

Awareness and practice of immunization pattern by the mothers of missing tribe, Assam

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To assess the awareness and practices of immunization pattern by the mothers of the children, to record the prevalent immunization status of the community and to record the sources of information regarding immunization. All total 120 mothers were selected from the community. An awareness and practice scale were developed to meet the objectives of the study. The mothers had low level of awareness about immunization but the practice level among these mothers were comparatively better. Only 50 per cent of the children were fully immunized against various diseases, 43.33 per cent partially immunized and 6.66 per cent were left unimmunized due to various reasons like wrong beliefs, elders advice, fear of side effects, improper maintenance of immunization card etc. Majority of mothers (44.00%) reported to receive proper immunization at right time because of sources like ASHA, ANM and Anganwadi workers while rest of the percentages were by Television, Radio, Newspaper, Neighbours, Doctors/nurses etc. Wrong beliefs about immunization and lack of interest by the parents in practicing immunization pattern is rampant in the community. So, there is urgent need to educate mothers regarding benefits of immunization practices to prevent the most vulnerable segment (infants) of our nation from the six killer diseases.

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INTRODUCTION

Hitherto unknown-mankind always dreamt of all good things with the arrival of a new one in their lives. But all these dreams could be possibly brought into reality only when he grows in a sound environment with the best care possible to adorn the tomorrow's globe with all his potentialities. Immunization is one of most cost effective public health interventions and strategies aimed at protecting and promoting child health and which continue to remain as hot topics in pediatric meetings, updates and conferences. Childhood immunization remains a core area of pediatric practices and ongoing development in vaccinology makes it essential to update their information, awareness and practices in the field of vaccines and immunization. In a country like India, by

vaccinating 1000 infants about 30 deaths from measles, 10 from whooping cough and 5 cases of polio, and by vaccinating 1000 women with tetanus toxoid (TT) atleast 5 deaths from neonatal tetanus could be prevented (CARE, 2002).

Many National and International agencies, therefore, are coming forward with viable intervention programmes to ensure all round development of the precious human resources. Yet a large proportion of vulnerable infants and children are not receiving these facilities.

The present study is therefore, an attempt in this direction with an aim to focus the light on the immunization pattern of children among the Missing (plain tribes) tribes of Teok Revenue Circle of Jorhat district, Assam with the following objectives: to assess the awareness and practices of immunization pattern by the mothers, to record the prevalent immunization status of the community and to record the various sources of information obtained by the mothers in carrying out routine immunization programmes.

METHODOLOGY

The present study is planned to be carried out in Jorhat

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district of Assam at the year 2009 Teok Revenue circle (TRC) under Jorhat district was purposively selected. There are two community development blocks under Teok Revenue Circle namely Kaliapani and Central Jorhat development block. Kaliapani Development block was purposively selected for detail investigation. All total 120 mothers having at least one child from the selected households were drawn with the help of local leaders-ASHA and Anganwadi workers.

Development of awareness and practice scales for mothers regarding existing immunization pattern of infants:

In order to assess the awareness as well as practice level of mothers regarding the existing immunization pattern for infants, a three point scale on awareness and the extent of practices were adopted for the study (Borbora, 2004). The scale consisted of statements that mainly dealt with the awareness of the mothers about the need and importance of immunization, practice of visiting primary health centre as well as practices of the existing immunization schedule for their children.

Standardization of the scales:

The statements selected for assessing the awareness and practices of the mothers relating to the immunization pattern were given to a panel of nine experts to judge the validity of the statements in terms of clarity, ambiguity, relevant or irrelevant. The selected statements were then put in three point response categories namely "Correct" "incorrect" and "do not know" with the scores 2, 1 and 0, respectively. Prior to data collection the scales were pre-tested on 10 mothers. The data of the pre-tested scales were then coded according to the order of statements in the awareness and practice scale. Pre-testing helps the investigator to judge the clarity and reliability of the tool. Each statements or items were subjected to item difficulty index.

Item difficulty index (P):

Item difficulty index was used to find out the extent to which an item was easier or difficult to answer by a respondent. The value "P" was expressed in terms of percentage of correct response obtained for a particular item in the awareness and practice scale and worked out as follows:

$$P = \frac{\text{Number of respondents giving correct answer}}{\text{Total number of respondents}} \times 100$$

The items with P values ranging from 20-85 were considered for final tests. On the basis of 'P', 16 items were retained in both awareness and practice scales out of total 33 item in each for the final awareness and practice test. Total score varied from 0-32.

Statistical analysis:

The recorded data whenever required were statistically

analyzed and plotted in figures and tables.

OBSERVATIONS AND ASSESSMENT

The result related to the present investigation are arranged sequentially and are presented the following heads :

Awareness and practices of immunization pattern:

Despite all the efforts taken by the Government of India and International agencies, the proportion of unimmunized and partially immunized children remain quite high (National Population Policy, 2000), which necessitates the information on the existing awareness and practices of the society in relation to the different aspects of immunization. Information pertaining to awareness and practices of the mothers studied on immunization are being presented in Table 1, 2, 3 and 4. Table 1 presents the percentage of mothers according to their awareness regarding the need and importance of immunization.

Table 1 reveal that 50 per cent of the mothers were aware about the importance of immunization for maintaining good health in children and thoroughly immunized these children within one year according to prescribed schedule. A small percentage of mothers (35%) were aware of the importance of immunization in reducing mortality and morbidity in children and only 45.0 per cent of the mothers were aware about the six childhood killer diseases and knew about the name of the diseases in their local terms. Only 43.33 per cent mothers felt that breast feeding has no adverse affect on immunization.

Table 1. Percentage distribution of mothers according to awareness regarding the importance of immunization (n = 120)

| Need and importance of immunization | % of mothers |
|---|--------------|
| Immunization maintains good health in children | 50.00 (60) |
| It helps to reduce mortality and morbidity | 35.00 (42) |
| The six vaccines protect the baby from six killer diseases viz., Polio, Diphtheria, pertusis (whooping cough), tetanus, measles, tuberculosis | 45.00 (54) |
| The baby should be thoroughly immunized within one year according to prescribed schedule | 50.00 (60) |
| Breast feeding has no adverse effect on immunization | 43.33 (52) |

Figure in parenthesis indicate number of mothers

The awareness of mothers regarding the immunization pattern are tabulated in Table 2.

The data presented in Table 2 reveal that less than 50 per cent of the mothers (41.66%) were aware about the two doses of tetanus toxoid vaccines necessary during pregnancy. The awareness regarding the ill-effects of various diseases which might occur if unimmunized with the specific doses and proper timing for prevention of the diseases were found to be lower among the tribal mothers (30-40.83%). Only 45 per cent of the mothers were aware that baby should be immunized completely

Table 2. Percentage distribution of mothers according to their awareness regarding immunization pattern (n=120)

| Immunization pattern | % of mothers |
|---|--------------|
| Two doses of tetanus toxoid vaccines should be given to pregnant mothers | 41.66 (50) |
| BCG vaccine is given to protect against Tuberculosis. | 32.50 (39) |
| Polio vaccine should be given orally just after birth to protect the baby from polio | 40.83 (49) |
| DPT and polio vaccines are given at one and half months of the baby. | 31.66 (38) |
| DPT protects from three killer diseases viz., Diphtheria, Pertusis (whooping cough) and Tetanus | 30.00 (35) |
| Two more doses of DPT and OPV are also necessary at 1½ months of interval | 30.80 (37) |
| Tetanus is dangerous causing stiffness of the body and poor suckling in infants | 34.16 (41) |
| Whooping cough (pertusis) is infectious and serious | 37.50 (56) |
| Diphtheria causes breathing problem | 30.00 (35) |
| Measles is a child killer disease and vaccine should be given within 9-12 months of the baby | 33.33 (40) |
| The baby should be immunized completely within 1 year | 45.00 (54) |

BCG = Bacillus calnette guerin
 OPV = Oral polio vaccine
 DPT = Diphtheria, Pertusis, Tetanus
 Figures within parenthesis indicates no. of mothers

within 1 year of age.

Singh and Yadav (2000) reported that the mothers had a fair knowledge regarding the importance of immunization but a poor knowledge regarding the diseases prevented and doses of the vaccines. Manjunath and Pareek (2003) stated that though many mothers were aware about the importance of vaccination in general, specific information about importance of completing the schedule and knowledge about vaccine preventable diseases were very limited. The findings of the present investigation are in agreement with these reported findings.

Table 3 represents the percentage of mothers according to their practice of visiting PHC and use of immunization card.

The data presented in the table reveal that 50 per cent of the mothers attended immunization programmes regularly. 50.83 per cent of mothers reported to have their delivery either in hospitals or in PHC and the baby was first immunized there itself. Immunization card was properly maintained by 43.33 per cent of mothers, while only 38.33 per cent mothers carried the cards with them to the PHC and the rest kept it in the hospital/PHC itself for convenience and safety.

Table 3. Percentage distribution of mothers according to practices of visiting PHC/Hospital and use of immunization card (n=20)

| Practices of visiting PHC/Hospital and use of immunization card | % of mothers |
|--|--------------|
| Immunization programmes are attended regularly | 50.00 (60) |
| Child delivery was carried out in hospital/PHC | 50.83 (61) |
| Baby was first immunized at hospital/PHC | 50.83 (61) |
| Immunization card was properly maintained | 43.33 (52) |
| Immunization cards were carried by the parents in every visit to PHC | 38.33 (46) |

* PHC = Primary health centre

Figures within parenthesis indicates percentage

Further, the practices of the mothers in carrying out routine immunization schedule were assessed and are presented in Table 4.

Table 4. Percentage distribution of mothers according to practices of carrying out routine immunization schedule (n=120)

| Practices in carrying out routine immunization schedule | % of mothers |
|---|--------------|
| Two tetanus toxoid vaccines were taken during pregnancy | 45.00 (54) |
| BCG and OPV (zero dose) were given to baby together just after birth | 50.83 (61) |
| 1 st dose of OPV and DPT were given together at 1½ months of the baby. | 84.16 (101) |
| 2 nd doses of OPV and DPT were given at an interval of 1½ month. | 63.33 (76) |
| 3 rd doses of OPV and DPT were also given after 1½ months of the 2 nd dose. | 53.33 (64) |
| All three doses of OPV and DPT were completed within six months of the baby | 43.30 (52) |
| Measles vaccine was taken at 9-12 months of the baby | 50.00 (60) |
| All primary vaccines should be completed within one year of age of the child | 50.00 (60) |
| Missed vaccines are completed at later dates | 36.40 (30) |
| Breast feeding is not practiced just before and after the administration of oral polio vaccine | 30.00 (25) |
| Baby is not immunized during illness like mild fever, diarrhea, infection etc. | 88.30 (73) |

BCG = Bacillus calnette guerin; DPT = Diphtheria, Pertusis, Tetanus
 OPV = Oral polio vaccine

Figures within parenthesis indicate no. of mothers

It is evident from Table 2 that nearly 45 per cent of the mothers had the practice of being immunized against tetanus

during pregnancy. About 50.83 per cent children were immunized for BCG and OPV (zero dose) just after birth and most probably due to the fact that the vaccines were provided from the hospital or health centre itself because of institutional delivery of these mothers. Majority of the mothers (84.16%) reported the completion of the 1st dose of OPV and DPT successfully according to the scheduled time but the percentage seemed to be gradually decreased during second (63.33%) and third (53.33%) doses of the vaccines. The drop out rate between first and second dose of DPT/OPV was 20.83 per cent and between second and third dose was 10.0 per cent. About 50.0 per cent mothers had practiced by immunizing their children against measles within the scheduled time (9-12 month of the child) and this might be due to the prior information received from the social and health workers as well as due to their own interest. Besides few mothers stated that measles vaccines administered in a single dose and at a wide gap of time to remember easily. It has also been observed that 36.40 per cent mothers reported to complete the missed vaccines at later date. Almost 50 per cent of the mothers completed all the primary vaccines within one year of the child. Majority of the mothers (88.30%) did not immunize their children when they fell sick due to mild fever, cold and cough, diarrhoea etc. Nearly 30 per cent mothers did not prefer to breast fed their children just before or after administration of OPV with the belief of having adverse affect on health of the child.

Thus, the whole scenario of immunization pattern revealed that though the mothers had low level of awareness about immunization, the practices level among these mothers were comparatively better, which might be because of the influence of local ASHA and Anganwadi workers, other health professionals of PHC and also family support with increasing interest. The whole immunization schedule in the area was based on the National immunization schedule recommended by IAP-2004 till first year of life.

Nath *et al.* (2008) stated that not remembrance of correct age of infants and doses of vaccines to be given because of less interests and least knowledge among mothers were the major reasons of non or partial immunization. While Ravankar *et al.* (2006) found that major reasons for low level practice of immunization was due to lack of awareness about the necessity and importance of immunization for better life among the mothers and guardians of the children and are in accordance with the observations of the present investigation.

Prevalent immunization status of the community.

Fig. 1 represents the immunization status of children residing in TRC, Jorhat. It has been observed that among the 120 children, 50 per cent were fully immunized with all the primary vaccines within 0-12 months, 43.33 per cent were partially immunized while, 6.66 per cent were left unimmunized till 1 year of age.

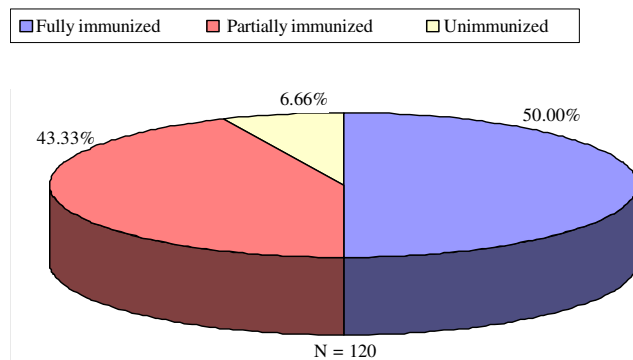


Fig. 1. Immunization status of children within 1 year of age among TRC, Jorhat, Assam

Vikas *et al.* (2004) had also reported immunization status of children where 58.66 per cent were fully immunized, 22.99 per cent partially immunized and only 4.64 per cent left unimmunized in urban slums of Chandigarh and was similar with the findings of the present investigation.

The reasons for immunized and non-immunization for children were assessed and are presented in Table 5. There were numbers of reasons cited by the mothers for varied immunization status in terms of fully immunized, partially immunized and non-immunized. From Table 5, it has been observed that health programmes organized in the locality by the government through National Rural Health Mission

Table 5. Immunization status of the children and reasons cited by target mothers

| Immunization coverage | Reasons |
|-----------------------|--|
| Fully immunized | Health programmes organized in the locality by Govt. (NRHM). Active participation of ASHA and Anganwadi workers. Easy accessibility of nearby PHC/ hospital. |
| Partially-immunized | Transportation problem. Child remained sick at scheduled time. Parents were busy at scheduled time. Discouragement by family members/relatives. Delivery at home. Lack of interest. |
| Non-immunized | Wrong beliefs/ misconceptions about immunization. Elders believed that immunization is not necessary. Some wrong information against immunization (infection, fever, sudden death of child etc.). Missing of immunization card. |

(NRHM) and active participation of ASHA and Anganwadi workers of the locality were the contributory factors for complete immunization among 50 per cent of infants. Easy accessibility of health facilities might be the cause of such better immunization status of the children in the community.

Sources of information obtained by the mothers in carrying out routine immunization programmes:

Sources of information for the mothers in carrying out routine immunization programmes were obtained and are presented in the Fig. 2.

From the Fig. 2, it is evident that majority (44.00%) of mothers reported to receive the proper information on immunization at right time from the ASHA and Anganwadi workers and expressed their satisfaction about the door step services offered by the health or social workers particularly Anganwadi, ASHA and ANM workers of the locality, which was a great asset in carrying out the immunization programme successfully.

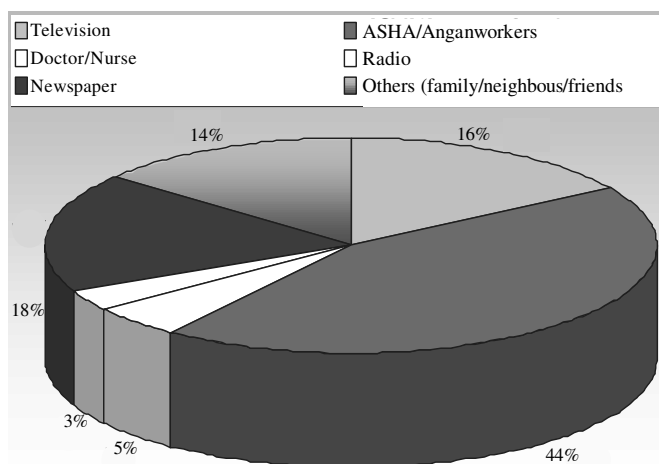


Fig. 2. Sources of information for mothers regarding routine immunization pattern

Nath *et al.* (2008) stated that Auxiliary Nurse Mid Wife (ANM) and the paramedical workers were the major sources of information for fully and partially immunized children. Singh and Yadav. (2000) found that health workers and health personnel were the major sources of information regarding immunization (78%), followed by relatives (9%) and mass media like radio and television (7%). Similar trend was also observed in the present study with highest percentage of information source as medical and paramedical staff.

Conclusion:

The universal immunization programme implemented by Government of India through NRHM in this region is really an important step aiming for health and well-being of infants and young children which was not coming out successfully. Only 50 per cent children were fully immunized against 43.33 per cent partially immunized and 6.66 per cent left unimmunized. In view of the findings of the present study there is urgent need to educate mothers regarding benefits of immunization practices to prevent the most vulnerable segment (children) of our nation from the six killer diseases. All parents communities, societies must be sensitized to understand the importance of this pivotal period of life from self and national point of view to lay the foundation for a healthy nation.

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