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Research Article

**ANALYSIS OF THE PREVALENCE OF MEASLES VIRUS
AMONG THE POPULATION OF FAISALABAD AND ITS
PRESENCE AMONG CHILDREN WHO ARE NOT
VACCINATED**¹Zoya Fatima Tariq, ²Dr Faiza Iftikhar, ³Ayesha Tariq¹Jinnah Hospital Lahore²53-2L BHU, Okara³CMH Rawalakot, Poonch Medical College Rawalakot**Article Received:** November 2019 **Accepted:** December 2019 **Published:** January 2020**Abstract:**

Objective: Measles is an epidemic in Pakistan and it has history of outbreak in certain part of country. The infection is caused by a virus and it is common in childhood. Measles can be fatal for young children. Due to better coverage of vaccination the death rate is decreasing but still it is worst in Pakistan. The purpose of the study is to analyze the prevalence of measles virus among the population of Faisalabad and to analyze either it is present in vaccinated children or among children who are not vaccinated.

Materials and Methods: The study was conducted in Faisalabad, Punjab. It is populous city and is considered Punjab economic hub. The weather of Faisalabad is very hot in summer and cold in winter. Data from Tehsil Hospital and District Hospital was collected.

Results: Measles were present among 76 percent of the children age group ranging from 9 months to 10 years. Common symptoms and preventive measures are also discussed in the paper.

Conclusion: The younger children are at higher risk of measles attacks and those children who are malnourished get complications of the disease. Vaccination status of the children should also be improved. The EPI system of Punjab is progressive and government with the help of WHO is trying to reach to all the children. Awareness campaigns are also conducted but unfortunately the measles are still out breaking. It is because the children who are missed of vaccines and when they are exposed to virus, they catch the infection immediately and due to highly contagious in nature it spread quickly. The infected children should be isolated and should be given medical treatment along with rest and nutritional food so that they may recover soon.

Keywords: Measles, vaccination, Pneumonia, Conjunctivitis.

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INTRODUCTION:

Measles is caused by a virus Morbilli and is highly infectious in nature. The incubation time of the virus range from 8 to 12 days. It is not fatal for children and those who have compromised immune system due to many reasons like prior illness, malnutrition and interaction with infected people are at high risk. According to WHO (World Health Organization) measles reported cases are on increasing in Pakistan as compared to past. From the bulletin of WHO the data of Measles-Rubella cases increased considerably from 2845 cases to 6494 cases in 2017 as compared to 2016 in Whole Pakistan. According to the National Schedule of EPI the children from 9 to 15 months should be vaccinated but the illiterate people mostly do not bring their children for vaccination and hence the EPI forced to get failed to target unvaccinated population. Therefore, it become hard for Public Health officials to forecast the measles outbreak in the year 2016 and 2017. But now the Government is aggressively following the vaccination campaign in high risk areas to cover the unvaccinated children and also promoting awareness campaign in TV and in newspapers to get free vaccination. The situation in Punjab, province Pakistan is not as alarming as in Sindh and in KPK provinces. Measles was a global epidemic in the past but due to invention of vaccine it has prevented the millions of deaths. Measles associated mortality and morbidity mostly occurs at the younger age. In developing countries, the vaccination program for measles is recommended after 9 month of age. Infants less than 6 months old get antibodies from mother milk which help them to fight against diseases. In EPI program the first dose of

vaccine is given at 9 months and second dose is given at 12 month of age. In case if some children miss the second dose it can be given up to five years of age and after maintaining period of four weeks between two doses. The current study will analyze the measles outbreak in Faisalabad, Punjab.

MATERIALS AND METHODS:

The study was conducted in Faisalabad, Punjab. It is populous city and is considered Punjab economic hub. The weather of Faisalabad is very hot in summer and cold in winter. Many government and private hospitals are in operating. Accesses to health facilities are satisfactory. In the study according to the definition of WHO measles patients were categorized as having rash and high grade fever. The study was conducted in the Faisalabad City Government Hospital as well as THQ hospitals in which the children with measles infections were brought and hospitalized from the age group of 9 months to 10 years.

RESULTS:

The sign and symptoms usually appear after 8 to 14 days when the patient remained exposed to virus. The major symptoms of the measles are mostly sore throat, dry cough, runny nose, fever, skin rash, inflamed eyes and Koplik's spots. Measles is a disease which infects the children and this study supports the fact that the children from the age of 9 months up to 10 years were the victim of disease. Total of 150 cases were registered and among them 76 % (114) cases were measles positive and 24 % (36) cases were measles negative. The gender and age wise distribution of measles patients were as follow.

Table: 01 Gender distribution of cases

	Gender	Measles positive	Measles negative
1	Male children	70	16
2	Female children	44	20
Total		114	36

The above table shows that the measles occurrence in male children(70) was common as compared to female children(44).The difference is due to the male children interact with other male children in homes and in streets too so they are at higher risk of getting virus as compared to female children who remain mostly at homes. The negative cases were also higher in girls as compared to boys.

Table 02: Age group distribution

Sr #	Age	Male	Female	Positive	Negative
1	9 months to 1 year	12	6	18	14
2	1-3 years	26	18	44	8
3	4-6 years	18	10	28	6
4	7 to 9 years	8	6	14	6
5	10 years	6	4	10	2
Total		70	44	114	36

The age group distributions showed that the maximum patients were observed within the range group of 1 to 3 years which were 50.16 % (44). followed by the age group 4 to 6 years which is 31.92 % (28). Among the children from the age group of 9 months to 1 year the presence of disease was 20.52 % (18). From the year 7 to 9 the total cases were 15.96 % (14). From the 10 years and above the ratio of disease prevalence was 11.4 % (10).

DISCUSSION:

The sign and symptoms of measles were almost similar in all cases of measles including rash, fever, dry cough and runny nose. The cases which became complicated and the patients who were hospitalized suffered the complications like conjunctivitis, pneumonia, diarrhea, corneal ulcer, encephalitis and bronchitis.

Table: 03: Symptoms associated with Measles:

Sr #	Symptoms	Prevalence	Percentage
1	Fever	114	100
2	Rash	114	100
3	Dry cough	110	96
4	Runny Nose	110	96
5	Pneumonia	40	45.6
6	Diarrhea	55	62.67
7	Conjunctivitis	70	79.8
8	Corneal ulcer	12	13.68
9	Encephalitis	18	20.52
10	Sore throat	75	85.5
11	Bronchitis	40	45.6

The Patients who were timely treated did not develop any complications and the patients who were without vaccinations and started treatment late developed complications associated with measles like Pneumonia 45.6 %, diarrhea 62.67%, encephalitis 20.52 %, bronchitis 45.6% and Corneal ulcer 13.68%. The graphical illustration shows the common symptoms and also the symptoms after complications associated with measles and their prevalence rate and percentage is obvious. The patients who were measles negative in test but having rash and fever were those who later diagnosed with dengue fever another common viral disease in rainy and humid season. The patients who got measles were both who were vaccinated before with a single dose and got the second dose of the vaccination too. The patient who never got vaccination developed the complications of measles. The children with vaccination had mild and acute attack of measles. There is no specific treatment for measles. The patients are given treatments for fever and in complicated cases antibiotics are considered supportive medicine. In addition, the children should be prescribed vitamin A so that they might not get complications after the virus attack. Children should take rest with plenty of liquids.

CONCLUSION:

The younger children are at higher risk of measles attacks and those children who are malnourished get

complications of the disease. Vaccination status of the children should also be improved. The EPI system of Punjab is progressive and government with the help of WHO is trying to reach to all the children. Awareness campaigns are also conducted but unfortunately the measles are still out breaking. It is because the children who are missed of vaccines and when they are exposed to virus, they catch the infection immediately and due to highly contagious in nature it spread quickly. The infected children should be isolated and should be given medical treatment along with rest and nutritional food so that they may recover soon. The surveillance system for vaccine preventable diseases should be improved and strengthened so that outbreak can be avoided.

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