VACCINATION STATUS OF CHILDREN (UNDER 5 YEARS) AND PARENT'S PERCEPTIONS IN DISTRICT HANGU, KHYBER PAKHTUNKHWA

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ABSTRACT

OBJECTIVES

The overarching aim of this study was to identify the vaccination status of children under five years of age and parents' perceptions regarding vaccination in district Hangu, Khyber Pakhtunkhwa, Pakistan.

METHODOLOGY

A cross-sectional survey was carried out between April 1, 2017, to May 31, 2017, in Union Council Ganjano Kaley of district Hangu, Khyber Pakhtunkhwa. Ethics approval was obtained from the IRB of District Headquarter hospital, Hangu, Khyber Pakhtunkhwa. The systematic random sampling technique was used to select 100 respondents. Data were collected from the parents of these 100 children through an adapted questionnaire. Descriptive statistics were calculated for the variables using SPSS version 20.

RESULTS

Out of 100 children, 43% were males and 57% were females. Among these, 18% were living in nuclear families while 82% were living in combined families. 77% of participants had immunization cards with them, while 23% had no immunization cards. Most of the mothers were illiterate (88%), while most of the male parents were literate (89%). All the children had been vaccinated for the BCG+ OPV vaccine. Among parents, 47% were influenced by media for vaccination. Most of the parents had positive perceptions regarding vaccination. Regarding immunization status, 80% of children were fully immunized, 19% were partially immunized and 1% were not immunized.

CONCLUSION

The overall immunization coverage rate was satisfactory. Parents showed confidence in the public sector vaccination services. In view of population expansion, more vaccinators need to be employed to achieve effective and sustainable vaccination coverage.

KEYWORDS: *Children, Immunization, Pakistan, vaccination*

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INTRODUCTION

World Health Organization (WHO) has estimated that 5.2 million children under 5 years died mostly from preventable and treatable causes, while additional 500,000 children (5 to 9 years) died in 2019.[1] Similarly, Pakistan has the third-highest burden of fetal, maternal, and child mortality while South Asian countries have still high under-five mortality rate, i.e., 51 deaths per 1,000 live births in 2015.[2] Pakistan is one of the three countries where poliomyelitis transmission remains endemic

(WHO, 2012) and immunization coverage surveys suggest that 1 in every 5 children is not immunized while in many rural areas 2 out of 3 children are not immunized[3]. Immunization plays a pivotal role in the prevention of infectious and communicable diseases, and overall, it brings a reduction in childhood morbidity and mortality.[4,5] Childhood immunization coverage has been expanding such as infant immunization coverage of three doses of diphtheria-tetanus-pertussis has improved from 20% to 85% between 1980 to 2019 worldwide.[6] However, despite huge investment in childhood immunization several low and middle-income countries are unable to achieve the universal coverage of routine immunization.[7] In Pakistan the vaccine coverage is inadequate, posing a serious risk to the disease outbreak and associated morbidity and mortality[8]. Globally there are 20 million children who have not received the minimum basic vaccination and only 11% have received the full schedule vaccine recommended by World Health Organization (WHO).[9] Multitude of factors are responsible for this low immunization coverage such as weak health systems, isolated rural areas without easy access to health facilities, urban slums and informal settlements, displaced populations during conflicts and wars, lack of information and misconception of immunization, religious misbelieves, and illiteracy operations, In addition, distance from (taluka) health facility and misconception of parents was among the main reasons of not getting the children vaccinated.[10,11] Studies have shown that socio-economic characteristics, lack of awareness, difficult access and managerial issues had connection to poor immunization coverage in Pakistan.[12] The Expanded Program on Immunization (EPI) in Pakistan was launched in 1979 after Alma Ata Declaration of „Health for All by 2000; to reduce morbidity and mortality resulting from six EPI targeted diseases (Polio, Diphtheria, Whooping Cough, Tetanus, Measles and Tuberculosis).[13] The awareness towards immunization for vaccine preventable diseases is quite low in the rural areas of Pakistan and as such many children go without these necessary lifesaving vaccinations. It has emerged that Lady Health Workers (LHWs) are instrumental in promoting vaccination and enhance timely vaccination acceptance.[14] In this backdrop, the efforts towards spreading awareness and enlightenment needs to be addressed and workable strategies need to be implemented in order to ensure effective rise in the routine coverage. Limited published studies were found on vaccination status of children and parents" perceptions, therefore the current study was designed to identify the vaccination status of children, under-five years" age and to assess perceptions of parents regarding vaccination in district Hangu of Khyber Pakhtunkhwa.

METHODOLOGY

A descriptive cross-sectional study was carried out at Union Council Ganjano Kaley, Hangu from April 1, 2017 to May 31, 2017. The approval for the study was granted by Institutional Review Board (IRB) of District Headquarter Hospital (DHQ) of District Hangu. Written informed consents were obtained from the participants of the study. A sample of 100 children under-five age was selected through Systematic Random Sampling technique. The researcher surveyed every 5th house of the Union Council. All Children (male and female) of less than five years were included in the study. The children whose parents were suffering from psychiatric diseases were excluded from study. An adopted validated questionnaire was utilized for data collection. Questionnaire was divided into two sections; the first part comprised of demographic data (name, age, gender), whereas the second part had questions related to the vaccination status and perceptions of parents regarding vaccination. Data were collected from the parents of the children. Frequencies and percentages were calculated for demographic variables and the responses of the participants on the questionnaire. Statistical Package of social Sciences (SPSS) 20 was used for data analysis.

RESULTS

Table 1: Socio-demographic Profile of the Participants

Gender	Frequency	Parentage
Male	43	43.0
Female	57	57.0
Family set up		
Nuclear	18	18.0
Combined	82	82.0
Paternal Education Status		
Literate	89	89.0
Illiterate	11	11.0
Maternal Education Status		
Literate	12	12.0
Illiterate	88	88.0
Profession of Guardian/Father		
Labor	18	18.0
Driver	9	9.0
Shopkeeper	10	10.0
Army personnel	19	19.0
Business man	4	4.0
Other	40	40

Table Continue....

Table 1: Socio-demographic Profile of the Participants

Profession Occupation of Mother		
House Wife	98	98.0
Employee	2	2.0
Status of House		
Owned	91	91.0
Rented	9	9.0
Number of Rooms House		
1-2 rooms	29	29.0
3-4 rooms	23	23.0
more than 4 rooms	48	48.0
Monthly Income		
5-10 thousand	18	18.0
11-20 thousand	48	48.0
21-30 thousand	22	22.0
>30 thousand	12	12.0

Table 2: Vaccine Status of Children

	Frequency	Percentage
Do you have vaccine card?		
Yes	77	77.0
No	23	23.0
BCG + OPV		
Yes	100	100.0
No	0	0
If yes do the child have BCG scar		
Yes	99	99.0
No	1	1.0
Pentavalent I+ OPV at 6 weeks of age		
Yes	74	74.0
No	26	26.0
Pentavalent II + OPV at 10 weeks of age		
Yes	70	70.0
No	30	30.0
Pentavalent III + OPV at 14 weeks of age		
Yes	66	66.0
No	33	33.0
Not Applicable	1	1.0
Pneumococcal vaccine 10 at 6 weeks of age		
Yes	62	62.0
No	37	37.0
Not Applicable	1	1.0
Pneumococcal vaccine 10 at 10 weeks of age		
Yes	60	60.0
No	39	39.0
Not Applicable	1	1.0
Pneumococcal vaccine 10 at 14 weeks of age		
Yes	57	57.0
No	41	41.0
Not Applicable	1	1.0
Measles vaccine at 9 months of age		
Yes	50	50.0
No	42	42.0
Not Applicable	6	6.0
The child has up to date vaccine		
Yes	60	60.0
No Valid	40	40.0
Measles booster at 15 months of age		
Yes	50	50.0
No	42	42.0
Not Applicable	8	8.0

Table 3: Perceptions of Parents Regarding Vaccination

	Frequency	Percentage
Do you allow your child for giving polio drops to your child during door-to-door polio Campaign		
Yes	99	99.0
No	1	1.0
Do you recommend EPI vaccination to other parents?		
Yes	86	86.0
No	13	13.0
Who influence your decision about vaccinating the children?		
Teacher	7	7.0
Grandparent	14	14.0
Media	47	47.0
Other Source	32	32.0
Does childhood vaccination prevent from infectious diseases?		
Yes	73	73.0
No Valid	8	8.0
Don't Know	19	19.0
Are vaccines harmful for children?		
Yes	3	3.0
No	68	68.0
Don't Know	29	29.0
Free vaccines cause infertility in children?		
Yes	2	2.0
No	21	21.0
Don't Know	76	76.0
Does polio vaccine cause infertility in children?		
Yes	2	2.0
No	22	22.0
Don't Know	76	76.0
Vaccines are provided by America for controlling our population		
Yes	21	21.0
No	53	53.0
Don't Know	26	26.0

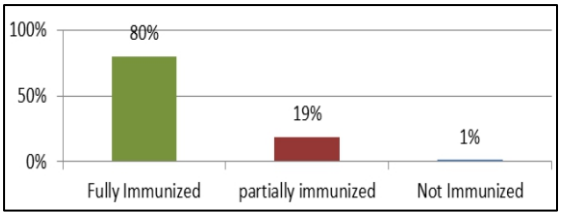

Figure 1: Fully Immunized, Partially Immunized, Not Immunized

DISCUSSION

The current study was aimed to identify the vaccination status of children under-five years age and to assess perceptions of parents regarding vaccination. The complete coverage of vaccination of 80% is much satisfactory than reported previously as 61.5% (aged 12 to 23 months) for 2016 and 47% of Pakistan Demographic and Health Survey 2006-07.[15] However, the current finding of coverage is still lower than the required coverage of 90% for 2020.[8] The current higher coverage in a rural settings may be due to better health service facilitation in the area because it is

considered as state of the art of health unit in the area. It may also be concluded that wide variability in the vaccination coverage can make a difference. Therefore, the areas which are closer to Health Unit are more likely to achieve higher coverage of vaccination as compared to the remote area. Distance from the health facility has been previously identified as a major factor for not getting the children vaccinated. There is a need to bridge the gap in supply of adequate vaccines and their utilization at Basic Health Unit (BHU) level.[16] Previously education of parents‟ especially maternal education has been reported to be significantly associated with vaccination.[17,18] The results of this study revealed that most of the male parents of children were educated which may be a crucial determinant for getting the child vaccinated due to increase awareness and better health seeking behavior. As males are the decision makers according to the local tradition. Paternal education has also been recognized by prior studies in Pakistan as determinant factor for child vaccination.[19] Low socioeconomic status and having a female child have also been previously documented to be associated with non-vaccination.[20] However, there was no difference between male and female children and socioeconomic status had a little bearing on the status of vaccination in this study. This finding suggests awareness on gender discrimination which has improved in rural areas or it does not apply for children under 5 years of age. These findings are consistent to a study from Saudi Arabia, which reported that non-adherence to immunization had no association with sociodemographic factors like age, income, educational level and employment status.[21] Fear of side effects of vaccination has been reported as a barrier to vaccination campaigns. The results of this study suggest that there is still some resistance and misconception about vaccination among the local community. Some people still associate vaccination as a painful and harmful intervention that could be dangerous to the health of their child while others show careless attitude towards importance of vaccination. Health education about the benefits of vaccination should be incorporated in the routine cultural and religious rituals. Mosques, schools and other community gathering places could be used where misconceptions of the communities could be clarified and the resistance can be reduced.

CONCLUSION

The overall immunization coverage rate was satisfactory in this study. Parents showed confidence in the public sector vaccination campaign and services. It may be desired to hire more vaccinators for optimal immunization coverage. Overall, the coverage of EPI vaccines was more than 70% in this study. There is a need to improve general status of education of rural population, especially of women. The findings also suggest that children living in distant union councils are less likely to be vaccinated. There is a need to organize EPI services at BHU levels to improve access and increase the vaccination coverage.

LIMITATIONS

This study had limitations like use of self-report questionnaire, small sample size, and was limited to one union council which may affect the generalization of results.

CONFLICT OF INTEREST: None

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