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# A Study to Evaluate the Effectiveness of Structured Teaching Programme on Knowledge regarding Vaccination to Prevent Measles and Rubella Infection among Parents of under Five Children in Selected Rural Area at Kolar District

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**Abstract:** ***Children are the world's most valuables assets and their wellbeing indicates the standard of living of the country. It has been noticed that almost one out of every five live born infants die before reaching 5 years of age. In small children commonly cause measles, mumps, rubella and chickenpox, and therefore there is a need of creating awareness among the mothers regarding the prevention of these infections among children. This study aims to evaluate the effectiveness of structured teaching programme on knowledge regarding vaccination to prevent measles and rubella infection among parents of under five children in selected rural area at Kolar district. Methodology: The research approach used for the study was the evaluative approach. The study was conducted using quasi - experimental design with single group pre test and post test design. The study was conducted on 60 parents under - five children's in selected rural area (Gajaladine & Chitrakodahalli) at Kolar, using convenient sampling technique. Data were collected by using self - prepared questionnaire. The structured teaching program includes in detail about general information about measles & rubella infection, Causes & clinical manifestation, Management & Prevention of measles & rubella infection. Results: The pre and post test scores revealed that the post test knowledge score (20.4) is apparently higher than overall mean of pre test scores (7.5). The mean difference is (12.9). The paired 't' value at df (59) obtained is 35.40 significant at 0.05 level. Therefore the null hypothesis is rejected and research hypothesis is accepted. Therefore the teaching programme is effective. Interpretation and Conclusion: The study findings revealed that people had inadequate knowledge on general information about measles & rubella infection, Causes & clinical manifestation of measles & rubella infection, Management & Prevention of measles & rubella infection.***

**Keywords:** Knowledge, vaccination, structured teaching programme, measles and rubella

## 1. Introduction

Immunization is a way of protecting the human body against Infections diseases through vaccination. Babies are born with some natural Immunity which they get from their mother & through breast feeding. Having a child Immunized gives extra protection against illness. It has been noticed that almost one out of every five live born infants die before reaching 5 years of age.

Probably the most common viral infections are those of the nose, throat, and upper airways these infections include sore throat, sinusitis, and the common cold, influenza is viral respiratory infection. In small children commonly cause measles, mumps, rubella and chickenpox, they are the matter of concern as per the health of the children is concerned and there is a need of creating awareness among the mothers regarding the prevention of these infections among children.

Measles is one of the most contagious diseases ever known and is an important cause of death and disability among young children worldwide. The measles virus will infect anyone who is not protected. In 2000, before the Measles & Rubella Initiative was formed, more than 562, 000 children died worldwide from measles complications each year.

Rubella**,** also known as "German Measles", is generally a mild disease but can have serious consequences for pregnant women and their children. If infected with rubella in the first trimester women have a very high risk of giving birth to a child with Congenital Rubella Syndrome (CRS). CRS often results in multiple birth defects including as heart problems, deafness and blindness.

The problem of measles in India is still persisting among the children. A study was conducted to find out incidence of measles in bordering districts, west Bengal. The results showed that incidence of measles were round to be 3.3% in purlieu, 5.5% in Bankura, 4.6% in midnapur, 5.7% in Haldia - Tamluk and with an overall rate of 4.8%. Incidence was higher in 0 - 11 and 12 - 23 months age group and decreased with increasing age but no sex difference in incidence of measles was observed.4

The problem of rubella is still persisting in India also. A study was conducted to investigate the outbreak of rubella in a hilly district of kangra chamba, Himachal Pradesh, India. Te result revealed that 61 cases in three villages - 39 cases in Hattli, 17 Thule's and 5 in Dramman. The overall attack rate was 8.7% sex specific attack rate for males was 10% and females 7.4%. All cases patients were less than 20 years of age and the attack rate was highest in the age group 11 - 20 years median age 12 years. Rubella infections are prevented by active immunization programs using live, disabled virus vaccines. Two live attenuated virus vaccines, RA 27/3 and cendchill strains were effective in the prevention of adult disease.8

After reviewing above facts the investigator while working as a staff nurse in pediatric hospital he came across with many mothers of under five children don't have adequate

knowledge on measles and rubella vaccine. Many research studies also revealed that importance of knowledge of parents; especially mothers about vaccine have a major role in preventing this disease by vaccinate their child. Hence the investigator felt a need to conduct a study on mothers of under five children to assess the effectiveness of structured teaching programme regarding measles and rubella; therefore structured teaching programme will enhance the mothers knowledge.1[2]

## 2. Methodology

An evaluative research approach. with quasi - experimental design with single group pre test and post test design without control group was used and 60 parents of under - five children's in selected rural area (Gajaladine & Chitrakodahalli) at Kolar, using non - probability convenient sampling technique were selected. A structured knowledge questionnaire was developed for assessing the knowledge regarding vaccination to prevent measles & rubella infection

The tools used for data collection consisted of 2 parts: Part 1: Socio - demographic data and Part 2: Self structured questionnaire which consisted of 30 items

There were totally 30 questions each having 3 option. The parents were instructed to put a, b or c in the option box which they thought was the right one. The multiple choice questions had three alternatives each with one right answer, which was allotted a score of 'one' and every wrong answer, was given of score of 'zero'. The total attainable score in the knowledge questionnaire was 30 It consists of 30

The total score was converted into percentage and the resulting score was ranged as Adequate knowledge (>75%), Moderate knowledge (51 - 75%) and Inadequate knowledge (<50%). A pre - test was done to establish the reliability and to determine the language clarity and feasibility of the tool by using split half method. Reliability of the tool was assessed by karlpearsons raw score method. The reliability of the tool was found to be r = 0.82. Interventional module, an educational training was prepared based on the review of literature which consisted of areas such as Introduction to viral infection, Definition of the measles & rubella, causes, clinical manifestation, management and prevention of measles & rubella infection. The study was approved by the Institutional Ethical Committee. Informed consent was obtained and the confidentiality and anonymity of the participants were maintained. The pre - test questionnaire was administered to assess the knowledge of parents of under - five regarding vaccination to prevent measles & rubella infection. On the same day structured teaching program was administered. Post - test was done on 7$^{th}$ day with the same questionnaire to assess the knowledge level of the parents of under five children's. The collected data were analysed using descriptive and inferential statistics.

## 3. Results

The major findings of the research were as follows:

**Table 1:** Frequency and Percentage distribution of demographic variables of subjects (n=60)

| **1. Age in years** | **Frequency** | **Percentage** |
|---|---|---|
| Below 24 | 30 | 50% |
| 25 - 30 | 25 | 41.6% |
| 31 - 35 | 05 | 8.4% |
| Above 36 | 0 | 0% |
| **2. Sex** | | |
| Male | 20 | 33.4% |
| Female | 40 | 66.6% |
| **3. Educational Status** | **Frequency** | **Percentage** |
| Illiterate | 15 | 25% |
| Primary school | 20 | 33.4% |
| Higher secondary | 15 | 25% |
| Undergraduate | 10 | 16.6% |
| Postgraduate | 0 | 0% |
| **4. Occupation** | **Frequency** | **Percentage** |
| House wife | 10 | 16.6% |
| Agriculture & Cooli | 35 | 58.4% |
| Private Job | 10 | 16.6% |
| Government Job | 0 | 0% |
| Business | 05 | 8.4% |
| **5. Family income** | **Frequency** | **Percentage** |
| Below 5, 000/ - | 05 | 8.4% |
| 5, 001 - 10, 000/ - | 35 | 58.4% |
| 10, 001 - 15, 000/ - | 10 | 16.4% |
| 15, 001 – 20, 000/ - | 05 | 8.4% |
| Above 20, 001/ - | 05 | 8.4% |
| **6. Type of family** | **Frequency** | **Percentage** |
| Nuclear family | 30 | 50% |
| Joint family | 15 | 25% |
| Extended family | 15 | 25% |
| **7. Religion** | **Frequency** | **Percentage** |
| Hindu | **60** | **100**% |
| Muslim | 0 | 0% |
| Christian | 0 | 0% |
| Others | 0 | 0% |
| **8. Number of Children's.** | **Frequency** | **Percentage** |
| 1 - 2 | 50 | 83.4% |
| 3 - 4 | 10 | 16.6% |
| Above 5 | 0 | 0% |
| **9. Family history of measles & rubella infection** | **Frequency** | **Percentage** |
| Yes | 03 | 5% |
| No | 57 | 95% |
| **10. Sources of information** | **Frequency** | **Percentage** |
| Books, News paper, magazines | 05 | 8.4% |
| Mass Media | 20 | 33.3% |
| Friends & family members | 15 | 25% |
| Health personals | 20 | 33.3% |

The table 1 displays that frequency and percentage distribution of demographic profile, the majority of the parents 30 (50%) were below the age of 24 years, majority of the samples 40 (66.6%) were female, majority of the samples 20 (33.4%) were Primary school educated, majority of the samples 35 (58.4%) were agricultural workers, majority of the samples 35 (58.4%) were in the income group of 5, 001 - 10, 000/ - , majority of the samples 30 (50%) were in Nuclear family, majority of the samples 60 (100%) were Hindu., majority of the samples 50 (83.4%) had 1 - 2 children, majority of the samples 57 (95%) don't have any history of measles & rubella infection in family, majority of the samples 20 (33.3%) were getting information from mass media,

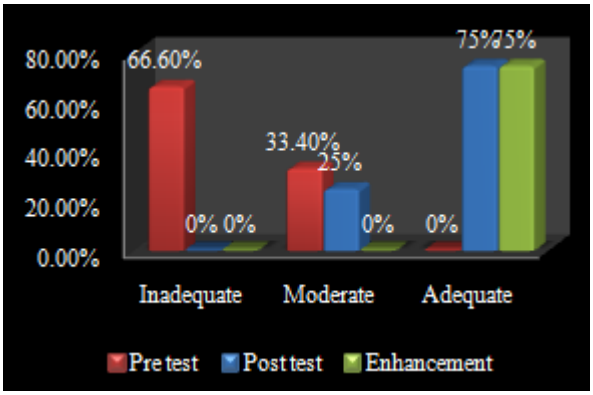


**Figure 1:** Bar diagram representing percentage Distribution of respondents by Pre and Post knowledge on vaccination to prevent measles & rubella infection

**Table 2:** Percentage distributions of respondent's knowledge on vaccination to prevent Measles & Rubella infection

| | Mean | S. D | Inadequate | | Moderate | | Adequate | |
|---|---|---|---|---|---|---|---|---|
| | | | No. parents | % | No. of parents | % | No. of parents | % |
| Pre test | 7.5 | 2.2 | 40 | 66.6% | 20 | 33.4% | 0 | 0% |
| Post test | 20.4 | 4.0 | 0 | 0% | 15 | 25% | 45 | 75% |
| Enhance-ment | 12.9 | 1.8 | - | - | - | - | - | 75% |

Figure - 1 and table - 2 depicts that in pre test, 66.6% of the parents having inadequate knowledge, 33.4% are having moderate knowledge and 0% is having adequate knowledge regarding vaccination to prevent measles & rubella infection. Similarly in post test 0% of the parents having inadequate knowledge, 25% are having moderate knowledge and 75% are having adequate knowledge. Therefore the enhancements of the adequate knowledge of the parents are 75%. Inadequate knowledge decreasing in post test is 0% from 66.6%.

**Table 3:** Range, Mean and S. D of pre and post test knowledge scores regarding all aspects and Paired t' test values. N= 60

| | | Maximum | Range | Mean | S. D | Paired 't' |
|---|---|---|---|---|---|---|
| General information about measles & rubella infection | Pre test | 10 | 0 - 3 | 2.5 | 1.3 | t =24.53 |
| | post test | 10 | 8 - 10 | 6.4 | 1.1 | P<0.05, S |
| Causes & clinical manifestation of measles & rubella infection | Pre test | 10 | 0 - 3 | 2.5 | 1.3 | t =26.94 |
| | post test | 10 | 7 - 10 | 6.1 | 1.0 | P<0.05, S |
| Management & Prevention of measles & rubella infection | Pre test | 10 | 0 - 2 | 2.3 | 1.1 | t= 13.33 |
| | post test | 10 | 8 - 10 | 6.4 | 1.1 | P<0.05, S |

The data presented in the table - 3 shows Paired 't' test value between pre tests and post tests knowledge scores of parents is found to be statistically significant at 0.05 level for all the aspects.

**Table 4:** Paired 't' test value between pre test and post test knowledge scores, N= 60

| | Maximum | Range | Mean | S. D | Paired 't' |
|---|---|---|---|---|---|
| Pre test | 08 | 4 - 08 | 7.5 | 2.2 | t= 35.40 |
| Post test | 27 | 22 - 27 | 20.4 | 4.0 | P<0.05, S |

The data presented in the table - 4 shows the overall mean of the post test knowledge score (20.4) is apparently higher than overall mean of pre test scores (7.5). The mean difference is (12.9). The paired 't' value at df (59) obtained is 35.40 significant at 0.05 level. Therefore the null hypothesis is rejected and research hypothesis is accepted. Therefore the teaching programme is effective.

The pre - test and post test with demographic variables like age, sex, educational status, occupation, Family income, Type of family, Religion, Number of children, Family history of measles & rubella infection and sources of information on management of measles & rubella infection and education show that there is no significant association between demographic variables and pre test and post test knowledge scores of Parents on vaccination to prevent measles & rubella infection among parents of under - five children's.

## 4. Discussion

The present study found that the educational teaching was very effective in cultivation knowledge and raise awareness on vaccination to prevent measles and rubella infection. The data presented in the The overall mean of the post test knowledge score (20.4) is apparently higher than overall mean of pre test scores (7.5). The mean difference is (12.9). The paired't' value at df (59) obtained is 35.40 significant at 0.05 level. Therefore the null hypothesis is rejected and research hypothesis is accepted. Therefore the teaching programme is effective.

The mean knowledge scores before teaching programme of all aspects were comparatively lesser than knowledge scores after teaching. Aspect wise post test knowledge scores are comparably higher than the pre test knowledge score after teaching programme.

Present study also revealed that there is no significant association between demographic variables and pre test and post test knowledge scores of Parents on vaccination to prevent measles & rubella infection among parents of under - five children's

## 5. Implications and Recommendation

The implication of the findings had been discussed in relation to nursing practice, nursing education, nursing administration and nursing research. . The finding shows that there is need for continued health education programmer for parents at all health care delivery levels and Periodic mass health education programme has to be arranged to all the community regarding child care. Researcher found scarcity in literature and research done on vaccination to prevent measles & rubella infection in nursing. So the investigator recommends conducting periodic research on

vaccination to prevent measles & rubella infection. It suggests doing a comparative study with control group.

## 6. Conclusion

Structured teaching programme was effective to improve the knowledge of parents of under five children. This study also noticed that there was no association between the demographic variables and pre test and post test knowledge scores of Parents on vaccination to prevent measles & rubella infection. It is observed that any sort of educational and teaching packages would be beneficial to improvise the awareness about these diseases and its vaccination

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**Conflicts of interest**
There are no conflicts of interest

## References

[1] Larissa Hirsch. Your child's immunization. Available from URL: http: //kidshealth. org/parent/infections/immunizations/vaccine. html#
[2] Parents′ Guide to Childhood Immunization. Hepatitis B. Available from URL: www.cdc. gov/vaccines/vpd - vac/hepb/. . . /pg_why_vacc_hepb. pdf
[3] Siri Wood, Heidi Lasher, and Scott Wittet. Immunizing children against hepatitis B. A training module for vaccinators. Available from URL: http: //74.125.153.132/search?q=cache: OwyOQ_zXSYEJ: www.path. org
[4] Hepatitis B foundation. What is hepatitis B. October 21, 2009. Availabie from URL: http: //www.hepb. org/hepb/statistics. htm
[5] WrongDiagnosis. Statistics about Hepatitis B. Available from URL: http: //www.wrongdiagnosis. com/h/hepatitis_b/stats. htm
[6] Sobeslavsky O. Prevalence markers of HBV infection in various countries: a WHO collaborative study. Bull WHO 1980; 58: 621 - 8.
[7] Jayaram S. Prevalence of HBV markers in different age groups in Madras. Ph. D. thesis on "Prevention and control of Hepatitis B in Tamil Nadu". University of Madras 1992.
[8] Kant L, Hall AJ. Epidemiology of Childhood Hepatitis B in India: Vaccination related issues. Indian J Pediatr 1995; 62: 635 - 53.
[9] Maayan - Metzger A, Kedem - Friedrich P, Kuint J. To vaccinate or not to vaccinate - - that is the question: why are some mothers opposed to giving their infants hepatitis B vaccine? Vaccine. 2005 Mar 14; V.23 (16), P.1941 - 8.
[10] Angelillo IF, Ricciardi G, Rossi P et all. Mothers and vaccination: knowledge, attitudes, and behaviour in Italy. Bull World Health Organ. 1999; V.77 (3), P.224 - 29
[11] Basavanthappa B. T. Nursing Research. New Delhi: Jaypee brothers Publications; 1998. P.98 - 100.
[12] Danielsson N, Fakakovikaetau T, Szegedi E. Improved immunization practices reduce childhood hepatitis B infection in Tonga. Vaccine. 2009 Jul 16; V.27 (33), P.4462 - 7.
[13] McPhee SJ, Nguyen T, Euler GL et all. Successful promotion of hepatitis B vaccinations among Vietnamese - American children ages 3 to 18: results of a controlled trial. Pediatrics. 2003 Jun; V.111 (6), P.1278 - 88.
[14] Arguedas MR, Fallon MB. Prevention in liver disease. Am J Med Sci. 2001 Feb; V.321 (2), P.145 - 51.
[15] Ott MJ, Aruda M. Hepatitis B vaccine. J Pediatr Health Care. 1999 Sep - Oct; V.13 (5), P.211 - 6
[16] Przewlocka T. Evaluation of the hepatitis B prevention education programme in Poland. Vaccine. 2000 Feb 18; V.18 (1), P.46 - 8.