

# Awareness of Measles -Rubella Vaccine Campaign and its Coverage in Rural Areas of Maharashtra

Sahil Kothawade<sup>1</sup>, Chincholikar Sanjeev Vasantao<sup>2</sup>, Surendra Kulkarni<sup>3</sup>

<sup>1</sup>Undergraduate Student, MIMER Medical College, Talegaon Dabhade, <sup>2</sup>Professor, <sup>3</sup>Associate Professor, Community Medicine, MIMER Medical College, Talegaon Dabhade, Pune.

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## Abstract

**Introduction:** Measles and rubella are among the most infectious diseases of humans.

Measles can be deadly for children with poor nutrition and weakened immune systems. 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). The Government is providing Measles-Rubella vaccine free of cost through its immunization programme but still the immunization rate remains low in some areas.

**Aims and Objectives:** The study was carried out to assess the awareness of the MR vaccine campaign and its coverage in rural areas of Maharashtra.

**Materials and Methods:** An observational, cross-sectional conducted. 250 parents having children between 9 months to 15 years were interviewed using a pretested questionnaire.

**Results:** 73% of the parents were found aware about MR campaign. 47% of the parents had MR vaccination campaign knowledge through health worker. A strong association between awareness of MR vaccination and practice of MR vaccine.

**Conclusion:** The most important factor affecting parental practice is communication between parents and the sources of information or immunization providers. Improving communication will improve parents' perceptions of the benefits and risks of vaccines.

**Key words:** Measles, Rubella, Campaign, Information, Immunization

## Introduction

Measles and rubella are among the most infectious diseases of humans. High level of herd immunity is

required for its elimination<sup>1</sup>. Measles and rubella are vaccine-preventable diseases with similar symptoms and are frequently confused with each other. Both

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**Corresponding Author:** Surendra Kulkarni, Associate Professor, Community Medicine, MIMER Medical College, Talegaon Dabhade, Pune.

**E-mail:** dr.sjkulkarni@gmail.com

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viruses cause rash and fever<sup>2</sup>. Measles can be deadly for children with poor nutrition and weakened immune systems. 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<sup>3,4</sup>. Measles-rubella (MR) vaccine is given for preventing both measles and rubella diseases in the child. No specific treatment is available for measles and rubella but these diseases can easily be prevented by vaccination. MR vaccine is given at 9-12 months and 16-24 months of age of child. The Government is providing Measles-Rubella vaccine free of cost through its immunization programme. The purpose of the Measles-Rubella campaign is to protect the children and eliminate transmission of Measles and Rubella from the community by vaccinating 100% target children with MR vaccine. The first phase of measles-rubella vaccination campaign has been successfully completed during February 2017 in five states, namely, Tamil Nadu, Karnataka, Goa, Lakshadweep and Puducherry. More than 3.3 crore children were vaccinated, reaching out to 97% of the intended age group. The campaign was carried out in schools, community centers and health facilities. The next round was taken up in 8 states/UTs (Andhra Pradesh, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Himachal Pradesh, Kerala, Telangana and Uttarakhand) during August 2017, aiming to cover 3.4 crore children. Since the launch in 2017, the MRV campaign has covered nearly 20 crore children in 30 states and Union Territories. In India, immunization services are offered free in public health facilities, but, despite rapid increases, the immunization rate remains low in some areas.<sup>5</sup> Keeping this in mind, the study was carried out to assess the awareness of the MR vaccine campaign and its coverage in rural areas of Maharashtra.

#### **Aims and Objectives:**

1. To study the awareness of MR vaccine campaign in Maharashtra.
2. To find out its coverage in rural areas of Maharashtra.

#### **Material and Methods**

The study was an observational, cross-sectional conducted in a duration of 3 months from May 2019

to July 2019 in the undertaken among the children in the age group of 9 months to 15 years in a field practice area of a rural Medical college a Private Medical College and Hospital as the **main objective of MR campaign special campaign was the children in the age group of 9 months to 15 years** will be given a single dose of MR vaccination. The participants in the study were parents. All of them were taken as study population by purposive sampling **as the study population was taken from field practice area of a rural Medical college a Private Medical College and Hospital**. All willing participants were informed about details regarding the purpose of this study, and prior informed written consent was taken from each of them. Data collection was started after obtaining approval from the Ethics Committee of Medical College and Hospital. The approval was taken vide letter number IEC/MIMER/2019/606 dated 22/05/2019. The data collection was done by interview technique among parents of all children from 9 months to 15 years using pretested, structured schedule consisting of two parts. Part 1 includes the basic profile of the participants containing details of various sociodemographic variables, such as age, gender, residence, working status, working place, and working period. Part 2 consists of questions about knowledge on MR vaccination, its coverage in field practice area.

This cross sectional study aimed at assessing the knowledge, attitude and practice of all parents of children between 9 months to 15 years of age. Permission was obtained from the Institutional Ethics Committee and the concerned college authorities.

The questions were divided into three categories: Knowledge, attitude and practice.

Questions under knowledge consisted of whether they know MR vaccination, the vaccine its use and advantages and source of information.

Questions under attitude section included questions that would be indicative of the behavior and psyche of the subjects regarding MR vaccine management.

Questions under practice were aimed at whether their children received MR vaccine or not.

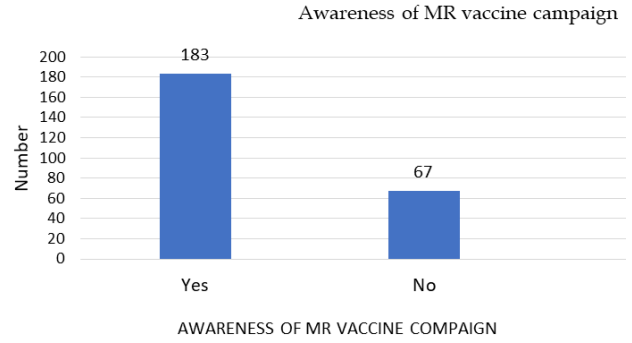
The final sample size was 250. The data was entered in Microsoft Excel. Data analysis was carried out by using chi-square test at a significant level of  $p < 0.05$ .

### Results and Discussion

The parents were interviewed from 250 families selected randomly from field practice area of a private medical college.

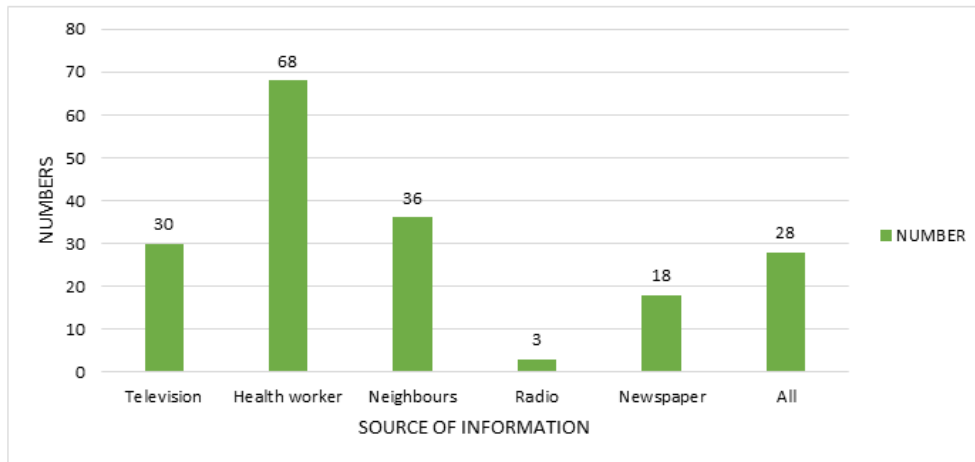
It can be observed from Fig 1 that 73% study participants were aware about MR vaccine campaign. The study carried out by Kirandeep Kour has reported that majority of mothers 80 (53.33%) had moderately adequate knowledge, 68(45.33%) had inadequate knowledge and (1.33%) had adequate knowledge.<sup>7</sup>In our study about 52 (21%) mothers were in the age group of 31 to 35 years. The study carried out by Kirandeep Kour has reported 32% of mothers in this age group. The study carried out by Kirandeep Kour has classified knowledge score in three grades. 53.33% of mothers were having moderately adequate and 45.33% were having inadequate knowledge

about Measles Rubella vaccine campaign.<sup>8</sup>



**Fig 1: Awareness of MR vaccine campaign**

A question was asked about source of information of MR vaccination campaign. Fig 2 shows that 47% had MR vaccination campaign knowledge through health worker. Hardly 1% had knowledge through radio.



**Fig 2: Source of information about MR campaign**

A question was asked about source of information of MR vaccination campaign. Fig 2 shows that 47% had MR vaccination campaign knowledge through health worker. Hardly 1% had knowledge through radio. In the study carried out by Kirandeep Kour, only 6.66% of participants has got information from health workers and 36% have received information from mass media.<sup>8</sup>In this study the awareness about MR Vaccine campaign was found 73% among the study participants.

Dr Jayashree et al in their study found that predominant source of knowledge about measles was TV in about 32.42% of mothers, and the other

common source being health worker 19.18%.<sup>7</sup> Regarding the source of knowledge of respondents about VPD’s, Anganwadi Worker was the main source of information 47 (47%) in a study by Kapoor R et al<sup>9</sup>. In the study conducted by D. Adeyinka et al 65.7% of the respondents got information about Vaccine Preventable Diseases from Antenatal clinics & role of media was only 4.8%.<sup>10</sup> Also, Bofarraj M et al found that the paramedical worker, was found to be the major source of information to the attendants of completely (50.2%) and partially immunized (34.2%) children; community leaders, on other hand were found to be the most important source of information among 0 partially immunized children<sup>11</sup>. The

main source of information regarding vaccination campaign was reportedly provided by school teachers (55.6%), followed by community level health

workers (24.4%), media (9.4%), friends and relatives (2.7%), and health professionals (0.6%).<sup>12</sup>

**Table 1: Relation of awareness and practice of MR vaccination**

Awareness of MR vaccination	MR vaccination taken Yes (Number)	MR vaccination Not taken (Number)	TOTAL
Yes	132	51	183
No	05	62	67
Total	137	113	250

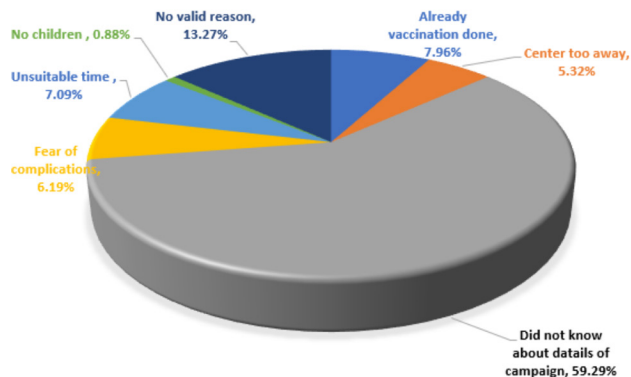
Table 1 reveals that there is a strong association between awareness of MR vaccination and practice of MR vaccine.  $\chi^2 = 82.804$  at DF 1 and  $P < 0.05$ . It means that Majority of those who were aware of MR campaign, had taken MR vaccine. There were 113 respondents answered for non vaccination in MR campaign.

In one of the study, Awareness of the mass Measles-Rubella vaccination campaign was very high (97.7%) and vaccination session sites were known by 89.4% of the subjects.<sup>12</sup>

Awareness of why the vaccine was needed was low, as only 276 (44.8%) participants were aware that the vaccine would help prevent disease. Of these 276 participants, 211 (76.4%) responded that the vaccine prevents only Measles, 3 (1.1%) responded that it prevents only Rubella, and 62 (22.5%) responded that it prevents both Measles and Rubella.

Vaccination coverage was significantly higher in males (84.6%) when compared to females (75.9%). A study analysing NFHS data between 1992 and 2006 observed similar results with girls having a significantly lower coverage when compared to boys for BCG, DPT and Measles.<sup>13</sup> This gender difference is observed in healthcare utilization throughout India at all age groups.

In another study Awareness about the MR campaign in the families was found to be 100%. The main source of information was health workers and school authorities. Out of them, 94.4% of families were ready to vaccinate after being informed.



**Fig 3: Reasons for not taking MR vaccine**

There were 113 respondents answered for non vaccination in MR campaign. When reasons for not vaccination of children were asked, 59 % did not know the details of vaccination. The results are depicted in fig 3. However, the study carried out by MD Jasim in post campaign period reports this reason in 17% of cases. The main reasons for non-vaccination were sickness of the child, followed by fear of side effects, not knowing details of vaccination<sup>16</sup>

**Conclusion**

The study revolved around awareness of MR vaccine and its coverage in field practice area of a private medical college in a rural area.

It was observed that awareness about MR vaccine campaign was found to be only 73%. The parents had little knowledge of basic questions like which campaign ,which vaccine and where it is to be taken. MR vaccination was given to almost half of study participants.

Illiteracy was more in mothers as compared to their counterparts .47% had MR vaccination campaign knowledge through health worker. Hardly

1% had knowledge through radio. MR vaccination campaign knowledge through health worker was quite higher than other sources of information such as mass media. Similarly, many of the participants were aware about measles disease. Other source of knowledge was less.

Based on our results, Information education and communication activities need to be strengthened to enable mothers of under 15 years children in rural region to know regarding Measles-Rubella vaccine and disease. To improve parents' awareness, good knowledge regarding vaccination is required.

Therefore, physicians, pharmacists, nurses, and others health care providers should provide parents with correct information about the risks and benefits of vaccines. A planned health educational programme is needed.

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**Conflict of interest:** None

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