwadi centers serve as the main place of immunization. Most of the mother thought sickness is the main obstacle for immunization gap. Main reason for immunization according to mothers is to prevent disease and health workers were the main source of information.

REFERANCES

1. WHO and UNICEF. Global immunization vision and strategy. World Health Organization, 2005. www.who.int/vaccines- documents/Docs PDF05/ GIVS_Final_EN.pdf.
2. Bloom D, Canning D, Weston M. The value of vaccination. World Economics 2005;6:15-39.
3. WHO and UNICEF. Global immunization data. World Health Organization, 2008. www.who.int/immunization/newsroom/Global_Immunization_Data.pdf.
4. Lim SS, Stein DB, Charrow A, Murray CJ. Tracking progress towards universal childhood immunisation and the impact of global initiatives: a systematic analysis of three-dose diphtheria, tetanus, and pertussis immunisation coverage. Lancet2008;372:2031-46

5. Coutinho L, Bisht S, Raje G. Numerical narratives and documentary practices: vaccines, targets and reports of immunisation programme. *Econ Polit Wkly*2000;35:656-66.
6. Jha Ranjit K Gopalakrishnan S Ajitha K Kuberan D Rana Manishkumar M Makade Kiran. Evaluation of Universal Immunization Programme in rural Tamil Nadu (Kancheepuram District). *Indian Journal of Maternal and Child Health* 2010; 12(3): 1-9.
7. Thad Wilson. Factors Influencing the Immunization Status of Children in a Rural Setting. *Journal of Pediatric Health Care* 2000; 14(3): 117-21.
8. V S Tapare, P S Borle. Assessment of Vaccination Performance by Lot Quality Technique in an Urban Community of Miraj. *Indian Journal of Community Medicine* 2006-07 - 2006-09; 31(3):
9. Elliot C, Farmer K. Immunization status of children under seven year in Vikas Nagar North Indian. *Child Care Health Dev* 2006;32:415-21
10. Singh J, Jain DC, Sharma RS, Verghese T. Evaluation of immunization coverage by lot quality assurance sampling compare with 30 cluster technique in primary health care in India. *Bull WHO* 1996;74:269-74. [PUBMED]
11. Bonu S, Rani M, Baker TD. The impact of national polio immunization campaign on levels and equity in immunization coverage: Evidence rural North Indian, *Soc Sci Med*2003;57:1807-19
12. Dalal A, Silveira MP. Immunization status of children in Goa. *Indian Pediatr.* 2005;42:401-2
13. Borooah VK. Gender bias among children in India in their diet and immunisation against disease. *Soc Sci Med.* 2004;58:1719-31.
14. Som S, Pal M, Chakrabarty S, Bharati P. Socioeconomic impact on child immunisation in the districts of West Bengal, India. *Singapore Med J.* 2010;51:406-12.
15. Phukan RK, Barman MP, Mahanta J. Factors associated with immunization coverage of children in Assam, India: over the first year of life. *J Trop Pediatr.* 2009;55:249-52
16. BN Tagbo, ND Uleanya, IC Nwokoye, JC Eze, IB Omotowo. Mothers' knowledge, perception and practice of childhood immunization in Enugu. *Niger J Paed* 2012;39 (3):90 – 96
17. Nath B, Singh JV, Awasthi S, Bhushan V, Kumar V, Singh SK. KAP Study on Immunization of Children in a City of North India – A 30 Cluster Survey. *Online J Heal Allied Scs.* 2008;7(1):2
18. Roos M. Bernsen, Fatmah R. Al-Zahmi, Noura A. Al-Ali et al. Knowledge, Attitude and Practice towards Immunizations among Mothers in a Traditional City in the United Arab

- Emirates Journal of Medical Sciences (2011); 4(3): 114-121
19. Kumar D., Aggarwal A. and Gomber S. Immunization Status of Children Admitted to a Tertiary-care Hospital of North India: Reasons for Partial Immunization or Non-immunization. J Health Popul Nutr. 2010 June; 28(3): 300–304.
20. Mukherjee B, Ray SK, Kar M, Mandal A, Mitra J, Biswas R. Coverage evaluation surveys amongst children in some blocks of West Bengal. The Indian Journal of Public Health.1990;34:209-14
21. CManjunath U, Pareek R P. Study on maternal knowledge and perception about the routine immunization programme in a semi urban area of Pilani, Rajasthan. The Indian Journal of Medical Sciences.2003;57:158-63
22. C Gupta R.S, Gupta A., Gupta H.O., Venkatesh S. and Lal S .Mother and Child Service Coverage: Reproductive and Child Health Programme in Alwar District, Rajasthan state.J J. Commun. Dis. 38 (1) 2006 :79-87
23. CSingh M.C., Badole CM and Singh MP. Immunization coverage and the knowledge and practice of mothers regarding immunization in rural area. The Indian Journal of Public Health.1994;38(3):103-7.
24. Hamid S, Andrabi SAH, Fazli A, Jabeen R. Immunization of Children in a Rural Area of North Kashmir, India: A KAP Study. Online J Health Allied Scs 2012; 11(1): 10.
25. Mabrouka A.M, Bofarraj. Knowledge, attitude and practices of mothers regarding immunization of infants and preschool children at Al-Beida City, Libya 2008. Egypt J Pediatr Allergy Immunol 2011; 9(1): 29-34.
26. Paul B Sen M Panda M. Socioeconomic impEffect of Maternal Education on Maternal Awareness and Adoption of Immunization Services in Cuttack City, Odisha act on child immunisation in the districts of West Bengal, India ABSTRACT. Indian Journal of Maternal and Child Health 2012; 14(1): 1-8.