

## **A Cross Sectional Study on Awareness About Measles Among Mothers of Under- 5 Children Attending Tertiary Care Hospital, Telangana**

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Received: 20-03-2023 / Revised: 11-04-2023 / Accepted: 28-05-2023

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Conflict of interest: Nil

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### **Abstract**

**Background:** Measles remains as one of the significant causes of mortality and morbidity in the world. Despite the efforts of the governments, there are deficiencies in vaccine coverage for measles.

**Objective:** To assess the knowledge of the mothers regarding measles and the reasons for delay in receiving the vaccine.

**Material & Methods:** A cross sectional study was conducted in a tertiary care hospital for a period of 2 months using a pre designed semi structured questionnaire administered to the mothers in the local language.

**Conclusion:** About half of the study subjects were not aware of measles and one – third of the under 5 children had delay in receiving the 1<sup>st</sup> dose of measles vaccine. The main reasons for delay in the vaccination were found to be -Child being ill, forgot vaccination scheduled date and the time of vaccination was not feasible.

**Keywords:** Measles, Under 5 Children, Measles Vaccination, Child Vaccination.

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### **Introduction**

Measles is an infectious disease associated with high morbidity and mortality in the developing countries. It is responsible for about 2% of under-5 mortality in India.[1] Globally, 20 million were affected by measles of which, and 46% are under 5 children. [2]

The main reasons for low measles vaccination are related to the available immunization services and parental knowledge and attitudes. There is a need to monitor and assess the under vaccinated

children and address the causes and pit falls.[3] Low literacy levels, lack of awareness about immunization, missing scheduled dates of vaccination influence the uptake of vaccines.[4]

Following the South-East Asia (SEA) Regional Committee resolution in September 2013, Government of India has set the goal of measles elimination and rubella/CRS control by 2020.To ensure this, the Health ministry conducted MR campaign to reach more than 400 million

children aged 9 months to 15 years in the couple of years and vaccinate them with one shot of MR vaccine irrespective of their vaccine or disease history or status. Measles – Rubella (MR) Vaccination Campaign has been implemented across the country in a phased manner over a period of two to three years. It was followed in the state of Telangana during the months of August and September 2017. [5]

In this context, the present study aims to assess awareness of mothers regarding measles and factors influencing the delay in receiving routine dose of measles vaccine.

#### Objectives:

1. To assess awareness about measles among the mothers of under 5 children
2. To determine the factors influencing the delay in receiving measles vaccine.

#### Material and Methods

A hospital based cross-sectional study was conducted in the immunization clinic and pediatric OPD at Gandhi Hospital, Telangana for a period of 2 months i.e.,

September and October 2017. The study population was the mothers of the under 5 children. About 238 mothers were included in the study after taking informed consent. A Pre designed semi structured questionnaire was administered to the mothers for assessing the knowledge on measles and its vaccination, in local language. Ethical Clearance from Institutional Ethics Committee, Gandhi Medical College was obtained. The data collected was analyzed using MS excel, Epi Info and SPSS version 21.

#### Results:

##### Sociodemographic Characteristics:

A total of 238 mothers of under 5 children were interviewed. The mean age of the mothers interviewed was found to be  $25.3 \pm 3.02$  years.

In the present study, higher proportion of children (49.6%) were in the age group 13-24 months followed by 34.9% infants, 7.6% between 37-48 months, 5% in 25-36 months and 2.9% between 49 -60 months. (Fig 1).

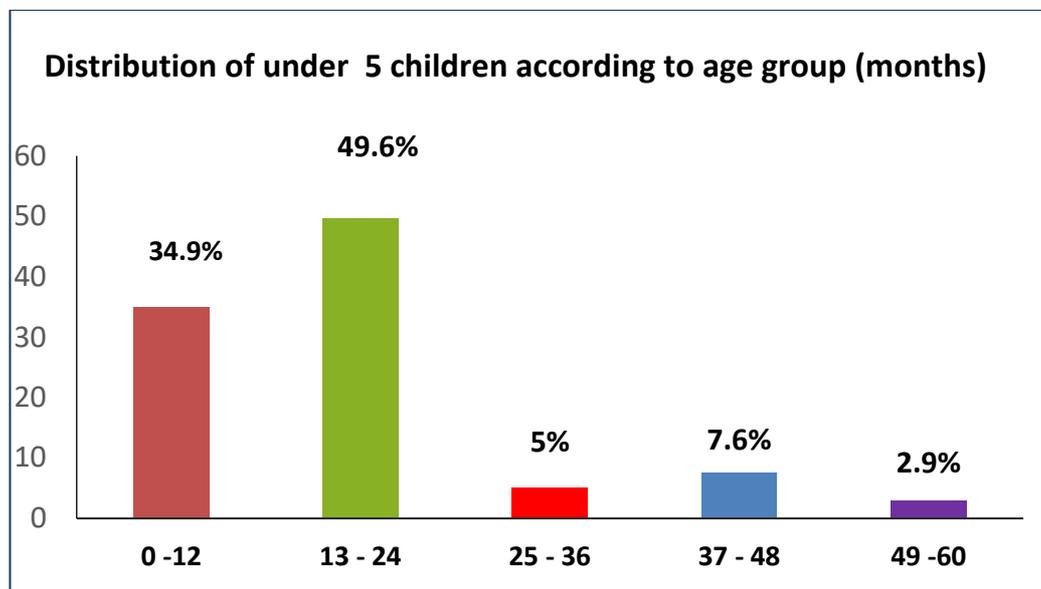


Figure. 1: Distribution of the under 5 Children according to their age in months:

According to Mother's education, most of the mothers (28.2%) studied till High school followed by 25.5% who studied intermediate. About 5.8% were illiterate.

Majority of the mothers (61.3%) were unemployed and the rest 38.7% were working. According to modified Kuppuswamy socio-economic

classification, 48.6% belonged to lower middle followed by 45% who belong to upper lower class. Higher proportion (42.8%) of the respondents was living in nuclear families, 36.2% in three generation

families and 21% in joint families. (Table.1) The birth order of the children was 1 in 40% followed by 36% with birth order of 2 and 24% with birth order more than 2.

**Table 1: Distribution of the mothers according to their education, occupation and Socio economic status and type of family:**

Sociodemographic variable ( n = 238)	No.	%
<b>Mother's Education</b>		
Illiterate	14	5.8
Primary	42	17.5
Secondary	46	19.3
High school	67	28.2
Intermediate	61	25.5
Graduate & above	8	3.7
<b>Mother's Occupation</b>		
Working	92	38.7
Unemployed	146	61.3
<b>Socio- economic status ( according to modified Kuppuswamy classification)</b>		
I (upper)	2	0.7
II (upper middle)	13	5.7
III (Lower middle)	116	48.6
IV (upper Lower)	107	45
V (Lower Lower)	0	0
<b>Family type</b>		
Nuclear	102	42.8
Joint	50	21
Three generation	86	36.2

#### **Awareness Regarding Measles:**

About 52% (124) of the mothers heard of measles and 48% never heard of measles. The source of information was mainly a Health worker or Anganwadi teacher in 32.3%, Family/relatives in 25.8%, friends/neighbors in 19.4%, doctor in 14.5%, and media in 4.8% and others in

3.2%. About 37.9% of the mothers said that measles will be transmitted from person to person, 22.5% from infective secretions, 14.5% as seasonal, 9.7% as due to inadequate nutrition, 8.9% due to air, 6.5% believed it is due to evil eye. Regarding the requirement of isolation, 53.3% of the mothers mentioned isolation is needful in measles. (Table 2).

**Table 2: Distribution of the mothers according to source of information of measles (n=124)**

Source of information	No.	%
Family/Relatives	32	25.8
Friends/Neighbours	24	19.4
Health worker/ Anganwadi worker	40	32.3
Doctor	18	14.5
Media	6	4.8
Others	4	3.2

How measles disease is transmitted		
Person to person	47	37.9
Infective secretions	28	22.5
Air	11	8.9
Inadequate nutrition	12	9.7
Seasonal	18	14.5
Evil eye	8	6.5
Isolation needed if infected?		
Yes	66	53.3
No	58	46.7

Regarding the awareness on symptoms, 72.5% mentioned fever followed by 62.9% rash, 41.1% coryza, 36.2% cough, 22.5% redness of eye and 8% doesn't know the symptoms. (Fig -2).

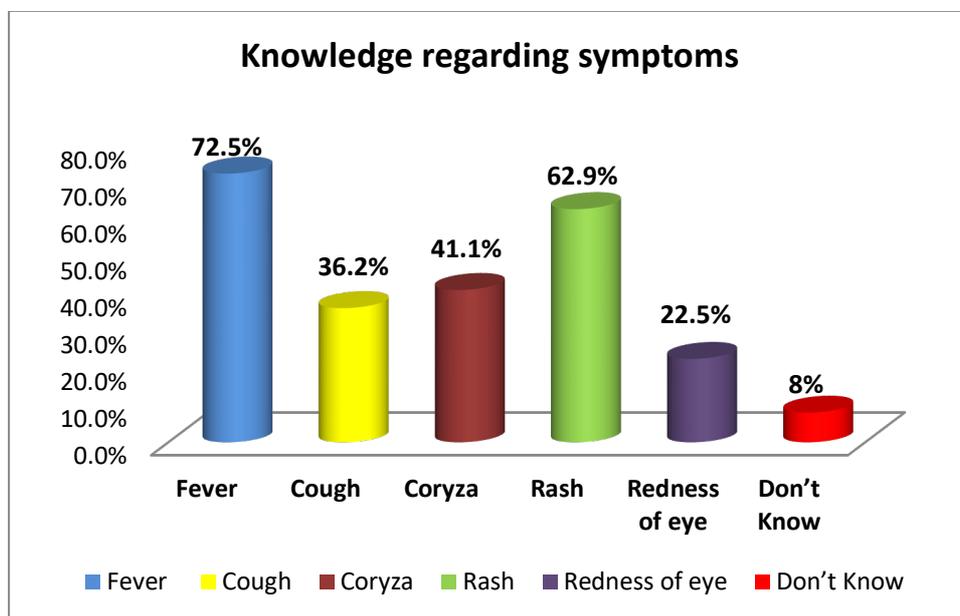


Figure 2: Knowledge on symptoms

**-Multiple responses**

Regarding the complications, nearly half (50.1%) mentioned diarrhea followed by 44.4% as weight loss, 19.4% pneumonia, 10.4% as death, 6.4% ear infections and 5.6% told others like baby doesn't take

feeds. More than half of the mothers (63%) know that vaccination will prevent the occurrence of disease followed by 43.5% who mentioned adequate nutrition would prevent and 16% did not mention any preventive measures. (Table 3).

Table 3: knowledge on complications & prevention:

Knowledge about measles ( n = 124)	No.	%
<b>Complications (multiple responses)</b>		
Weight loss	55	44.4
Diarrhoea	62	50.1
Pneumonia	24	19.4
Ear infections	8	6.4
Death	13	10.4
Others (don't take feeds)	7	5.6

<b>Prevention (multiple responses)</b>		
Vaccination	78	63
Adequate nutrition	54	43.5
None	20	16

Awareness was more among women with education of 10<sup>th</sup> standard and above and working mothers. There was a significant

association found between awareness about measles with the education and working status of the mother. (Table.4)

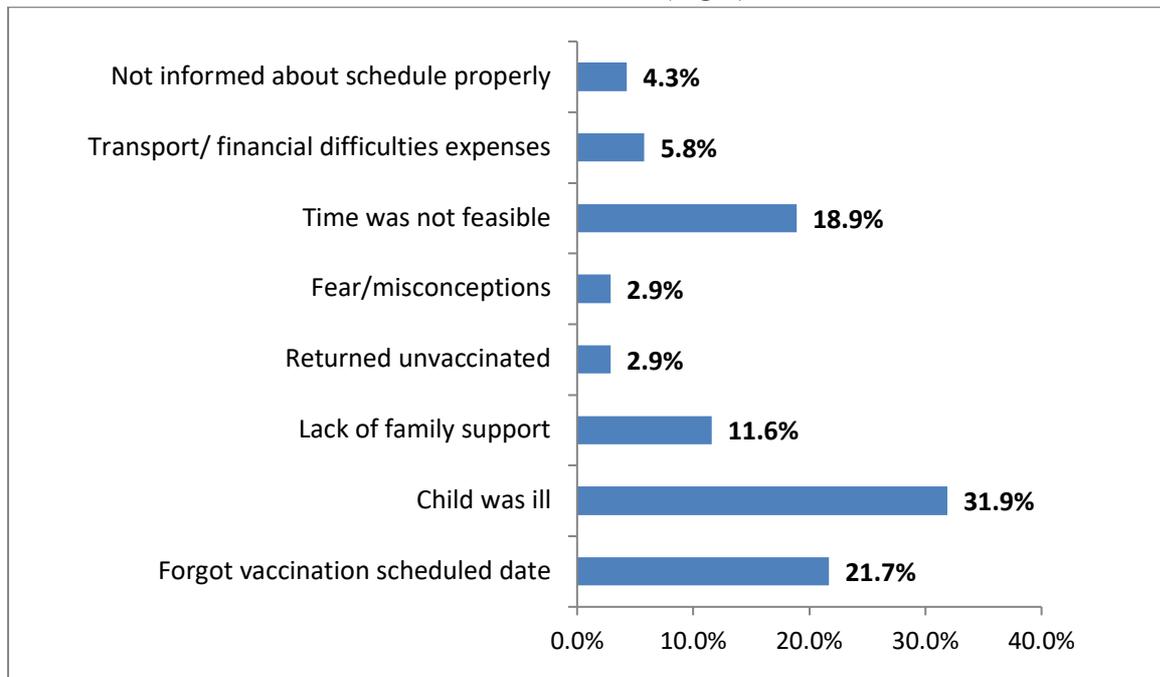
**Table 4: Association among Education, working status of mothers and Awareness about measles**

Education	Aware	Not aware	Total	Chi square & p value
< 10 <sup>th</sup> std	31(30.4%)	71(69.6%)	102 (100)	Chi square – 33.71; p value highly significant at <0.01
≥ 10 <sup>th</sup> std	93(68.4%)	43(31.6%)	136(100)	
<b>Total</b>	124 (52.1%)	114 (47.9%)	238(100)	
<b>Occupation</b>				
Unemployed	66(45.2%)	80(54.8%)	146(100)	Chi square – 7.16; p value <0.05 - significant
Working	58 (63%)	34(37%)	92(100)	
<b>Total</b>	124(52%)	114(48%)	238(100)	

**Delay In Receiving Vaccine:** About 4 children (1.68%) had history of measles among the study population. Among the study subjects, 215 (90.3%) were above 9 months of age, of which 69 (32%) of children had delay in receiving measles vaccine

**Factors Influencing Delay In Receiving Vaccine**

The reasons mentioned for delay in measles immunization were mainly Child was ill (31.9%), Forgot schedule date (21.7%), Time was not feasible (18.9%) and Lack of family support among 11.6% children. (Fig.3).



**Figure 3: Reasons for delaying in receiving measles vaccine among children**

**Measles - Rubella Vaccination:** Of the total eligible ( $\geq 9$  months) children, 196 (91.2%) received MR vaccine during the campaign and 19 (8.8%) did not take the vaccine. The reasons for not receiving vaccine were child was ill among 8 children (42.4%), not aware among 5 children (26.3%), felt no need as following regular children among 4 children (21%) and 2 children did not receive due to family reasons (10.5%)

### Discussion

In the present study, higher proportion of the women had education up to high school (28.2%) followed by 25.5% who completed intermediate education and only 5.8% were illiterates. About 61.3% of the women were working. In a study conducted by Soundarya Mahalingam et al, in urban area, majority of the women had school education followed by 32.4% pre degree, 13.5% graduates and 10.8% illiterates. About 24.3% were working mothers according to this study.[6]

In the current study, 52% of the mothers were aware of measles and the main source of knowledge was a Health worker or Anganwadi teacher in 32.3%, Family/relatives in 32%, friends/neighbours in 19.4%. Whereas in a study conducted in Maharashtra, 52.5% of the mothers had good knowledge on measles and the predominant source of knowledge was television (32.42%) followed by health worker among 19.2%.[7] In another study conducted in Ahmedabad, 60% of the mothers had knowledge about the vaccine preventable disease measles and Anganwadi worker was the main source of information.[4]

### Conclusions

Nearly half of the study subjects were not aware of measles and among those who were aware, health worker/ Anganwadi worker was the main source of information. Awareness of measles showed significant difference with mother's education and occupation. About 1/3<sup>rd</sup> of under 5 children

had delay in receiving first dose of measles vaccination and nearly 9% did not receive MR vaccine during the campaign and the most common reason was child being ill.

### Recommendations:

There is a need to organize regular health education programmes at community level to educate care takers of the children. All mothers should be informed about the 4 key messages without fail during immunization. Strengthening IEC activities using available sources of information e.g. Anganwadi workers will help in effective surveillance and early reporting of cases. Role of General practitioners and pediatricians should also be taken into confidence as stakeholders

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