



## Assessment of Awareness of Caregivers on Childhood Immunization and Reasons for Incomplete Immunization in Damoh District Madhya Pradesh

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### Abstract

India has one of the largest universal immunization programs in the world with large involvement of money and manpower, and multiple agencies working together still thousands of children still die from Vaccine-Preventable diseases each year. Lack of awareness among caregivers is one of great barrier for non-immunization or partial immunization of children. This study has been conducted to assess the knowledge, and practice of caregivers about their understanding of childhood immunization in Damoh district of Bundelkhand region of Madhya Pradesh. 360 houses were with child below 3 years age were surveyed and caregivers were interviewed using predesigned and pretested questionnaire regarding to assess the knowledge, attitude and practice of parents about child immunization. Multistage random sampling was used to select 10 houses each from 02 wards/ mohallas of each 03 subcentres of each 06 PHC (primary health centre) in Damoh. Only 192(53.33%) of the caregivers knew when vaccination was to be initiated and 50 % were aware when the vaccination get completed. Among 360 children of selected houses 107 (29.72%) children were partially immunized. Lack of awareness of next/further dose of vaccine was found to be the major reason (25.23%) for incomplete immunization. So there is a need to increase awareness and knowledge about the benefits of vaccination, as well as the potential disadvantage of partial immunization. IEC (information, education and communication) activities must be increased in immunization clinics, session sites and in mass media to improve its the awareness of community.

**Keywords:** immunization, knowledge, attitude.

### Introduction

Immunization is one of the most effective methods of preventing childhood diseases.<sup>[1]</sup> It is a key strategy to child survival which significantly lowers morbidity and mortality rates in children.<sup>[2]</sup> The Government of India launched EPI in 1978 with objective of reducing mortality and morbidity from vaccine preventable diseases of

childhood.<sup>[3]</sup> The program was revised and renamed as Universal Immunization Program (UIP) in 1985 focusing more on infants and pregnant mothers.<sup>[4]</sup> India has one of the largest universal immunization programs in the world in terms of quantities of vaccines used, number of beneficiaries covered, geographical spread and manpower involved. India spends approximately

20,000 million INR every year in immunization program to immunize children against vaccine preventable diseases.<sup>[1]</sup> While the impact of Immunization on childhood morbidity & mortality has been great, its full potential has yet to be reached. Thousands of children still die from Vaccine- Preventable diseases each year.<sup>[5]</sup> despite the concerted efforts of the government and other health agencies, a large proportion of vulnerable infants and children in India remain unimmunized. India has the highest number (approximately 10 million) of such children in the world. In India only 43.5% of children in India received all of their primary vaccines by 12 months of age.<sup>[6]</sup> In the past few decades immunization coverage rates have improved sufficiently in developed countries whereas most of the developing countries are still struggling with low rates.<sup>[7]</sup> One of the major barriers for less immunization coverage in India are huge population with relatively high growth rate. Lack of awareness is another great barrier for non-immunization or partial immunization. Cultural diversity is in India making the complete vaccination coverage task more complex. Negative news in Media administration also has contributed for the decreased coverage of vaccines among certain communities. To overcome all these barriers, it is very important to increase the awareness about the vaccination among the public.<sup>[8]</sup> Vaccine hesitancy of the parents has been increased due to their own concerns about vaccine and AEFIs and anti vaccine movement is encouraging them to refuse vaccination for their children. Unfortunately the refusal of parents may have been shown to increase the risk of vaccine preventable diseases.<sup>[9]</sup> The knowledge of parents is an important factor for better immunization coverage. Mother's educational status and knowledge is clearly associated with coverage of immunization. Less knowledge among mothers bring negative attitude and fear which leads to effect immunization status of their children.<sup>[10]</sup> Worldwide many studies have reported on mother's knowledge, attitudes and practice regarding children immunization and showed that

successful immunization depends on parent's positive attitude and knowledge.<sup>[11]</sup> Mother's knowledge and practices play a major role in achieving complete immunization before first birthday of the child. This study has been conducted to assess the knowledge, and practice of caregivers about their understanding of childhood immunization in Damoh district of Bundelkhand region of Madhya Pradesh

### Material and Methods

It is a cross-sectional study carried out in district Damoh during July 2018- November 2018. Damoh is a district in Bundelkhand region in Sagar division of Madhya Pradesh with an area of 7306 square kilometers and population of 1264219 (2011 census). The district is served by a district hospital, seven community health centers and fifteen primary health centers. for the selection of study sample multistage random sampling was used. Among 15 PHCs, 6 PHCs were randomly selected. From each PHC area 3 subcentres (SCs), from each subcentres 02 wards/mohalla were selected randomly. In each ward /mohalla 10 consecutive houses with child below 03 years were surveyed. The houses where child ages below 03 years were not present were excluded from the study. Thus a total of 360 (6PHCx3SCx 2 mohalla x 10 houses =360) caregivers were interviewed using predesigned and pretested questionnaire regarding to assess the knowledge, attitude and practice of parents about child immunization. The immunization status of youngest child of the house surveyed was also assessed. The data were collected and analyzed in excel using percentage and proportions.

### Results

As for as Demographic Profile of Caregivers is concerned out of 360 caregivers interviewed 157(43.61%) belonged to 21-30 yrs age group this was followed by 139(38.61%) who were from 31-40 yrs of age group. 06.94% caregivers were more than 40yrs and 10.83% were less than 20 years. With regard to education status, 90(25.00%) were

illiterate, 72(20.00%) completed primary schooling, 82(22.77%) received educations up to middle, 18.05% completed secondary schooling and remaining 11.38% caregivers were graduate and above.

By employment 115(31.94%) caregivers were employed and remaining 68.05% were either unemployed or housewife. Religion wise majority of caregivers 261(72.50%) belonged to Hindu religion, 11.94% were Muslims and rest of 15.55% were from other religions (Table 01). With regard to Knowledge regarding childhood immunization around 192(53.33%) of the caregivers knew when vaccination was to be initiated and 50 % were aware when vaccination get completed, a majority of the mothers 56.94% believed that vaccines are safe and 48.05% caregiver consider vaccine are beneficial, 31.38% mothers were aware of age related vaccination, only 0.55% caregivers knew vaccine preventable disease (Table 02). The main source of information regarding vaccination was health workers 205 mainly through the Asha worker, other source of information were Aaganwadi worker, Neighbours/ Relatives, hospital and TV/ Radio (Figure 01). Age specific Immunization Status revealed that 107 (29.72%) children partially immunized, remaining 253(70.27%) children were completely immunized (Table 04). Among 360 children Around 107 (29.72%) children were partially immunized. Lack of awareness of next/further dose (25.23%) was found to be the major reason for incomplete immunization. Other reasons for incomplete immunization were lack of time (14.95%), certain family problems (12.14%), child illness (11.21%), inconvenient time of session for working women (8.41%), mothers were unaware of age related vaccination (04.67%), Deficient information of place and time for session (10.28%), Fear of side effect (07.47%), Unavailability of vaccines (05.60%) (Table 05).

**Table 1:** Demographic Profile of Caregivers

Demographic Profile of Caregivers	No.	%
<b>Age Group</b>		
<20 years	39	10.83
21-30 years	157	43.61
31-40 years	139	38.61
> 40 years	25	06.94
<b>Education status</b>		
Illiterate	90	25.00
Primary	72	20.00
Middle	82	22.77
Higher secondary	65	18.05
Graduate and above	41	11.38
<b>Occupation</b>		
Employed	115	31.94
Unemployed/ Housewife	245	68.05
<b>Religion</b>		
Hindu	261	72.50
Muslim	43	11.94
Others	56	15.55

**Table 2:** Knowledge regarding Childhood Immunization

Knowledge regarding Childhood Immunization	No.	%
Knowledge regarding age related vaccination	113	31.38
Vaccine preventable diseases	25	0.55
Age at which vaccination should started	192	53.33
Age at which vaccination get completed	180	50.00
Vaccines are safe	205	56.94
Action to be taken in case of side effect	135	37.5
Awareness regarding all four key messages	53	14.72
Benefits of childhood immunization	173	48.05
Condition in which vaccination is to be postponed	47	13.05

**Table 3:** source of information regarding immunization

Source of Knowledge	%
Television/ Radio	3.33
Health Worker	56.94
Anganwadi Worker	9.72
Hospital/Doctors	7.77
Neighbours/ Relatives	12.5

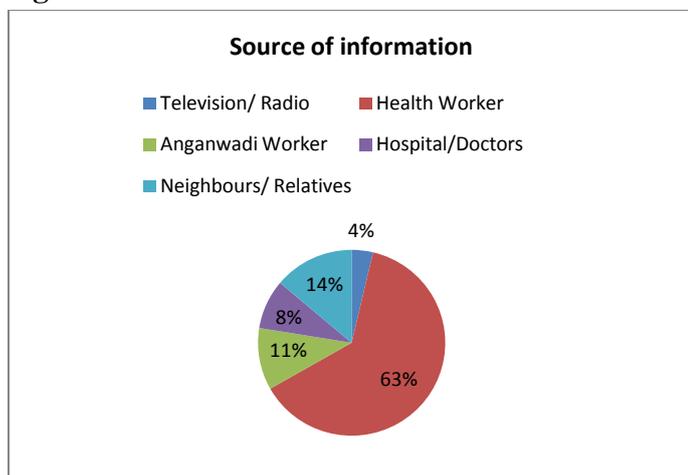
**Table 04:** Age specific Immunization status of Child

Age specific Immunization status of Child	No. of children	% of children
Incomplete	107	29.72
Complete	253	70.27
Total	360	100

**Table 5:** Reasons for incomplete age specific immunization

Reasons for incomplete age specific immunization	No.	%
Lack of time	16	14.95
Family problem	13	12.14
Child Illness	12	11.21
Inconvenient time of session	09	8.41
Lack of awareness of next/further dose	27	25.23
Lack of awareness for need of Vaccination	00	00
Mother was unaware of age related vaccination	05	04.67
Deficient information of place and time for session	11	10.28
Unavailable vaccines	06	05.60
No belief in the vaccination	00	00
Fear of side effect	08	07.47

**Figure 01:** Source of Information



**Discussions**

Immunization is a proven tool for controlling and eliminating life-threatening infectious diseases. It is one of the most cost effective health investments, which make it accessible to even the most hard-to-reach and vulnerable populations. Despite this, vaccine preventable diseases remain the most common cause of childhood mortality. Uptake of vaccination services is dependent not only on provision of these services but also on other factors including knowledge and attitude of caregivers. As for as Demographic Profile of Caregivers is concerned in present study out of 360 caregivers interviewed majority of (43.61%) belonged to 21-30 yrs age group and 10.83% were less than 20 years. which may be due to the

regional tradition of early marriages. With regard to education status 25.00% were illiterate, 72(20.00%) completed primary schooling, 82(22.77%) received educations up to middle only 11.38% caregivers were graduate and above. By employment 115(31.94%) caregivers were employed and remaining 68.05% were either unemployed or housewife. Religion wise majority of caregivers 261(72.50%) belonged to Hindu religion, 11.94% were Muslims and rest of 15.55% were from other religions. These findings were similar to the study carried out by Sarfaraz Md et al that majority of mothers were in the age group of 21-25 yrs [79 (76.69%)] while 5 (4.85%) mothers in the age group below 20 yrs . mothers most of mothers were 74.75% were uneducated, 10.6% completed primary schooling, 9.7% completed secondary schooling and 1.9% completed degree, indicated 97% mothers were homemakers, 75 (72.81%) parents were Hindu, 25 (24.27%) were Muslims and 3 (2.91%) were Christians.<sup>[10]</sup> With regard to education and occupation similar finding was shown in study carried out by Hamid S et al, Rabbanie Tariq Wani et al and Ramalingam R . Hamid S et al found that 80% mothers were illiterate or had only primary education and 93% were house wives.<sup>[7]</sup> Rabbanie TW et al noticed that Majority of the mothers were educated up to preschool (61.60%) and most of them were Housewives (63.30%).<sup>[12]</sup> <sup>[13]</sup> Ramalingam R et al revealed that 48.5% of mothers were educated until primary school.<sup>[14]</sup> but education related finding is in contrast to the study conducted by by Holyachi S that % of study participants were literate.<sup>[15]</sup> With regard to Knowledge regarding childhood immunization around 192(53.33%) of the caregivers knew when vaccination was to be initiated and 50 % were aware when vaccination get completed, a majority of the mothers 56.94% believed that vaccines are safe and 48.05% caregiver consider vaccine are beneficial, 31.38% mothers were aware of age related vaccination, only 0.55% caregivers knew vaccine preventable disease. Finding in present study related to

knowledge regarding childhood immunization, age at which vaccination is to be initiated, age at which vaccination get completed, safety and benefits of vaccination were similar to finding of study carried out by Hamid S et al, Rabbanie TW et al and similar finding related to benefits of vaccination was observed by Priyesh M et al. Hamid S et al found that all the mothers (100%) had the knowledge that immunization is important and beneficial for the child, knew that immunization is to be started at birth, shown view that there is no problem with vaccination, considered that vaccination should be completed as per schedule and side-effects not dangerous.<sup>[7]</sup> Rabbanie TW et al revealed in their study that most of the mothers knew the correct age to start vaccination. Most of them believe that vaccines are not harmful. Majority of the mothers believes that vaccination is important and to follow the vaccination schedule for good health.<sup>[12]</sup> Priyesh M et al in their study noticed that out of 150 mothers, 123 (82%) mothers knew about the benefits of immunization.<sup>[13]</sup>

The main source of information regarding childhood vaccination was health workers 205 mainly through the Asha worker, other source of information were Aaganwadi worker, Neighbours/Relatives, hospital and TV/ Radio. finding our study related to source of information is similar finding of hamid S et al. Sarfaraz Md et al, Vasantha KC et al and Ramalingam R et al, hamid S et al revealed health workers were the main source of information (88%).<sup>[7]</sup> In a similar study Sarfaraz Md et al in their study observed that the main source of information regarding vaccination was Anganwadi 81 (78.6%) mainly the Asha health care workers.<sup>[10]</sup> Ramalingam R et al found that majorly of mothers acquired through health-care workers (76.5%). Vasantha KC et al shown that 96% of the mothers reported health care personnel as a source of information.<sup>[16]</sup>

Age specific immunization status in present study revealed that 107 (29.72%) children partially immunized, remaining 253(70.27%) children were

completely immunized. Similar finding was found in different study conducted by Hamid S et al, Sarfaraz Md et al, Priyesh M et al, Mugada V et al and Siddiqui NS et al that most of children were completely immunized.<sup>[7], [10], [13], [17], [18]</sup> but This observation in our study is contrast to the study conducted by Vasantha KC et al where they found that 80% of the under five children are partially immunized whereas only 10(20%) of them are fully immunized.<sup>[16]</sup>

In our study it was seen that among 107 partially immunized children—lack of awareness of next/further dose (25.23%) was found to be the major reason for incomplete immunization. Other reasons for incomplete immunization were lack of time (14.95%), certain family problems (12.14%), child illness (11.21%), inconvenient time of session for working women (8.41%), Mother was unaware of age related vaccination (04.67%), Deficient information of place and time for session (10.28%), Fear of side effect (07.47%), Unavailability of vaccines (05.60%). Hamid S et al also observed unawareness and sickness of child as reason for partial immunization. Varied reasons were given for not completing the immunization on schedule including uncooperative husband or busy in house-hold work.<sup>[7]</sup> Rabbanie TW et al in a similar study found child illness(from cold and fever) as main reason of incomplete immunization.<sup>[12]</sup> A study conducted by Ramalingam R revealed that 44% of mothers were unwilling to get the their child immunized due to the fear of side effects of vaccine.<sup>[14]</sup> Mugada V et al in their study revealed that unavailability of vaccine was considered to be the major reason for incomplete immunization. Other reasons for incomplete immunization were unawareness of mother regarding age related vaccines, the child was ill-was brought and was not immunized, unawareness of need for immunization.<sup>[17]</sup>

### Conclusion

Lack of awareness of next/further dose of vaccine was found to be the major reason for incomplete

immunization. So there is a need to increase awareness and knowledge about the benefits of vaccination, as well as the potential disadvantage of partial immunization. IEC activities must be increased in immunization clinics to improve the awareness of community; audio visual aid should be used to narrating the importance of vaccination focusing on illiterate and backward section of society. Health workers and medical personnel should educate the parents about the importance of routine immunization.

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