



Exploring Reasons behind Vaccine Refusals-A Study from Tertiary Care Hospital of Pakistan

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ABSTRACT

Immunization is a beneficial tool for controlling and eliminating life-threatening infectious diseases and is estimated to avert between 2-3 million deaths each year. It is one of the most cost-effective health investments. Over the years immunizations have thwarted epidemics of once-common infectious diseases such as measles, mumps and whooping cough and near eradication of others, such as polio and smallpox. Vaccination refusal or vaccine hesitancy is very common among the parents even in the developed countries. Parents get exemptions for their children from vaccination on various grounds. These reasons can be divided into four major categories: Religious, personal beliefs, safety concerns and insufficient information regarding risk and benefits of vaccines.

Keywords: Vaccine; Immunizations; Prevention; Low mortality rate

INTRODUCTION

Pakistan is a developing country where around two-thirds of the total population is under 30 years of age [1]. According to a report of the Pakistan bureau of statistics (2019) population less than 5 years constitute 14.8% while children from 5-9 years are 15.65% of the total population as such almost 30% of our population consists of children between 0-9 years.

Prevention and care is an important tool in developing a healthy society. This purpose can be achieved through vaccination and completing early childhood immunization [2]. In Pakistan around one third of the population is living below the poverty line and low literacy rate further compounds the problem and becomes a stumbling block in creating awareness regarding vaccine preventable diseases and Immunization. Vaccine refusal problem encompassing different myths is a grave challenge in meeting the vaccination targets to combat the deadly vaccine-preventable diseases [3].

CASE PRESENTATION

This study was conducted in November, 2019 at the Aga Khan University Hospital (AKUH), stadium road, Karachi, Pakistan [4]. The target population was the newborns, children and adults visiting at Community Health Center (CHC) AKUH for vaccination. The study design was non-experimental and cross sectional. The vaccination center offers both EPI and commercial vaccines. A sample size of 260 patients comprising different age groups from newborns to age 18 years and older were assessed against screening checklist for contraindications to vaccine based on CDC recommendations [5]. Moreover, other reasons for vaccine refusals were also determined (Table 1).

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Table 1: Patients comprising different age groups based on CDC recommendations.

	No of refusals	Percentage
Types of refusals		
No refusals	125	48.07%
Non availability	135	51.90%
Cost issue	3	1.15%
Over age	4	1.54%
Contraindication	7	2.69%
Vaccine name		
Typhoid refusals	13	11%
MMR refusals	47	38.4%
Hep-A refusals	46	38%
Varicella refusals	15	12.7%

RESULTS AND DISCUSSION

The results of study revealed that around 125 (48.07%) out of targeted population of 260 visiting vaccination clinic were vaccinated with due vaccines. Whereas, around 135 (51.9%) refused vaccination. The reasons were non-availability of vaccine, affordability issue, age above the recommended limit and contraindications to vaccine. It was quite alarming that approximately (121 (46%)) of the population was refused due to non-availability vaccines particularly MMR (47 (38.4%)), hepatitis A (46 (38%)), varicella (15 (12.7%)) and typhoid polysaccharide (13 (11%)) vaccines all of these vaccine supplies were short in the country for a considerable time period. All of these vaccines were although not the part of mandatory EPI vaccine schedule but were highly recommended by the WHO and CDC vaccination guidelines in order to build immunity against these prevailing, yet vaccine-preventable diseases. Non-availability of these vaccines would certainly increase the disease burden in our country [6].

Second major reason for vaccine refusal was contraindications to vaccine. Pharmacist played an important role in ensuring the safety of vaccines by gathering immunization histories, screening patients for immunization needs and preventing immunologic drug interactions. About 7 (2.69%) of the population in our study was refused deferred for vaccination by pharmacist after assessment against the screening checklist for contraindication of vaccine. Major contraindications included fever (>1010 F) at the time of visit and known history of allergic to vaccine itself or any of its component. Moreover, other reasons of deferral of live vaccines included history of administration of live vaccine in past 4 weeks, current chemotherapy or long-term high-dose steroid therapy.

Another reason for refusal was, age above the recommended limit. Around 4 (1.54%) participants were refused for rota virus and DPT vaccine because their age was falling out of the recommended age limit. The maximum age limit recommended by WHO for 1st dose of rota vaccine is 3 months 15 days. While, the maximum age limit recommended by manufacture

for currently available DPT vaccine was 5 year and 0 month. Parents were unaware of such important information regarding these vaccines which left them unimmunized against these deadly diseases [7].

In Pakistan most of vaccines from birth till 15 months are provided free of cost through EPI. Which included polio, BCG, PCV10, pentavalent valent (DPT+Hep B+ HIB), rotavirus, TCV and measles vaccines. Rest of the vaccines and booster doses above 15 months had to be purchased for vaccination, which were mostly out of the reach of general population due to their high cost. Against this backdrop in our study about 3 (1.15%) of the vaccinations were rebuffed due to high cost.

Possible consequences of current scenario on national level

The most likely outcome could be

Increased disease burden on the society: The unavailability of important vaccines like MMR, varicella and hepatitis A in country for such a considerable time period would result in prevalence of these vaccine-preventable diseases and ultimately increase the overall disease burden [8].

More people slipping to the poverty line: Substantial health budget will be utilized to combat these deadly vaccine-preventable diseases, in such scenario this will create another catastrophe to deprive the needy people from fulfilling their basic requirements.

Absenteeism from school and workplaces: Children will remain absent from schools while suffering from these diseases and will adversely affecting their education and parents have to face financial constraints because of their absence from work places [9].

Decreased herd immunity of the society: A large number of unimmunized individuals will spread the infections to others and will make the situation more complex.

Development of drug resistance: More infections, greater and irrational use of medicines and antibiotics will create drug resistance. Leaving behind limited and costly treatment options.

Economic and financial loss: A huge amount of money will be used for disease treatment which could easily be saved by paying a relatively less amount on vaccination with other allied benefits. Moreover, it is a substantial revenue loss for hospitals and clinics besides adversely affecting the economy of the country [10].

CONCLUSION

Vaccine refusal not only increases the risk at individual level but also at community level. Major reason for vaccine refusal revealed in our study was the non-availability of vaccines like MMR, varicella and hepatitis A. There is a dire need that of all stakeholders including health organizations and WHO to take necessary measures to resolve the issue of non-availability of vaccines in Pakistan. Lack of health awareness and poor sanitary conditions in country will further compounded the situation and would increase the overall disease burden in the country. Pharmaceutical manufacturers should be encouraged to manufacture vaccines locally or they should be facilitated to import these vaccines. Moreover, vaccines should be made cost effective and readily available for the public.

Further efforts should be made to create awareness regarding benefits of vaccines. Pharmacist can be utilized as an excellent resource for screening vaccination needs and ensuring vaccine safety besides playing an important role as educator and facilitator for minimizing vaccine refusal.

REFERENCES

1. Korcum M, Bag O, Guney SA. Informed refusal in pediatric practice: A single center experience of a tertiary care children's hospital. *J Child*. 2021;21(3):254-259.
2. Kotwal A, Singh H, Verma AK, Gupta RM, Jain S, Sinha S. A study of hepatitis A and E virus seropositivity profile amongst young healthy adults in India. *Med J Armed Forces India*. 2014;70(3): 225-259.
3. Norton ZS, Olson KB, Sanguino SM. Addressing vaccine hesitancy through a comprehensive resident vaccine curriculum. *J Teach Learn Resour*. 2022;18:11292.
4. Maltezou HC, Gkentzi D, Grivea I, Chaliasos N, Galanakis E, Pavli A, et al. Experience with parental vaccination refusal and attitudes about vaccinations of pediatricians in Greece. *Br J Med Med Res*. 2015.
5. Leib S, Liberatos P, Edwards K. Pediatricians' experience with and response to parental vaccine safety concerns and vaccine refusals: A survey of connecticut pediatricians. *Public Health Rep*. 2011;126(2): 13-23.
6. Ashford JW, Gold JE, Huenergardt MA, Katz RB, Strand SE, Bolanos J, et al. MMR vaccination: A potential strategy to reduce severity and mortality of COVID-19 illness. *Am J Med*. 2021;134(2): 153-155.
7. Kumar SV, Venkateswarlu B, Sasikala M, Kumar GV. A study on poisoning cases in a tertiary care hospital. *J Nat Sci Biol Med*. 2010;1(1):35-39.
8. Qadri SS, Pathak R, Singh M, Ahluwalia SK, Saini S, Garg PK. An assessment of patient's satisfaction with services obtained from a tertiary care hospital in rural Haryana. *Int J Collaborative Res Intern Med Publ Health*. 2012;4(8):1524.
9. Tanriover MD, Guven GS, Sen D, Unal S, Uzun O. Epidemiology and outcome of sepsis in a tertiary-care hospital in a developing country. *Epidemiol Infect*. 2006;134(2):315-322.
10. Kulkarni MV, Dasgupta S, Deoke AR. Study of satisfaction of patients admitted in a tertiary care hospital in Nagpur. *Nat J Comm Med*. 2011;2(1):37-39.