



Original Article:

Immunization of Children in a Rural Area of North Kashmir, India: A KAP Study.

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Citation: 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

URL: <http://www.ojhas.org/issue41/2012-1-10.htm>

Open Access Archives: <http://cogprints.org/view/subjects/OJHAS.html> and <http://openmed.nic.in/view/subjects/ojhas.html>

Submitted: Mar 21, 2012; Accepted: Mar 26, 2012; Published: Apr 15, 2012

Abstract: Background: Knowledge, attitude and practices about immunization among mothers of children aged 1-2 years was assessed. **Method:** 300 mothers were administered a semi-structured questionnaire at PHC Hajan from 1st march to 1st may 2011 to elicit the information about the knowledge, attitude and practices of the mothers regarding immunization. **Results:** 100% of mothers knew that vaccination is beneficial and protects their children from diseases. 39% knew OPV protects from polio while only 1% were aware of protective role of BCG. All mothers knew about immunization in pregnancy but 86% were unaware about its preventive role. 26% mothers believed that 3 doses of T.T (tetanus toxoid) are to be given during pregnancy. Whereas 98% of children were completely immunized, 93% completed on schedule. Eighty percent of mothers reported of fever following DPT. All mothers had received tetanus toxoid during pregnancy. **Conclusion:** Considering mothers' poor knowledge and good attitude, health education on immunization is emphasized to improve their practices.

Key Words: Mothers; Knowledge; Attitude; Practices; Immunization; Children

Introduction:

Expanded programme on immunization (EPI) target diseases are one of the leading causes of high childhood morbidity and mortality as evidenced by high IMR (Infant mortality rate) in developing countries.(1) Immunization is a timely step for prevention of mortality and morbidity due to communicable diseases in the 0-5 yrs of age group.(2) The WHO rates immunization as one of the interventions with a large potential impact on health outcomes.(3) However its impact is not even throughout countries.(4) In the past few decades immunization coverage rates have improved sufficiently in developed countries, thereby conferring herd immunity, whereas most of the developing countries are still struggling with faltering rates.(5-7) The delivery systems of the immunizations have many inherent problems to which an addition may be made by the people themselves, with their prejudices, conclusions and apathy.(2)

Immunization is not only one of the best indicators to evaluate the health outcomes and services distributed across social and economic groups but also one of the most cost-effective interventions to prevent a series of major illnesses, particularly in environments where children are undernourished and die from

preventable diseases. Given the extensive benefits of immunization, any inequities in Knowledge, Attitude and Practices are a cause of serious policy concern. There is evidence of inequities in immunization in India, despite the fact that childhood immunization has been an important part of maternal and child health services since 1940s.(9) Even more dismal is the situation in rural areas as compared to urban areas. Reasons underlying poor coverage has been studied by researchers worldwide and besides other factors, parental knowledge and beliefs have been documented to influence immunization uptake.(9-10) The challenge for immunization services providers therefore, is to offer parents balanced and comprehensive information about the risks as well as benefits of immunizations.(11) With this background this study was conducted at PHC Hajan, a rural area of Kashmir, India, to assess mother's knowledge, attitude and practices so as to identify the existing gaps that need to be fulfilled in order to achieve the immunization targets.

Objectives:

- To know the mothers Knowledge, attitude and practices related to immunization
- Make recommendations based on findings of the study

Materials and Methods:

Study design: Cross sectional study

Study period: 1st march 2011 to May 2011

Place of study: Primary Health Centre (PHC), Hajan, Kashmir.

Study instrument: Semi-structured questionnaire.

Study subjects: Mothers of children aged 1-2 years.

A cross-sectional study was conducted at PHC, Hajan. Hajan is the field practice area of department of community medicine of the tertiary care institute SKIMS, Soura Srinagar. The interns posted in the department during the said period were duly trained to administer a semi-structured questionnaire to the mothers attending the immunization section of the PHC. Immunization is conducted on alternate days (3 days a week) at the PHC. All the mothers coming for vaccinating their children aged 1-2 years were included in the study. During the survey, 300 mothers having children between 1-2 years were interviewed through a pre-tested semi-structured questionnaire. It was thus a cross sectional study of non randomized sample of 300 mothers. The questionnaire included questions on socio-demographic variables, mothers' knowledge on immuniza-

tion and questions to know attitude and practices regarding immunization. Also, questions regarding maternal immunization during pregnancy were also administered.

The data so collected was compiled, entered and analysed by using SPSS version 15.

Definitions used in the study:

Fully immunized: The child was considered fully immunized if he/she received one dose each of BCG and measles and three doses of DPT and polio (apart from zero dose of polio at birth) by his /her 1st birthday.

Partially immunized: Those who had missed only one vaccine out of the six primary vaccines.

Unimmunized: Those children who had received nil vaccine up to their first birthday.

Results:

Table 1 shows the sociodemographic profile of the mothers. Among the mothers, 80% were illiterate or had only primary education and 93% were house wives. Majority of the mothers(66%) themselves took decisions regarding immunization of the child. Health workers were the main source of information(88%).

Table 1: Sociodemographic characteristics of the study population.

Characteristics		Number	Percentage (%)
Number of study subjects	Males	0	0
	Female	300	100
Educational status	Illiterate-primary	240	80
	Middle-high	54	18
	Intermed-graduate	6	2
Occupation	House wife	279	93
	Govt. employee	12	4
	Self employee	9	3
	Farmer	0	0
Decision maker (in matters of immunization of children)	Father	42	14
	Mother	198	66
	Both	60	20
Source of information for immunization programme.	Radio	30	10
	Television	6	2
	Health institution	264	88
Socio-economic status of families	<4000 INR/month	30	10
	4001-10,000	258	86
	>10,000	12	4

Table 2 ,3 and 4 show the knowledge of mothers regarding child and maternal immunization.

All the mothers (100%) had the knowledge that immunization is important and beneficial for the child. All the mothers knew that immunization is to be started at birth, 39% of mothers knew that OPV protects against polio, 20% mothers were knowing the disease prevented by DPT vaccination, while 99% mothers were ignorant about the disease for which BCG is used. All (100%) mothers were of view that there is no problem with vaccination (Table 2).

All the mothers considered that vaccination is important and should be completed as per schedule, as per the instructions of the health workers. All (100%) mothers believed that vaccination should be done in Govt. health facility. All the mothers considered side-effects not dangerous (Table 4).

All (100%) mothers were knowing about antenatal vaccination with tetanus toxoid, however, 86% were unaware about its role while 9% were knowing that it prevents neonatal tetanus. Twenty six percent of mothers had knowledge that tetanus toxoid is to be administered 3 times in antenatal period. (Table 3)

Table 2 Immunisation related knowledge of mothers.

Question	Response	Number	Percentage (%)
Do you know about childhood immunization?	Yes	300	100
	No	-	-
Why immunization is important ?	Cures diseases	0	0
	Prevents diseases	300	100
	Both	0	0
	Don,t know	0	0
At what age immunization is to be started ?	At birth	300	100
	At 6 weeks	0	0
	Any time	0	0
Name the diseases against which child is immunized.?	Polio	117	39
	Measles	30	10
	BCG	3	1
	Hep B	90	30
	DPT	60	20
Are there any problems related with vaccination?	Yes	0	0
	No	300	100

Table 3: Knowledge of mothers regarding maternal immunization during pregnancy.

Questions		Number	Percentage (%)
Do you know about antenatal vaccination of mothers?	Yes	300	100
	No	0	
What disease antenatal vaccination prevents?	Mother from tetanus	15	5
	Neonatal tetanus	27	9
	Don't know	258	86
When to start antenatal vaccination?	At any time	0	0
	During pregnancy	300	100
How many times antenatally vaccinated?	3 times	78	26
	2 times	222	74

Table 4: Immunisation related attitude of mothers.

Questions	Respondents Answers	Number	Percentage (%)
Are you in favour of vaccination?	Yes	300	100
	No	-	-
Is it important to follow vaccination schedule	Yes	300	100
	No	-	-
Why on schedule?	As advised by health instructors	300	100
Where should children preferably receive vaccination?	Government health institution	300	100
	Private health facility	-	-
Are side effects dangerous?	No	300	100
	Yes	-	-

Table 5 depicts the practices of mothers. Ninety eight percent children were completely immunized and 93% had been immunized on schedule. The reasons given for partial immunization (2%) were sickness of child (4 in number) and unawareness (2 in number). Varied reasons were given for not completing the immunization on schedule including unawareness, baby was sick, uncooperative husband or busy in house-hold work. Sixty six percent of mothers reported side effects after immunizing the children and 80% reported fever after DPT. BCG scar was absent in 4%of cases. All the mothers had received T.T during pregnancy and 16% had received 3 doses.

Table 5: Questions related to Immunisation Practices of mothers.

Questions	Answers of respondents	Number	Percentage (%)
Immunisation status			
Completely immunized		294	98
Partially immunized		6	2
Unimmunised		0	0
Was immunisation completed on schedule	Yes	280	93.4
	No	20	6.6
Did side effects appear?	Yes	198	66
	No	102	34
What side effects?	Fever	240	80
	Swelling, pain, Redness	60	20
Did you receive Tetanus Toxoid during pregnancy ?	Yes	300	100
	No	0	0
Did you receive it as per schedule?	Yes	279	93
	No	21	7
Number of doses received	2	252	84
	3	48	16

Discussion:

Worldwide many studies have reported on KAP's of mothers regarding children immunization(12,17) and showed that successful immunization depends on parents positive attitude and knowledge. Though the coverage rate was good in our study, but still there is an urgent need to increase the coverage of UIP (universal immunization programme) vaccines so that not a single child remains unimmunized and vulnerable to vaccine preventable diseases (VPDs). This necessitates the information on the knowledge, attitude and practices of the people with respect to different aspects of immunization. In this study, therefore, an attempt has been made to get an insight into the existing levels of awareness among the mothers and the areas needed to be improved.

In our study it was seen that mothers had good knowledge about importance of vaccination but their knowledge about VPDs was limited and is consistent with many other studies. (18,19) Only 2% of mothers knew about protective role of BCG. Health workers were the main source of information (88%). Similar findings were seen in their studies where paramedics were seen as the main source of information.(19,20) In our study all the mothers considered that immunization was important and beneficial as it protects a child against diseases. Similar findings were seen in a study done in Congo.[21] In our study, majority of mothers showed positive attitude towards immunization. This positive attitude about vaccination is reported in many previous studies as well, from developing and developed countries and range from 80-98% in different studies. [22-24]

In our study, 98% of children were fully immunized. Zelaya et al in his study has warned that a positive attitude is not a guarantee for full immunization.(25) But in our study it was seen that not only mothers had positive attitude but their practices were also appreciating.

In our study, mothers showed more trust in government health facilities for vaccinating their children and showed compliance to health worker's instructions. This finding suggests a unique opportunity to improve the knowledge of mothers by improving the knowledge of health workers via regular trainings and awareness programmes. Also in our study we found that 66% of mothers themselves took decisions regarding immunizing their children, so more focus should be on improving their practices and knowledge.

In this study, we surprisingly found that 16% of mothers had received 3 doses of T.T during pregnancy. This may be attrib-

uted to poor memory of mothers or wrong knowledge and practices of the prescribing doctors. There is a need to educate doctors in this area since they are found to be defective in knowledge about immunization.(26)

Summary and Recommendations:

Though the attitude and practices of the mothers was good but can be further improved by imparting awareness. The insufficient knowledge of the people requires sincere efforts on the part of the health professionals and the policy makers to plan and execute the IEC (information, education & communication) initiatives. There should be also regular CMEs for improving the knowledge of doctors and the paramedical staff. It is also suggested that health education campaigns should specifically target mothers to achieve the targets of UIP. Further studies on this important public health issue are also recommended. Moreover the role of media in providing information need to be improved.

Summarising, the health personnel at the primary level, mass media and other means of IEC activities should be harnessed to the maximum extent so as to increase the knowledge and change the attitude regarding immunization among people especially mothers.

References:

1. Encyclopedia of the Nations. Asia and Oceania. Pakistan. Pakistan Health. (Online).2007(cited 2007 december 24). Available from URL <http://www.nationsencyclopedia.com/Asia-and-Oceania/Pakistan—Hlth.html>.
2. Singh KK, Mathew MM, Bhalerao VR. Impact of community based Immunization services. *J Postgrad Med* 1986;32;131-133. Available at <http://www.jpgmonline.com/article.asp?issn=0022-3859;year=1986;volume=32;issue=3;spage=131;epage=3;aulast=Sing>
3. World Health Organization. The world health report 2000 - Health systems: improving performance. World Health Organization; Geneva. 2000. Available at http://www.who.int/whr/2000/en/whr00_en.pdf
4. Morrow AL, Rosenthal J, Lakkia HD, etal. A population based study of access to immunization among urban Virginia children served by public, private and military health care systems. *Paediatrics* 1998;101,2;E5.
5. World health organization. Media centre. Global Alliance for vaccines and immunization (GAVI) (online) 2004. Available from URL <http://www.who.int/entity/media-centre/factsheets/en>.
6. World health organization. Immunization, vaccines and Biologicals. WHO; Geneva. 2007. Available from URL <http://who.int/immunization/en>.
7. Bhutta ZA, Gupta I, desilva H, Manandhar D, Awasthi S, Hossein SMM etal. Maternal and child health: Is South Asia ready for change? *BMJ* 2004;328;816-819. Available at <http://www.bmj.com/content/328/7443/816>
8. Pandey RP, Yazbeck AS. Beyond national averages for immunization in India. Income, gender and regional inequalities. Washington (DC): World Bank; 2002 (HNP Discussion Paper). 1999. P5-7.
9. Rehman M, Islam MA, Mahalanabis D. Mothers knowledge about vaccine preventable diseases and immunization coverage in a population with high rates of illiteracy. *J Trop. Pediatr* 1995;41:376-378
10. Wang YY, Wang Y, Zhang JX, Kang CY, Duan P. Status of mothers KAP on child immunization in minority areas, Guizhou Province. [Article in Chinese] *Beijing Da Xue Bao* 2007;39 :136-139.
11. Nazish S, Azfar- e-Alam S, Night N. Mothers knowledge about EPI and its relation with age-appropriate vaccination of infants in periurban Karachi. *JPMA* 2010;60(11):940-944.

12. Angelillo IF, Ricciardia G, Rossi P, Pantisano P, Langiano E, Pavia M. Mothers and vaccination; Knowledge, Attitude and behavior in Italy. *Bull World Health Organ.* 1999;77:224-229.
13. Shah B, Sharma M, Vani SN. Knowledge, Attitude and Practices of immunization in an urban educated population. *Indian J Pediatr* 1991;58:691-695.
14. Impicciatore P, Boseth C, Schiavio S, Pandolfini C, Bonati M. Mothers as active parents in the prevention of childhood diseases: Maternal factors related to immunization status of preschool children on Italy. *Prev Med* 2000;31:49-55
15. Bhasin SK, Agarwal OP, Kanan AT. Knowledge and practice of mothers regarding pulse polio immunization in national capital territory of Delhi, *J Commun Dis* 1997;29:363-366.
16. Bond L, Nolan T, Pattison P, Carlin J. Vaccine preventable diseases and Immunizations: a qualitative study of mothers' perceptions of severity, susceptibility, benefits and barriers. *Aust N Z J Public Health.* 1998;22:441–446.,.
17. 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. *Pak J Med Sci.* 2010;26(1):183-186.
18. Manjunath U, Pareek RP. Maternal knowledge and perceptions about the routine immunization program: A study in a semiurban area in Rajasthan. *Indian J Med Sci* 2003;57,158-163.
19. Singh MC, Badole CM, Singh MP. Immunization coverage and the knowledge and practices of mothers regarding immunization in rural area. *Indian J Public Health* 1994;38:103-107.
20. Quaiyum MA, Tunon C, Hel Baqui A, Quaiyum Z, Khatun J. Impact of national immunization days on polio related Knowledge and practice of urban women in *Bangladesh Health Policy Plan* 1997;12:363-371.
21. Mapatano MA, Kayernbe K, Piriipi L, Nijendive K. Immunization related knowledge, attitude and practices of mothers in Kinshasa Democratic Republic of the Congo. *S A Fam Pract* 2008;50.(2):61.
22. Leask J, Chapman S, Hawe P, Burgess M. What maintains parental support for vaccination when challenged by anti-vaccination messages? A qualitative study *Vaccine* 2006;24:7238–7245.
23. Bonanni P, Bergamini M. Factors influencing vaccine uptake in Italy. *Vaccine* 2000,20(1):58-512.
24. Fitch P, Racine A. Parental beliefs about vaccination among an ethnically diverse inner-city population. *J Natl Med Assoc* 2004;96:1047-1050.
25. Zelaya- Bonilla JE, Mata- Gamarra JI, Mills-Booth E. Ia perception de la vaccination *Par les meres au Honduras. Carnets de l'enfance* 1985;69/72:457-470.
26. Kumar R, Taneja DK, Dabas P et al. Knowledge about tetanus immunization among doctors in Delhi. *Indian J Med Sci* 2005;59:3-8.