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EVALUATION OF REFUSAL FACTORS TO POLIO VACCINATION IN VILLAGE SUMBAT,MATTA SWAT.

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ABSTRACT:

Objectives: To know the causes, magnitude, associated factors & positive cases of polio in village Sumbat, district Swat, a notorious village for polio vaccination refusal.
Study Design: This study was conducted in village Sumbat. It was cross-sectional observational study. A cross-sectional survey was conducted utilizing census technique.
Methods: 43 families of the area who were refusing to vaccinate their children were visited & interviewed. The data was collected from concerned BHU & district polio eradication centre. The data was collected by pre-tested structured questionnaire.
Results: 5% children were not vaccinated because of refusal. Out of 5% cases 79% refusals were on religious grounds, 9% were fed up of repetition & rest of 12% were refusing because no positive cases in the area were reported. Refusal was also associated with socioeconomic & educational status of the families. Along with refusal to polio vaccines, considerable cases of refusal to EPI & other vaccination programs were also found.
Conclusions: We concluded that the refusal cases are increasing gradually & is the major factor in the failure of eradication of polio. Focusing merely on vaccination is not the only solution to the problem we have to consider all the factors contributing to refusal & proper steps should be taken in this regard.

INTRODUCTION

Poliomyelitis, often called **polio** or **infantile paralysis**, is an acute viral infectious disease spread from person to person, primarily via the fecal-oral route [1]. The term derives from the Greek *poliós* meaning "grey", *myelós* referring to the "spinal cord", and the suffix *-itis*, which denotes inflammation[2]. Poliomyelitis is caused by infection with a member of the genus *Enterovirus* known as poliovirus (PV). This group of RNA viruses prefers to inhabit the gastrointestinal tract. PV infects and causes disease in humans alone[3]. PV1 is the most commonly encountered form, and the one most closely associated with paralysis[4]. Individuals who are exposed to the virus, either through infection or by immunization with polio vaccine, develop immunity. Infection or vaccination with one serotype of poliovirus does not provide immunity against the other serotypes, and full immunity requires exposure to each serotype[5].

Poliomyelitis is highly contagious and spreads easily by human-to-human contact[5]. It is occasionally transmitted via the oral-oral route[6], a mode especially visible in areas with good sanitation and hygiene[7]. It is seasonal in temperate climates, with peak transmission occurring in summer and autumn [5]. These seasonal differences are far less pronounced in tropical areas [7]. In endemic areas wild polioviruses can infect virtually the entire human population[8]. The disease is transmitted primarily via the fecal-oral route, by ingesting contaminated food or water, Factors that increase the risk of polio infection or affect the severity of the disease include immune deficiency[9], malnutrition[10], tonsillectomy[11], physical activity immediately following the onset of paralysis[12], skeletal muscle injury due to injection of vaccines or therapeutic agents[13], and pregnancy[14]. Approximately 1 in 200 to 1 in 1000 cases progress to paralytic disease, in which the muscles become weak, floppy and poorly-

controlled, and finally completely paralyzed; this condition is known as acute flaccid paralysis[15].

In the pre-vaccination era, poliomyelitis was found in all countries of the world. Today it remains in 4 countries; Nigeria, India, Afghanistan & Pakistan.

According to WHO the number of refusal has increased from 4000 to 11064 during last year in District Swat and still the number is increasing. Dr Sarfaraz Afridi, a campaign manager with the WHO in Peshawar reported that the parents of 24,000 children in northern Pakistan refused to allow health workers to administer polio vaccine in February 15, 2007. So there is intense need to sort out the causes and factors responsible for the refusal to the polio vaccination.

In Swat, Village Sumbat is one of the notorious areas where high refusal is reported. In order to know the factors & degree of refusal to polio vaccination & to help the concerned authorities to overcome the problems in vaccination, we conducted a study in village Sumbat.

AIMS AND OBJECTIVES

1. To asses the causes of refusal to polio vaccination in children below 5 years of age in village Sumbat Swat.
2. To determine the associated factors responsible for refusal to polio vaccines.
3. To detect positive case of poliomyelitis among the refusals if any.

MATERIAL AND METHODS

Study Design:
This study was conducted in village Sumbat. It was cross-sectional observational study. A cross-sectional survey was conducted utilizing census technique. The heads of 43 families who were refusing to polio vaccination were interviewed through a pre-tested structured questionnaire.
Materials:
Subject: Village Sumbat (Sumbat proper, Cham, Badaabad, Mandoor & Khairabad)
Questionnaire was filled by: Heads of the families who refused to vaccinate their children against polio.
Inclusion Criteria: All families having children below 5-years of age & were refusing to vaccinate their children against polio.
Exclusion Criteria:
1) All those families who were not refusing to polio vaccination
2) Families not having children below 5-years of age.
Sample Size:
All the refusal cases in Sumbat consisting of 43 families were studied.
Data collection procedure:
Questionnaire was structured as
Demographic details with educational and socio-economic status.
Open and closed ended questions regarding polio vaccination, routine EPI vaccination, source of information, knowledge regarding polio & any positive case in area.
The questionnaires were answered by fathers/heads of families during door to door visits. There overall response was also observed & noted.
Duration of study:
The study was conducted from 15th September to 1st October 2007.

RESULTS AND ANALYSES

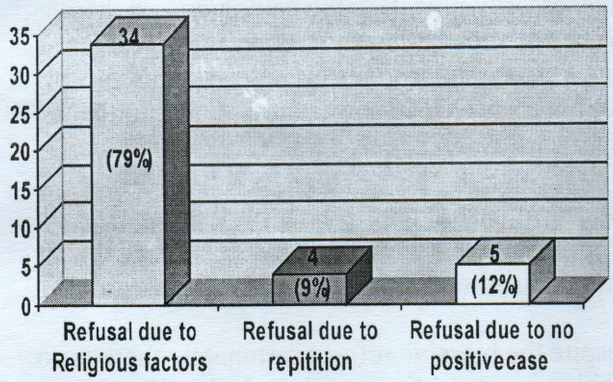
Vaccination status of children under 5 years of age:
A total of 98 children were not vaccinated due to the conscious refusal in total target population of 1878 children.

The remaining 1776 children were vaccinated. All the 98 unvaccinated children belong to 43 different families.
%age of vaccinated children was 94.77% while those of unvaccinated were 5.22%.

Factors of refusal in Non-vaccinated children:
Major factors responsible for refusal in all 43 families are as following:
1. Refusal due to religious factors is 34 making 79% of the total 43 families.
2. Four families, 9% answered that they are fed

up of repetition of campaigns and there is no need to vaccinate their children so frequently. According to their view this repetition of vaccination may be harmful to their children.

3. Five families 12 % refuse because they think that as there are no positive cases in their area, so there is no need of vaccination.



Graph showing factors responsible for refusal in total of 43 families

Sub-factors in religious refusal:

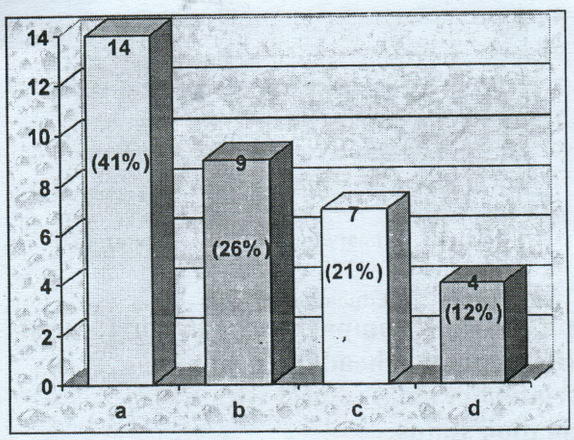
Various views of people in religious refusal are:

Families claiming that they refuse because these vaccines make their children coward, and shameless, are 14 and their percentage is 41% of religious refusals

Families claiming that these vaccines develop sterility in their children are 9 and makes 26% of total religious factors.

7 families are having concerns over female teams that they are promoting vulgarity in their society, which is unacceptable for them. Their percentage is 21%.

4 families are refusing due to political scenario of the world. These 12% refusals are due to generalized hatred to western nations. They say that west is donating for vaccination on one hand and are killing there Muslim brothers in Afghanistan and Iraq on other. They are refusing because they consider it as western plot.



A =families believing that these vaccine make their children coward and shameless
b =families claiming that these vaccine develops sterility
c =families having concerns over female teams
d =families refu ing due to political scenario of the world

Graph with various views showing religious refusal

Relationship of refusal of polio vaccination to socioeconomic status:

27 families out of 43 refusals are of low income (less than 5000/- per month) making the highest %age of 62.79%.

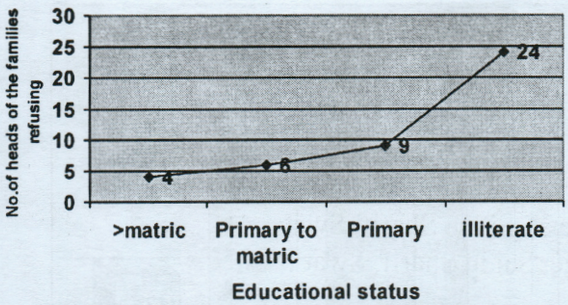
11 families out of 43 refusals are of medium income (5000/-to10000/- per month) making 26% of the total.

Just 5 families out of 43 refusals are of high income (more than 10000/- per month) making 12% of the total refusals.

Relationship of refusal of polio vaccination to educational status:

Among refusals 56% are illiterate and 44% are literate.

Out of 43 families heads 24 (56%) are illiterate. In 19 (44%) literate cases, 9 (21%) are having primary education, 6 (14%) are matriculate while other 4 (9%) are having education above matriculation.



Graph showing comparison between Refusal and literacy rate of heads of the families.

Association of polio refusal with EPI vaccination status:

14% of the refusing families also refuse to EPI program and their children were not vaccinated for other diseases as well.

Rest of 85% had vaccinated their children for other diseases despite their concerns over these vaccines too.

Number of positive cases of poliomyelitis in refusals:

No positive case of poliomyelitis was detected in families refusing to polio vaccination.

Others:

All of refusing persons are having knowledge about polio vaccine that it is to prevent poliomyelitis.

The utmost source of information of 78 % of refusals is local clerics (including F.M. radio run by religious clerics).

For 22% utmost source of information are their colleagues and friends

CONCLUSIONS

Despite the huge efforts of government and related authorities to eradicate polio, large sums of children remain unvaccinated due to the conscious refusal of their parents. These unvaccinated children are a constant threat to other children and may make eradication of polio very difficult in Pakistan.

The refusal is on the rise during last few years which is related to religious factors on the top but there are other factors also contributing to the problem. Various people refusing on religious basis have various queries in their minds about the vaccines and vaccination teams. Local clerical propagandas the most important factor for creating misconceptions among the masses.

The other factors include misconception of people that absence of positive cases in their locality means they are not at risk of developing the disease so there is no need of vaccination.

Another problem is their misconception that government and related authorities are unnecessarily repeating the campaign and there is no need of vaccination so frequently. The refusal is also related to socioeconomic status as this problem is higher in lower class than middle and upper classes.

Education has a great impact on this vaccination program as we concluded; the refusal is higher among the illiterates than literate persons.

Despite the massive refusal fortunately there is no positive case of poliomyelitis in the locality.

Beside refusal to polio vaccination there is gradually emergence of refusal to EPI program which may create problems in the future.

RECOMMENDATIONS

After complete study of polio vaccination and related factors it became evident to us that refusal by parents to vaccinate their children against polio is the major hindrance in eradicating polio from this part of the world. There are some suggestions and recommendations in order to overcome these problems.

1. To achieve the goals of polio eradication program, refusal issues must be addressed at high level.
2. Local clerics must be taken into confidence regarding vaccines through health education.
3. Help should be taken from those high influential religious scholars who support the vaccination program.
4. Keeping in view the social and cultural values of locality in mind, the role of the female teams in vaccination of polio should be reduced.
5. The people must be clarified and educated regarding the importance of repetition of campaigns for vaccination.

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