Awareness regarding measles –rubella campaign in parents of school going children of slum population: A cross-sectional study

Dr. Harshwardhan M[1], Adishri M[2], Dr. Komal M[3], Dr. Ajay M[4], Dr. Sripad T[5]

1. *MBBS Scholar, Lokmanya Tilak Municipal Medical College, Sion, Mumbai*
2. *Second Year MBBS Student, SSIMS, Bhilai, C.G.*
3. *Professor and Head, Department of Biochemistry, SSIMS, Bhilai, C.G.*
4. *Professor and Head, Department of Physiology, SSIMS, Bhilai, C.G.*
5. *Assistant Professor, Department of Microbiology, Lokmanya Tilak Municipal Medical College Sion, Mumbai*

Corresponding Author:
Dr. Harshwardhan M, MBBS Scholar, Lokmanya Tilak Municipal Medical College, Sion, Mumbai, harshmesh1999@gmail.com

KEYWORDS

Measles, Rubella, Measles – rubella campaign.

ABSTRACT

Measles and rubella are among the most infectious diseases with similar symptoms in humans. Parental knowledge and attitudes toward both disease and vaccinations are known to influence vaccine uptake, contribution of these factors toward vaccination rates in slum populations has not yet studied. **Aim-** The aim of the study is to evaluate the awareness regarding measles –rubella campaign in parents of school going children of slum population. **Objectives:** The objectives of the study are to assess the knowledge and practices regarding measles-rubella diseases in the parents of school going children of slum populationand to create awareness regarding measles-rubella campaign in the slum population. **Methods**: A cross-sectional study was conducted in municipal schools where knowledge regarding awareness of measles –rubella was assessed with the help of validated questionnaire. **Results**: After imparting knowledge regarding (MRC) post test scores were found to bestatistically significant ($p<0.05$) as compared to pre-test scores. **Conclusion**: The results of our study have clearly demonstrated that after creating awareness regarding measles –rubella campaign in parents of school going children’s concepts about campaign drive became much clearer for them.

INTRODUCTION

Measles and rubella are among the most infectious diseases with similar symptoms in humans. Children with poor nutrition and weakened immune systems measles can be deadly. Rubella is also very contagious but causes relatively mild disease in children; in pregnant women, rubella can lead to miscarriage or severe birth defects (congenital rubella syndrome), including blindness, deafness and heart problems. In Africa and Asia where uptake of the measles and rubella vaccine is relatively low and increasing access to immunization through large scale vaccination campaigns can significantly reduce deaths and illnesses. High level of herd immunity is required for its elimination. Sero-prevalence studies suggest that coverage in the range of 90–95 % is needed (1).

Government of India started with Measles -Rubella (MR) campaign in 2017 with aim to rapidly build up immunity for measles and rubella diseases in the community so as to knock out the diseases. The campaign was carried out in schools, community centres and health facilities. Mass immunization is one of the most outstanding achievements of modern medicine. Childhood vaccination and immunization are important for control as well as prevention of childhood diseases. They are considered as one of the most effective public health interventions in the world (2).

The triple MMR vaccine was introduced in the UK in 1988 to protect children against measles, mumps and rubella. The vaccine triggers the immune system to produce antibodies against measles, mumps and rubella thus providing immunity to the diseases. All these diseases are serious and can result in morbidity & mortality (3). Indian Academy of Paediatrics recommends first dose of the vaccine to children aged between 12 and 15 months, and a second dose is given prior to starting school (between the ages of 3 and 5 years). The first MMR dose produces good immunity to the diseases – measles (97% immunity), mumps (97% immunity) and rubella (95% immunity). The second dose provides further immunity to all three diseases (99.7%). In order for 'virtual' elimination of measles, mumps and rubella to be achieved there needs to be a 95% vaccine uptake rate for both first MMR vaccine and second dose vaccine (4).

Public and parental knowledge about measles and the vaccination is vital to prevent resurgence in disease incidence. Previous studies have demonstrated that parental knowledge of and attitudes towards both disease and vaccinations influence immunization (5). Parental decisions are also very important for increasing the immunization rate, compliance and for decreasing any possible immunization errors. Parents' knowledge and practices regarding immunization are the major factors that contribute to their vaccination decisions (6).

To strengthen Measles -Rubella campaign effective health communication strategies are needed. Health communication can be effective only if implemented at different levels with specific languages and levels of deepening: general population, health professionals, teachers, pupils and parents in the school environment (7). Parental knowledge and attitudes toward both disease and vaccinations are known to influence vaccine uptake (8), contribution of these factors toward vaccination rates in slum populations has not yet studied. Hence worth present study was taken to assess and implement knowledge, awareness regarding measles and rubella disease in slum population of Mumbai.

MATERIAL & METHODS

A cross-sectional study was conducted between June 2017 till December 2017 in municipal schools in the f-north ward catering to school situated in slum population near the LokmanyaTilak Hospital and College, Sion Mumbai, after Institutional and Ethics Committee approval of total 6 months duration.

Sample size-Participants were parents of school going children less than 15 years of age (1). Total sample size after calculation came out to be 115.

Inclusion Criteria

The inclusion criteria include participants must be at least 15 years old to grasp the questions and provide relevant disease experience, and parents of school children whose age must be at least 15 years old.

Exclusion Criteria

Participants not willing to participate or refusing to givewritten informed consent were excluded from the study.

STUDY PROTOCOL

A cross-sectional study was conducted in municipal schools in the f-north ward of slum population, Sion Mumbai, Maharashtra, India in the year 2017. Peer reviewed and self validated questionnaire each having one mark total ten such questions were drafted with guide. Parents of school going children less than 15 years of age willing to participate in the study were selected randomly from slum population. After discussion with school principal, participants were initially sensitized. They were called on particular day in school where detailed plan of work, aim of present research project was briefed to them. After obtaining written informed consent pre-test consisting of validated questionnaire each were given to all participants before the start of study so as to assess the awareness, knowledge and practices regarding measles-rubella diseases. Then knowledge regarding measles and rubella disease as well as M-R campaign wasdetailed to them orally as well as through video session which was given for around45 minutes. After that, pamphlet was provided in local language to each participant. At the end of session again post-test was taken from the participants.

ETHICAL APPROVAL

Ethical approval for study was taken prior from the Institutional Ethical Committee. IEC/11/19.

STATISTICAL ANALYSIS

Statistical analysis was done by using descriptive and inferential statistics using chi-square test and software used in the analysis were SPSS 17.0 version and GraphPad Prism 6.0 version and $p<0.05$ is considered as level of significance.

OBSERVATION AND RESULTS-

Table 1: Participants distribution according to age

Age Groups	Frequency	Percent
1.15-25	56	48.7
2.26-35	54	47.0
3.36-45	5	4.3
Total	115	100.0

Interpretation-15-25 years consisted 49%, 26-35 years 47% &36-45 years had 5% of participants**.**

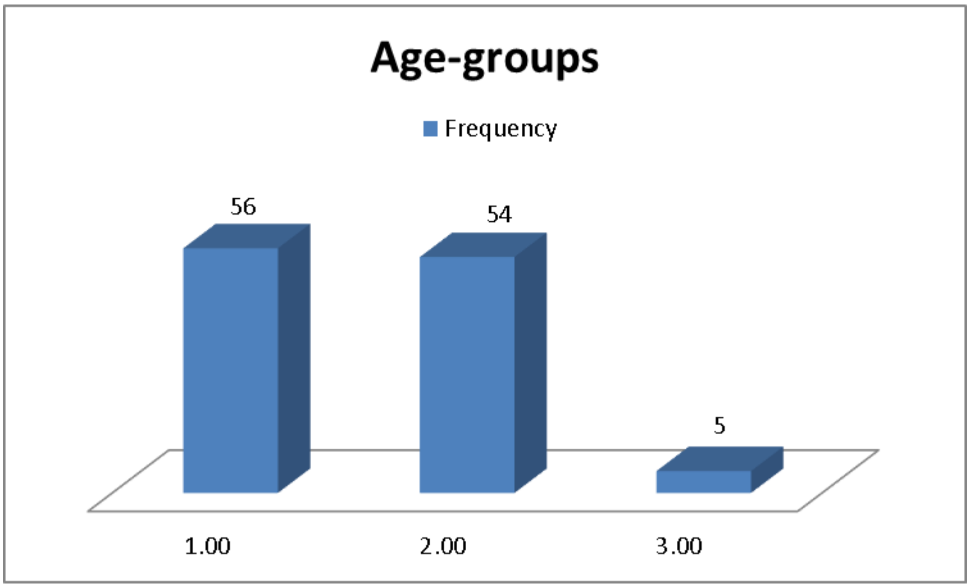
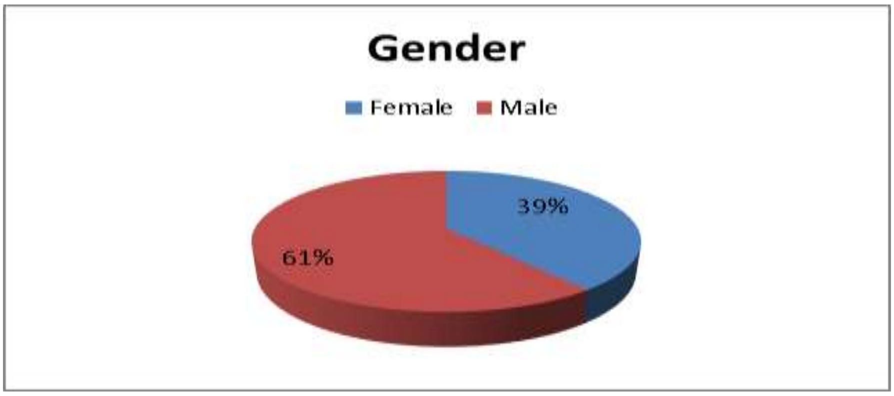


Table 2: Gender wise distribution of Participants

Gender	No of participants	Percentage (%)
Male	70	60.9
Female	45	39.1
Total	115	100

Interpretation-Distribution of participants according to their gender reveals that 60.9% of them were males and 39.1% were females.

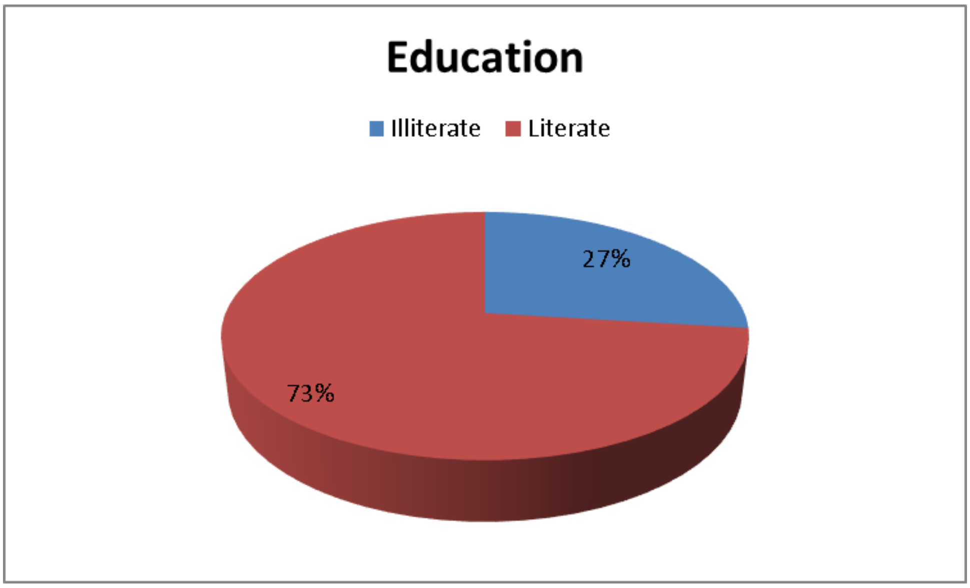


Graph 2: Gender wise distribution of participants

Table 3: Education wise distribution of Participants

Education	No of participants	Percentage (%)
Literate	84	73
Illiterate	31	27
Total	115	100

Interpretation-According to educational status shows that 73% of them were literate and 27% were illiterate.



Graph 3: Education wise distribution of participants

Table 4: Mean and standard deviation of participants score according to age.

Descriptive Statistics	**Age 1 (N = 56)**	**Age 2 (N = 54)**	**Age 3 (N = 5)**
	Mean ± Std.	**Mean ± Std.**	**Mean ± Std.**
PRE TEST	2.21 ± 1.003	2.20 ± 1.155	2 ± 1.224
POST TEST	7.25 ± 1.115	7.33 ± 0.971	7.6 ± 0.894

Table 5: Mean and standard deviation of participants score according to education participants.

Descriptive Statistics	Illiterate (N = 31)	Literate (N = 84)
	Mean ± Std.	**Mean ± Std.**
PRE TEST	2.064 ± 0.892	2.25 ± 1.139
POST TEST	7.35 ± 0.95	7.28 ± 1.07

Table 6: Comparison between pre-test and post-test knowledge score of participants

Paired Statistics	N	Mean	Std.	95% CI_LL	95% CI_UL	p-value
PRE TEST - POST TEST	115	5.10	1.259	-5.337	-4.872	0.002

Interpretation-Comparing scores according to age wise, illiterate and literate, female and male participant's scores were found statically significant ($p<0.05$) in post-test as compared to pre-test.

DISCUSSION

Creating awareness regarding campaigns are important mechanismsto control and eliminate infectious diseases in developing countries. In recent years, measles-rubella campaigns have helped many countries to achieve their national immunization coverage targets (9). Present study was undertaken to create awareness regarding measles –rubella campaign in parents of school going children of slum population among rural village near the in the f-north ward of Sion Mumbai, Maharashtra, India.

Our study consisted49% of participants in15-25 years, 47% in 26-35 years & 5% in 36-45 years age group as shown in table no-1, out of which 60% were males and 40% were females (table no-2), and 73% of them were literate while 27% were illiterate (table no-3). Comparisonof questionnairescores, thepost test values were found to be statistically significant ($p<0.05$) as shown in table no -6.

Previous studies have found that some of religious beliefs, lack of knowledge, fear of infertility and negative thoughts regarding vaccination were some of the reasons for people rejecting immunization (10).The results obtained in our studyclearly demonstrates that after creating awareness regarding measles –rubella campaign in parents of school going children's conceptsabout campaign drive became much more clearer for them.Similar results were also found in other studies conducted by Majra JP, Acharya D, which concluded that people who had knowledge about the vectors and methods of preventing the diseases could help in elimination of various diseases (11).Our findings are also in accordance with studies done by Koenraadt et al in Thailand which reported a significant reduction of chikungunya cases after having clean-up campaigns (12).In terms of limitations, our study was carried out in one given region hence only limited population was surveyed.

CONCLUSION- In the present study it was found that awarenessregarding measles –rubella campaign in parents of school going children of slum population was enhanced as seen in post test results. Thus, such awareness program should be carried out for the benefit of communities.

IMPLICATIONS- Through this study many questions and queries in the mind of common individual; whenever a health related / vaccination drive is initiated by Government agencies would be solved.

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CONFLICT OF INTEREST-Nil

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