ORIGINAL ARTICLE

Frequency of Vaccinated Children among Measles Cases coming to a tertiary care hospital

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ABSTRACT

Aim: To find out frequency of measles among vaccinated children coming to CMH Kharian.
Study design: It was a descriptive case series.
Duration: From October 2011 to September 2013.
Methods: A total of 100 cases of measles between 1-12 years in both gender (Male/Female) were included in the study. An informed consent of the parents of the children was taken to include their data in the study. Detailed history and clinical examination for measles including their medical record regarding vaccination status was done.
Results: Out of 100 cases, 72(72%) were male while 28(28%) were females, mean age was calculated as 3.11±1.36 years; frequency of measles in vaccinated children was recorded in 36(36%).
Conclusion: We concluded that the frequency of measles is high among vaccinated children. Therefore, it is recommended that every patient who presents with measles, should be sorted out for vaccination history. However, it is also required that every setup should have their own surveillance in order to know the extent of the problem.
Keywords: Children, measles, vaccination

INTRODUCTION

Measles is a common cause of deaths in young children in developing countries and is commonly prevalent in pre-school and school age children[1]. Fever, malaise, rash, cough, coryza and conjunctivitis are the main characteristics of this disease[2]. Pakistan is a developing country and a reasonable number of lives are lost due to measles in different areas[3]. In the year 2012, in our country, 14,000 children were reported with measles[4].

In Pakistan, measles vaccine has been usually given free, in single dose by EPI at 9 months of age. On the other-hand, affordable parents get their children vaccinated by paying its cost to the pediatricians or buying it directly from the market[5].

The incidence of this disease is increasing even after using of vaccine for its prevention. It is important to understand the role of failure of primary vaccine "failure to sero-conversion after vaccination" and failure of secondary vaccine "waning immunity after sero-conversion" for evaluation of measles control programmes in our country[4].

Previous epidemics recorded in 2002, 71.6% children with measles were recorded with vaccination history[6]. Another study in Lasbela district, failure rate of vaccination was more than 50%[7]. Other studies also revealed higher rates of failure of measles vaccine.

This review is aimed to record the frequency of measles in vaccinated children coming to our hospital. The results of our study will be helpful to eradicate this morbidity from Pakistan.

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MATERIAL AND METHODS

A total of 100 diagnosed cases of measles between 1-12 years of both gender from the Department of Paediatrics, Combined Military Hospital, Kharian, were included in the study while children within 4 weeks of measles vaccination, other causes of rash like drug induced, roseola, rubella, immune-compromised and children above 12 years and less than one year of age were excluded from the study. The study was conducted from Oct 2011 to Sep 2013. Informed consent from the parents of the children was taken to include their data in the study. Detailed history & clinical examination for measles including their medical record regarding vaccination status was done. The frequency of measles in vaccinated children was noted. The collected information was recorded on a special proforma.

SPSS version 11 was used to analyze the collected data. The demographic information i.e., age was presented as simple descriptive statistics giving mean and standard deviation. Tables were formed; frequency and percentages were presented for gender and vaccination history in children with measles.

RESULTS

During the study period, out of 100 cases, 72(72%) were male while 28(28%) were females; mean age was calculated as 3.11±1.36 years; frequency of measles in vaccinated children was recorded in 36(36%).

Table 1: Gender distribution (n=100)

Gender	n	%age
Male	72	72
Female	28	28

Table 2" Frequency of measles in vaccinated children (n=100)

Measles	n	%age
Yes	36	36
No	64	64

DISCUSSION

Measles is one of the leading causes of death among young children even though a safe and cost-effective vaccine is available. A virus of the paramyxovirus family causes measles. Usually, it grows in the cells that line the back of the throat and lungs. Measles is still frequent in various developing countries especially in parts of Africa and Asia.

The reason behind this study was that in our clinical experience, during the last two years, a great number of children presenting with measles were found to have had vaccination done in time; however, no authentic data regarding status of vaccination was available for those children suffering from measles who were partially vaccinated. Therefore, it became necessary to record the frequency of measles in vaccinated children.

In our study, out of 100 cases, 72(72%) were male while 28(28%) were females, mean age was calculated as 3.11±1.36 years; frequency of measles in vaccinated children was recorded in 36(36%).

The findings of our study are lower than a previously study by Basheer F and others in 2002, frequency of vaccinated children in measles cases was recorded in 71.6%[6].

From 1985 to 1988, there were a median of 47 outbreaks among school-going children and only 8 outbreaks among pre-school populations; 42% of the affected children were appropriately vaccinated for measles[7]. In 1989, the frequency among school-age children swelled to 170 and the number of total reported measles cases improved for more than 18,000, with 41 mortalities. The epidemic continued unabated through 1990, when 27,786 cases were reported, with more than 60 mortalities[8]. During 1990; the overall incidence surged to 11.2/100,000 population, compared with a low of 0.6/100,000 in 1983. Many of the reported cases, in 1989, were in school-age or college-aged and a very few of them were in preschool children. The morbidity among school-age children compared with preschool children were both more numerous and larger[9]. Around 80% of the affected school-going children were properly vaccinated. Previously, it was demonstrated that the measles may occur in school-age populations despite their having very high vaccination rates.

In a study at Egypt 79.4% cases of measles were recorded with the history of previously vaccination[10]. Similar findings were reported by Nsungu M in Zimbabwe where 69% of the cases during a measles were vaccinated previously[11]. Another study by Chaudhry MZ illustrated 50% of cases were having vaccination history, the study was carried out at Allied Hospital, Faisalabad[12], the findings of Chaudhry MZ[12] are in accordance with our findings, while other studies have reported significantly higher incidence of the morbidity.

A recent trial[13] in our country, most of the cases were belonging to the poor class making 61.90%, while remaining cases were from middle and lower middle class, moreover, majority of the cases were vaccinated according to the EPI schedule and remaining were either partially vaccinated or non-vaccinated. Non-vaccination was recorded due to non-availability of vaccine, no awareness and some of the parents were reluctant regarding vaccination.

However, our data is primary among studies conducted in recent years; some other trials should also be done to validate our findings. Moreover, vaccine quality and the risk factors involved in making vaccine in-effective may also be ruled out in further trials to control this morbidity in young children in our country.

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