VACCINATION STATUS OF MEASLES DIAGNOSED CHILDREN ADMITTED IN SHEIKH ZAYED HOSPITAL RAHIM YAR KHAN

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ABSTRACT

Background: Measles, though being a vaccine preventable disease, is still a major public health problem in many developing countries. It is a significant problem in Pakistan despite vaccine coverage rates reported at 80%. **Objective:** To assess the vaccination status among measles diagnosed children admitted in Sheikh Zayed Hospital Rahim Yar Khan. **Patients and Methods:** This cross sectional study was conducted on 100 children at pediatric ward of Sheikh Zayed Hospital Rahim Yar Khan. Detailed history and physical examination of all the hospitalized patients with measles or complications of measles was filled in a performa consisting of questions regarding age, gender, residence, socioeconomic status and vaccination status of children. Questions were asked from mothers/attendants of measles diagnosed children. After collection of data, it was entered and analyzed by using SPSS version 16. **Results:** A total of hundred hospitalized children with measles or complications of measles were included. 24% children were completely vaccinated against measles, 18% were incompletely vaccinated whereas 58% were not vaccinated. 44% were from urban area while 56% children were belonging to rural areas. **Conclusion:** Our study showed that majority of children were not vaccinated against measles. Programmes targeting mothers of lower socio-economic status such has those with no education, those in most poor households and with many children are required. Such programmes may include health education and immunization campaigns at the community level to improve coverage.

Keywords: Measles, Children, Vaccination.

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INTRODUCTION

Measles is an acute highly infectious disease of childhood caused by a specific virus of the group myxoviruses. It is a vaccine, preventable disease that could be eliminated by global vaccination strategies with two-dose measles vaccination. Clinically characterized by high fever and cough, coryza, conjunctivitis with symptoms of the upper respiratory tract followed by a typical rash. The portal of entry of measles virus is through the respiratory tract or conjunctivae, following contact with droplet aerosols in which the virus is suspended, and is highly contagious. Despite being a vaccine preventable disease, measles still remains a killer disease with approximately one million deaths occurring annually among infants and children throughout the World.[2] About 610,000 infants and young children died in Africa and Asia alone in 2002.[3] The mortality due to measles is highest in children aged less than 12 months.[4]

The global incidence of measles is 39.9 million cases, 777,000 deaths and 28 million disability adjusted life years.[5] In Pakistan the estimated measles deaths are 81,000 annually among children <5 years old.[6] In 2011 about 84% of the world's children received one dose of measles vaccine by their first birthday through routine health services. Worldwide about 20 million people get measles each year.[7] Low coverage and poor vaccine efficiency is strongly associated with outbreaks of measles and its complications and hence high morbidity and mortality.[8] This hospital based study was carried out to determine the vaccination status and demographic features of measles children.

PATIENTS & METHODS

This cross sectional study was carried out at pediatric ward of Sheikh Zayed Medical College/Hospital Rahim Yar Khan from 1st January to 30th June, 2014. among both sexes (male and females). Total 100 children of age up to 9 years who were hospitalized because of measles and its complications were included in the study. Vaccination status (i.e. no vaccination, and incomplete, complete vaccination) was assessed by parental inquiry and recorded in a performa. A performa was formed consisting of questions regarding age, gender, residence of patients, socioeconomic status and vaccination status of children. Questions were asked from mothers/attendants of measles diagnosed children.

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After collection of data, findings were expressed in tabulated form by a computer based SPSS version 16.

RESULTS

A total of 100 hospitalized children having measles were included in this study. The age wise distribution is shown in table I. 44% were from urban while 56% children belonged to rural areas.

Socioeconomic wise distribution shows that 40% were poor, 50% belonged to middle class and 10% were rich.

Out of 100 children, 44% fathers of measles diagnosed children were illiterate while 60% mothers of measles diagnosed children were illiterate.

Table I: Age Wise Distribution (n=100)

Age categories	Male	Female	Total
<9 Months	8	2	10
9-21 Months	10	12	22
16-24 Months	12	6	18
25-36 Months	8	14	22
>36 Months	20	8	28
Total	58	42	100

Table II: Vaccination status of children (n=100)

Characterstics	Female		Male		Total	
	n	%age	n	%age	n	%age
No vaccination	24	57	34	59	58	58
Incomplete vaccination	10	24	8	14	18	18
Complete vaccination	8	19	16	27	24	24
Total	42	100	58	100	100	100

No. of injection of measles vaccine given

No. of injections	Frequency	Percentage
0 injection	58	58
1 injection	18	18
2 injection	24	24
Total	100	100

Residence wise vaccination status

Residence	Vaccinated	Not vaccinated	%age
Urban	16	28	44
Rural	26	30	56
Total	42	58	100

Socioeconomic status vaccination

Status	Vaccinated	Not Vaccinated	Total
Poor	18	22	40
Middle	22	28	50
Rich	2	8	10
Total	42	58	100

Table II shows that 57% females and 59% males were not vaccinated, 24% females and 14% males children were incompletely vaccinated while 19% females and 27% males children were completely vaccinated. Distribution based on number of injections showed that 58% children were not given injection, 18% were given 1 injection while 24% were given 2 injections of vaccine. Table II also shows that out of 44% urban children 16% were vaccinated and 28% were not vaccinated and among 56% rural children, 26% were vaccinated and 30% were not vaccinated while out of 50% middle class children 22% were vaccinated and 28% were not vaccinated. (Table II)

DISCUSSION

Measles is currently estimated to kill 1.4 million children/year in developing countries. Many of these deaths occur in children who develop measles before the age of immunization. Hence changes in vaccine strategy or type of vaccine which permit a reduction in the age of immunization are desirable, because they may contribute to the reduction of measles associated mortality.[9,10] The present cross sectional study included the children of both sexes upto 9 years of age, who were brought to Pediatric Medicine ward of Sheikh Zayed Hospital, Rahim Yar Khan. The present study showed that among children 57% females and 59% males children were not vaccinated, 24% females and 14% males were incompletely vaccinated while 19% females and 27% males were completely vaccinated. This is low as compared to national level coverage. The overall coverage of measles in Pakistan is 57% with variations within the provinces and even districts.[11,12] According to EPI survey 2009, almost 100% children (aged 0-11 months) received first dose of measles vaccine in Punjab, followed by 71% in Sindh, 70% in KPK, 56% in Baluchistan and 49% in FATA. In Punjab only 42% children received the second dose while none received this in other provinces. Inadequate service delivery appears to be a major reason for low coverage. There are about 6,000 fixed EPI centers and each center covers about 27,000 populations which is very inadequate. Further to this inadequacy, the distribution of these centers is also not uniform to cover the entire country.[13]

Number of injection wise distribution has showed that 58% children were not given injection, 18%

were given 1 injection while 24% were given 2 injections. Current study also showed that among 44% urban children 16% were vaccinated and 28% were not vaccinated and among 56% rural children, 26% were vaccinated and 30% were not vaccinated while out of 50% middle class children 22% were vaccinated and 28% were not vaccinated. The major reason for high burden of disease and mortality is the low coverage of vaccine.[10] Other factors include the level of awareness of mothers about this preventable disease, importance of timely vaccination, house hold socioeconomic status and nutritional needs of children.[14,15] The improvement in mother's knowledge may therefore, play a significant role in improving the child nutrition, timely vaccination and early seeking of medical aid in case of complications. Moreover, majority of the studies on measles are hospital based and only few studies have been carried out in the communities thus, increasing the chances of missing out measles cases that might have not come to hospital or got registered. A comprehensive national level community study is therefore needed to assess all relevant variables in children between 1-2 years of age. Measles control can be improved by targeting pockets of low coverage through better coordination among the different agencies providing immunization services, motivating parents regarding the need for measles immunization, and implementing WHO recommendations for using all opportunities to immunize children.[15]

CONCLUSION

Our study showed that majority of children were not vaccinated or were incompletely vaccinated. Programmes targeting mothers of lower socioeconomic status such has those with no education, from poor households and with many children are required. Such programmes may include health education and immunization campaigns at the community level to improve coverage.

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