THE IMMUNIZATION AND NUTRITIONAL STATUS AMONG CHILDREN AGED UNDER FIVE IN A MAJOR DISTRICT IN INDIA

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ABSTRACT

Children in rural areas in India die due to infectious and communicable diseases. This study was carried out to know the immunization status, nutritional status and to assess the levels of the mother’s knowledge regarding immunization and nutritional diet. A sample of 300 eligible mothers from Thuraiyaur Taluk of Trichy District in Tamil Nadu was studied. For those mothers who were well aware of the immunization and nutritional programmes, the children’s height and weight were well correlated against the mothers who were not aware of these programmes, whose children’s height and weight did not show significant correlation. The results showed that 16% of the children were under malnutrition. The knowledge regarding immunization does not seem to influence the family size.. The size of the family does not seem to be influenced by knowledge regarding immunization and nutritional diet given to the mothers during pregnancy and lactation period. The results showed that 85% of the eligible mothers having children under five years of age know about the six major killer diseases, which could be prevented by immunization. It is observed that from the eligible mothers having children under five years of age started weaning in the 4th month (mean 141 days ± sd 32 days). It was concluded that strategies might be evolved to educate the women in the study area to have greater awareness regarding the immunization programmes and also the use of proper nutrition to the children.
INTRODUCTION

At present every 6th second a child dies or becomes disabled from a disease which could have been prevented by immunization of the child. The National immunization scheduled administers vaccine against the main infectious diseases of childhood namely TB, Measles, Diphtheria, Tetanus, Whooping-cough and Polio are driving force in the cycle of malnutrition. Given the fact that immunization can play such a vital part in protecting growth, this study covers the immunization and the level of nutritional status among the children under five years of age in this area. It has been reported that many children have died in this district due to infectious and communicable diseases, and therefore it is important to know the immunization status, nutritional status and assess the levels of mothers’ knowledge on immunization and nutritional diet. This study has been undertaken with the following objectives:

1. To identify the immunization status of the children under five years of age in the study area.
2. To identify the nutritional status of the children under five years of age in the study area.
3. To identify the awareness and knowledge of mothers on immunization.
4. To identify the awareness and knowledge of mothers on nutritional status.
5. To find the extent of effectiveness of different immunization programmes in the block.
6. To educate the mothers about the importance of immunization so that children can be prevented from major killer diseases.
7. To educate mothers about non-formal health education to improve the status of the children in nutrition and to have 100% healthy children in future.

METHODOLOGY

The present study was carried out in Thuraiyur taluk at Trichy District of Tamil Nadu, India. In the two major panchayat unions namely Thuraiyur and Uppliyapuram, the total population is found to be 2,15,043. In the Uppliyapuram panchayat union, the total population is found to be 77,420, consisting of 38,935 males and 38,485 females. In the Thuraiyur panchayat union, total population is found to be 1,37,623, out of which 68,785 are
males and 68,838 are females. The sampling design used is the multistage sampling technique. First a panchayat union is selected as the first stage unit. The village panchayats were selected from the panchayat union as the second stage unit, and then the total numbers of villages were identified from the selected village panchayats. Out of a total of 54 villages, a sample of 10 villages is chosen by Simple Random Sampling (SRS). Samples were selected proportional to the size of the children. Information is enumerated from 300 eligible mothers having 378 children in the age group up to 60 months.

RESULTS

Among 300 eligible mothers the number of children was found to be more in the age group between 12 to 36 months. According to Indian standard (weight for age and growth chart) it was observed that 16 percent of the children were malnourished. The size of the family was not influenced by knowledge regarding immunization and nutritional diet given to the mothers during pregnancy and lactation period. The mothers’ knowledge about six major killer diseases prevented by immunization seem to depend on the family size. It was also noted that 85% of the eligible mothers knew about the 6 major killer diseases, which are prevented by immunization. A large proportion of children received the vaccines BCG, OPV, DPT, Hepatitis B at right time is the same for different age group. The proportion of children receiving the MMR vaccine at right time is also same under different groups in various categories (Mothers with one child, mothers with two children, mothers with three children). The proportion of children receiving the typhoid vaccine is not the same under different groups (Mothers with one child, mothers with two children, mothers with three children) as this vaccine was administered on payment basis. Using Gomez’ classification and Waterlow’s classification the nutritional status of the children were assessed in the study area. The mean and standard deviation of weaning period are 141 and 32 days respectively. The average number of days for starting the weaning food is not the same among the number of children possessed by the mothers. Strategies may be evolved to educate the women in the study area to have greater awareness regarding the immunization programmes and also the use of proper nutrition to the children. The respondents had full knowledge about the pulse polio programmes for immunization against polio and measles.

RECOMMENDATIONS

1. This study is useful in getting additional information regarding the immunization status and nutritional level in the rural villages of Southern India.
2. These programmes can also be extended to many areas of the state where social and economic inequalities are observed.

3. The inter regional comparison can give guidelines for carrying out immunization programme in an appropriate manner in the different parts of the country.

4. It is quite likely that if the respective government have awareness program for improving nutritional diet to the mothers who are on pregnancy and lactation period, there will be greater care to the children.

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**References**


4. *Combination Vaccines for Childhood Immunization: Recommendations of the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP)*. Indian Journal of Pediatrics, 1999; Vol. 103, No. 5; 1064-1077.


7. FAO Nutritional Studies, Rome, 1974b; No. 28.


