

## KNOWLEDGE AND ATTITUDE ABOUT MEASLES, MUMPS AND RUBELLA (MMR) IMMUNISATION OF HIGH SCHOOL STUDENTS AND THEIR PARENTS

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### Abstract

Measles, mumps, and rubella are diseases caused by viruses. The viruses are easily spread through the air when an infected person coughs or sneezes. You can become infected when you breathe in air or touch a surface contaminated with virus. The viruses can also be spread through contact with an infected person's saliva such as by sharing food, drinks or cigarettes or by kissing. The objective of the study is to find the level of knowledge and attitude of students and their parents about measles, mumps and rubella (MMR) Immunization. All the formulated hypotheses are made in null form for statistical testing. The survey method and simple random sampling technique are adopted. Samples are taken 200 students and 200 parents of same students from various government schools, government aided schools and private schools. Knowledge test and attitude scale about MMR Immunization is used in the study. Karl Pearson's Product- Moment Coefficient of correlation is used for the interpretation. Findings of the study are (i) High school students' knowledge and their parents' knowledge about measles, mumps and rubella (MMR) Immunization are low. (ii) High school students' attitude and their parents' attitude about measles, mumps and rubella (MMR) Immunization are high.

**Keywords:** MMR Immunization, Knowledge, Attitude and High School Students, Aranthangi Educational District.



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## INTRODUCTION

Measles, mumps, and rubella are diseases caused by viruses. The viruses are easily spread through the air when an infected person coughs or sneezes. You can become infected when you breathe in air or touch a surface contaminated with virus. The viruses can also be spread through contact with an infected person's saliva such as by sharing food, drinks or cigarettes or by kissing.

**Measles**, also known as red measles, causes fever, rash, cold-like symptoms and red, inflamed eyes that can be sensitive to light. It can lead to infections of the ear or lungs (pneumonia). More serious complications occurring in 1 person in 1,000, include

encephalitis, an inflammation of the brain. This can lead to seizures, deafness or permanent brain damage. About one person in 3,000 with measles can die from complications.

**Mumps** causes fever, headaches, and swelling of the salivary glands and cheeks. More serious complications include encephalitis. About 1 in 20 people with mumps get mumps meningitis, an infection of the lining of the brain. Mumps can also cause temporary deafness. Permanent deafness occurs in less than 1 in 20,000 people with mumps. About 1 in 4 adult men and teenage boys develop painful swelling of the testicles.

**Rubella**, also known as *German measles*, can cause serious complications and birth defects in an unborn baby including deafness, eye problems, heart defects, liver damage, and brain damage. This is called Congenital Rubella Syndrome. It occurs in about 9 out of 10 babies born to women who become infected with the virus in the first 3 months of their pregnancy. Rubella can also cause miscarriage or stillbirth. These diseases are now rare in B.C. because of routine childhood immunization programs. The MMR vaccine protects against measles, mumps, and rubella. The vaccine contains weakened forms of the measles, mumps and rubella viruses that do not cause disease. The vaccine is approved by Health Canada.

## **SIGNIFICANCE OF THE STUDY**

The benefit of measles vaccination in preventing illness, disability and death has been well documented. The first 20 years of licensed measles vaccination in the U.S prevented as estimated 52 million cases of the disease. 17400 cases of intellectual disability and 5200 deaths. During 1999-2004 a strategy led by the world health Organization and UNICEF led to improvements in measles vaccination coverage that averted as estimated million measles deaths worldwide. Between 2000 and 2013, measles vaccination resulted in a 75% decrease in deaths from disease.

## **SCOPE OF THE STUDY**

The study was restricted to the knowledge and attitude of highschool students and their parent about measles, mumps and rubella (MMR) Immunization. To measure the level of knowledge and attitude of students and their parents about measles, mumps and rubella (MMR) Immunization in Aranthangi Educational District under Pudukkottai District.

## **OBJECTIVES OF THE STUDY**

1. To find the level of knowledge and attitude of high school students and their parents about measles, mumps and rubella (MMR) Immunization

2. To find the significant correlation between knowledge and attitude of high school students about measles, mumps and rubella (MMR) Immunization with respect to overall.
3. To find the significant correlation between knowledge and attitude of parents of high school students about measles, mumps and rubella (MMR) Immunization with respect to overall.
4. To find the significant correlation between average knowledge and attitude of high school students and about measles, mumps and rubella (MMR) Immunization with respect independent variables
5. To find the significant correlation between knowledge and attitude of parent of high school students about measles, mumps and rubella (MMR) Immunization. with respect independent variables

#### **HYPOTHESIS OF THE STUDY**

1. There is an average knowledge and attitude of high school students and their parents about measles, mumps and rubella (MMR) Immunization
2. There is no significant correlation between knowledge and attitude of high school students and about measles, mumps and rubella (MMR) Immunization with respect to overall.
3. There is no significant correlation between knowledge and attitude of parents of high school students about measles, mumps and rubella (MMR) Immunization with respect to overall.
4. There is no significant correlation between average knowledge and attitude of students and about measles, mumps and rubella (MMR) Immunization with respect independent variables.
5. There is no significant correlation between knowledge and attitude of parent of high school students about measles, mumps and rubella (MMR) Immunization with respect independent variables.

#### **DESIGN OF THE STUDY**

##### **POPULATIONS**

Students are studying in High School students from selected schools in Aranthangi Educational District of Pudukkottai District and their parents.

## **SAMPLE SIZE**

For the purpose of the present study the sample was taken both from government, government aided and private schools. The sample of the study consisted 200 High School students and 200 parents of high school students from selected schools, rural and urban place in Aranthangi Educational District of Pudukkottai District.

## **SAMPLING TECHNIQUE**

Simple Random sampling technique is adopted for the selection of sample.

## **TOOLS FOR THE STUDY**

The investigator use the following tool for this study, “knowledge test and attitude scale about measles, mumps and rubella (MMR) Immunization.” tool is prepared by Investigator and Guide. Score of Knowledge test is from 0 to 20 of 20 multiple choice questions. Its median is 10. Score of Attitude scale is from 22 to 110 of 22 statements which is formulated the five point Likert Scale. Its medium is 66.

## **DATA OF ANALYSIS**

Descriptive analysis involved calculation of the measures of central tendencies, and the measures of variability. The calculated values of the mean and the standard deviation are used to Karl Pearson’s Product- Moment Coefficient of correlation describe the properties of the particular samples.

## **HYPOTHESIS-1**

There is an average knowledge and attitude of students and their parents about measles, mumps and rubella (MMR) Immunization.

**Table-1: Knowledge and Attitude of Students and Their Parents about Measles, Mumps and Rubella (MMR) Immunization.**

<b>Category</b>	<b>N</b>	<b>M</b>	<b>SD</b>	<b>Average</b>	<b>Interpretation</b>
Students’ knowledge	200	9.57	2.7077	10	Below Average
Students ‘Attitude	200	71.975	13.6460	66	Above Average
Parents knowledge	200	7.15	3.1919	10	Below Average
Parents Attitude	200	77.9	14.2073	66	Above Average

The table shows that the hypothesis is rejected. Hence,

1. Students’ knowledge is lower than the Average. So high school students’ knowledge about measles, mumps and rubella (MMR) Immunization is low.

2. Students' Attitude is higher than the Average. So high school students' Attitude about measles, mumps and rubella (MMR) Immunization is high.
3. Parents' knowledge is lower than the Average. So knowledge of parents of high school students about measles, mumps and rubella (MMR) Immunization is low.
4. Parents' Attitude is higher than the Average. So attitude of parents of high school students about measles, mumps and rubella (MMR) Immunization of is high.

**HYPOTHESIS-2**

There is no significant correlation between knowledge and attitude of high school students and about measles, mumps and rubella (MMR) Immunization with respect to overall.

**Table-2: correlation between Knowledge and Attitude of High School Students and About Measles, Mumps and Rubella (MMR) Immunization With Respect To Overall.**

Category	Students' Knowledge mean	Students' Attitude mean	N	r (correlation)	Interpretation
Over all	9.57	71.975	99	0.0288	Negligible

The table shows that the hypothesis is accepted. Hence negligible correlation between knowledge of students and attitude of students about measles, mumps and rubella (MMR) Immunization with respect to overall.

**HYPOTHESIS-3**

There is no significant correlation between knowledge and attitude of parents of high school students about measles, mumps and rubella (MMR) Immunization with respect to overall.

**Table-3: correlation between knowledge and attitude of parents of high school students about measles, mumps and rubella (MMR) Immunization with respect to overall.**

Category	parents' Knowledge mean	parents' Attitude mean	N	r (correlation)	Interpretation
Over all	7.15	77.9	200	0.0525	Negligible

The table shows that the hypothesis is accepted. Hence, negligible correlation between knowledge and attitude of parents of high school students about measles, mumps and rubella (MMR) Immunization with respect to overall.

#### HYPOTHESIS-4

There is no significant correlation between average knowledge and attitude of students about measles, mumps and rubella (MMR) Immunization

**Table-4: Correlation between Average Knowledge and Attitude of Students about Measles, Mumps and Rubella (MMR) Immunization with Respect Independent Variables.**

Category	Students' Knowledge mean	Students' Attitude mean	N	r	Interpretation
Male	9.4747	71.967	99	-0.05382	Negligible
Female	9.6633	72.0396	101	0.105225	Negligible
9 <sup>th</sup>	9.8532	70.9357	109	0.079213	Negligible
10 <sup>th</sup>	9.2307	73.1428	91	-0.05951	Negligible
Tamil	9.52	74.3333	150	-0.02549	Negligible
English	9.72	64.76	50	0.151817	Negligible
Govt. School	8.9666	77	90	0.009975	Negligible
Govt. Aided School	10.35	70.3333	60	0.102164	Negligible
Private School	9.72	64.76	50	0.151817	Negligible
Boy's School	8.1333	76.8	30	0.027265	Negligible
Girl's School	9.4333	77.9666	30	0.307411	low
Co-Education	9.9071	69.6071	140	0.04455	Negligible
Rural School	8.9833	71.2833	60	-0.12823	Negligible
Urban School	9.8071	72.2214	140	0.078671	Negligible
Nuclear Family	9.6986	72.0137	146	0.030681	Negligible
Joint Family	9.1851	71.3888	54	-0.05693	Negligible
Rural Student	8.95	72.35	60	-0.13238	Negligible
Urban Students	9.8285	71.6285	140	0.109874	Negligible

The table shows that the hypothesis is accepted except the girls' school.

1. There is a negligible correlation between male high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
2. There is negligible correlation between female high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
3. There is negligible correlation between 9th standard students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
4. There is a negligible correlation between 10th standard students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.

5. There is a negligible correlation between Tamil medium high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization
6. There is a negligible correlation between English medium high school knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
7. There is a negligible correlation between government high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
8. There is a negligible correlation between government aided school high students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
9. There is a negligible correlation between private high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
10. There is a negligible correlation between boys' high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
11. There is a low correlation between girls' high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
12. There is a negligible correlation between co-education high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
13. There is a negligible correlation between knowledge of students in high school which locates in urban and their attitude about measles, mumps and rubella (MMR) Immunization.
14. There is a negligible correlation between knowledge of students in high school which locates in rural and their attitude about measles, mumps and rubella (MMR) Immunization.
15. There is a negligible correlation between knowledge of high school students in nuclear family and their attitude about measles, mumps and rubella (MMR) Immunization.
16. There is a negligible correlation between students' knowledge of high school students in joint family and their attitude about measles, mumps and rubella (MMR) Immunization.

17. There is a negligible correlation between rural high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
18. There is a negligible correlation between urban high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.

**HYPOTHESIS-5**

There is no significant correlation between knowledge and attitude of parent of high school students about measles, mumps and rubella (MMR) Immunization.

**Table-5: Correlation between Knowledge and Attitude of Parent of High School Students about Measles, Mumps and Rubella (MMR) Immunization.**

Category	Parents' knowledge mean	Parents' Attitudemean	N	r (correlation)	interpretation
Urban Dweller	6.8188	75.4782	138	0.016347	Negligible
Rural Dweller	8.4354	79.4677	62	0.076895	Negligible
Rural Dweller	8.4354	79.4677	62	0.076895	Negligible
Joint Family	7.6190	79.9206	63	0.067956	Negligible
Nuclear Family	7.1678	75.1532	137	0.051145	Negligible
Literate	7.4054	76.7189	185	0.057161	Negligible
Illiterate	6.6	75.6	15	0.009864	Negligible
Daily Wages	6.8089	73.77	89	0.169185	Negligible
Government Employee	10	72.25	12	0.114158	Negligible
Private Employee	7.4545	79.898	99	-0.02941	Negligible

The table shows that the hypothesis is accepted. Hence,

1. There is a negligible correlation between knowledge and attitude of urban parents of high school students about measles, mumps and rubella (MMR) Immunization.
2. There is a negligible correlation between knowledge and Attitude of rural parents of high school students about measles, mumps and rubella (MMR) Immunization.
3. There is a negligible correlation between knowledge and attitude of parents of high school students in joint family about measles, mumps and rubella (MMR) Immunization.
4. There is a negligible correlation between knowledge and attitude of parents of high school students in nuclear about measles, mumps and rubella (MMR) Immunization.
5. There is a negligible correlation between knowledge and attitude of illiterate parents of high school students about measles, mumps and rubella (MMR) Immunization.
6. There is a negligible correlation between knowledge and attitude of literate parents of high school students about measles, mumps and rubella (MMR) Immunization.

7. There is a negligible correlation between knowledge and attitude of parents who is working in daily wages of high school students about measles, mumps and rubella (MMR) Immunization.
8. There is a negligible correlation between knowledge and attitude of rural parents who is working in Govt. sector of high school students about measles, mumps and rubella (MMR) Immunization.
9. There is a negligible correlation between knowledge and attitude of rural parents who is working in private sector of high school students about measles, mumps and rubella (MMR) Immunization.

#### **MAJOR FINDINGS OF THE STUDY**

- (i) High school students' knowledge and their parents' knowledge about measles, mumps and rubella (MMR) Immunization are low.
- (ii) High school students' attitude and their parents' attitude about measles, mumps and rubella (MMR) Immunization are high.
- (iii) A negligible correlation between knowledge and attitude of high school students about measles, mumps and rubella (MMR) Immunization with respect to overall.
- (iv) A negligible correlation between knowledge and attitude of parents of high school students about measles, mumps and rubella (MMR) Immunization with respect to overall.
- (v) There is no correlation between high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization with respect to all independent variables except girls' school students such as Male, Female, 9<sup>th</sup> Standard, 10<sup>th</sup> Standard, Tamil Medium, English Medium, Government School, Government Aided School, Private School, Boys' School, Co-Education School, Urban Students, Rural Students, Nuclear Family, Joint Family, Rural School And Urban School.
- (vi) Low dependency between girl's high school students' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization.
- (vii) There is no correlation between their parents' knowledge and their attitude about measles, mumps and rubella (MMR) Immunization with respect to all independent variables such as Urban Dweller, Rural Dweller, Joint Family,

Nuclear Family, Literate, Illiterate, Daily Wages, Government Employee and Private Employee.

### **DISCUSSION OF THE FINDINGS**

High school students in Aranthangi educational district of Pudukkottai district have low level of knowledge and high level of attitude about measles, mumps and rubella (MMR) Immunization. This means attitude of students and their parents is positively changed by the government through its propaganda by using various technological devices. But students and parents lethargically receive the matter from government propaganda. Also state government School do not interest to provide the proper knowledge about measles, mumps and rubella (MMR) Immunization to their students. This basic knowledge is very important to protect the children and adolescence against the box diseases. Healthy pupil makes from high immunization power. Students' ill health is affected their learning potentials and skills. Therefore, Today's healthy baby can become a future's good citizen. Healthy people can increase their domestic economy and national economy through their work force. If the parents and students receive the depth knowledge about measles, mumps and rubella (MMR) Immunization, they become good healthy citizen in country and world.

### **IMPLICATIONS OF THE STUDY**

State schools provide the depth knowledge about measles, mumps and rubella (MMR) Immunization. Syllabus is modified and compiled the immunization chapter in science subject. Government more effort to be taken to spread such knowledge for irrespective of gender, caste, creed and religion. Every teacher is trained the in-service programme for knowledge and preventive measure of increasing immunization from ovum to death of human beings. Every Parent educates to prevent their child from diseases by providing the immunization knowledge and positive attitude.

### **CONCLUSION OF THE STUDY**

All high school students and parents in Pudukkottai district are satisfied with their attitude and knowledge about MMR immunization. The correlation between knowledge and attitude of students, parents and values are 0.0288 and 0.0525 (negligible correlation) respectively.

### **ACKNOWLEDGEMENT**

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