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Vaccine Hesitancy: A Significant Challange

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Introduction

Vaccination is a miracle of modern medicine. In the past 50 years, it saved more lives worldwide than any other medical product or procedure. Despite evidence regarding the beneficial effects of vaccines, vaccination uptake has not been up to the mark across the globe in various socio-cultural and socio-demographic groups. Access to vaccine information and misinformation from a wide range of sources has influenced vaccine decision-making. Logistics and workforce have been issues of concern to public health managers, but the latent issue of vaccine hesitancy leading to vaccine delays and refusals has not been widely addressed particularly in the Indian context. Resistance to vaccination has been present in the United States since the 1850s, when smallpox mandates were seen as a violation of liberty. Similarly in the United Kingdom, an anti-vaccination movement grew against compulsory vaccination, which spread throughout Europe[1].A significant challenge has been addressing vaccine hesitancy, creating awareness about the value of vaccines and managing misinformation, particularly on social media. Media has been a supportive partner in disseminating correct information during these campaigns. Regular briefings have been conducted where WHO-NPSP experts and government officials have jointly addressed queries from journalists. In addition, a strong Adverse Events Following Immunization (AEFI) Surveillance program is in place to address community concerns and maintain public confidence. The World Health Organization (WHO) Strategic Advisory Group of Experts (SAGE) on immunization has defined vaccine hesitancy as "delay in acceptance or refusal of vaccination despite the availability of vaccination services." Vaccine hesitancy is complex and context specific, varying across time, place, and vaccines. Vaccine hesitancy occurs along a continuum between full acceptance and outright refusal of all vaccines, i.e., when there is acceptance of some and delay or refusal of some of the recommended vaccines. It is influenced by factors such as complacency, convenience, and confidence.[2] Vaccine hesitancy, thus, risks the public health consequences of vaccine preventable disease outbreaks. While addressing vaccine hesitancy within a country or subgroup, an in-depth understanding of magnitude and setting of the problem is required.[3] In a recent study of India by Dasgupta P et al[4] told that the main outcome variable was "vaccine hesitancy" I parents for not doing

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complete prescribed vaccination. Vaccine hesitancy was considered to be present in those families who refused, were reluctant or delayed any of the recommended vaccine doses of their child, as per his/her age. Vaccine hesitancy was considered to be absent in those families, where the selected child, received all the recommended vaccines within stipulated time as operationally defined. As a result of Incorrect understanding of failure people decided not to accomplish anything in life just not to make mistakes along the way. Again those people are not aware of the fact that their hesitation is caused by their unconscious psychological goals. A perfect example for such hesitation would be the person who delays or reluctance to any new vaccination launched. It was also seen in latest survey carried during new MR vaccination campaign since 15 Jan 2019. When asked about the reasons for vaccine hesitancy, most commonly cited was reluctance to vaccinate (36.3%). About (28.4%) reported to be unaware or confused of when and where to vaccinate; not explained properly by health care providers regarding dates and the vaccines and no reliable information. Information regarding vaccines is often not properly disseminated resulting in apprehension and having fear about newer vaccines due to serious adverse effects were reported in newspapers regarding MR vaccine. This might have been refrained the families from getting the children vaccinated during the initial MR campaign in 2019. It was reported that more than half of the parents to be concerned regarding serious adverse reactions and question the safety of newer vaccines. In a study by Gust et al[5] also found largest proportion of parents who changed their minds of delaying or not getting vaccinated gave "information or assurance from health care provider" as the main reason. Similarly Dasgupta P et al[4] explained reluctance to vaccinate the child was the primary cause of vaccine hesitancy and lack of trust in service providers was another reason cited by the respondents. This corroborates with the finding that a higher proportion of families who get their child vaccinated follow instructions of their doctors and health-care providers. Parenteral attitudes and behaviors regarding vaccination fall into a spectrum comprised five unfixed groups, unquestioning acceptance, cautious acceptance, hesitance, late or selective vaccinator, and refusal of all vaccines[6] People always move in directions that helps them satisfy important unmet needs but if that's the case then how come some people keep hesitating in such a way that prevents them from reaching their goals of vaccination? That person's psychological goal is to never take any new step and he perfectly achieves this goal by hesitating!! Vaccine hesitancy presents a significant challenge that will require a multidisciplinary approach. The profound impact of immunizations on public health mandates continued attention to this topic to prevent the reemergence of vaccine-preventable diseases.

Ongoing research is needed to develop the most effective strategies to confront vaccine acceptance. Such strategies will require a multi-faceted approach. A systematic review of interventions designed to reduce parental hesitancy identified three key areas: state laws, school- and state-level implementation of laws, and parent-centered education. However, there is limited evidence to guide widespread implementation of a specific strategy at this time to effectively minimize the impact of vaccine refusal.[7] Public health strategies that have been trialed to counter anti-vaccination movements have focused mainly on reducing the knowledge gaps and these have not been successful. Indeed, multiple studies have shown that increasing knowledge alone will not change behaviors.[8] in our latest study[9] has confirmed the existence of vaccine hesitancy in all group of community but has shown that concerns relating to vaccines are status and context-specific. Parents had concerns relating to the risks of vaccination and expressed a lack of trust in health authorities. It is important that strategies to improve confidence in vaccines focus on these concerns and are therefore adapted to the specific political, social, cultural and economic context of the country or region. Improving vaccine confidence among community is crucial as they have been shown to have the potential to influence patient vaccination uptake.

The interviews with parents in urban community of our study revealed that although those interviewed were aware of the benefits of vaccination, most of them also had some concerns about the risks. Public health experts now refer to this loss of confidence as 'vaccine hesitancy', so as to capture concerns in both vaccinated and unvaccinated individuals.[10] Vaccine hesitancy in the present study has adopted the WHO definition which

describes a continuum between unquestioning acceptance and refusal to new vaccines.[11]The interviews with mothers/caregiver revealed that although those interviewed were aware of the benefits of vaccination, most of them also had some concerns about the risks.

Although most of the caregivers in the present study were convinced of the role of vaccines to protect children and reported that most would like to have their children vaccinated with all as well as the new vaccines like MR but there was wide variation found. Detailed study shows that only 19.5% had actually not gone for all recommended doses on time previously and majority 49.2% were found in hesitant mothers. Association between nuclear family and vaccine hesitancy was not found significantly, but the vaccine hesitancy was found more in nuclear family than joint family because the mother is the only caregiver, it results in delays, reluctance to take for vaccination due to household or other job. Often the problem is aggravated if the mother is sick, pregnant or she has to take care of other children. In traditional settings in India, the joint family structure has an added advantage of additional caregivers, where chances of getting timely vaccinated increase due to other parents of the household taking care, even if the mother is working.[14] In the present study education status of mother/caregiver plays the vital role in understanding the effectiveness of vaccination and its role in safe livelihood. Vaccine hesitancy was least among graduate mother. Higher educational status of mothers has been associated with better immunization coverage in previous studies conducted in India[12,13] and neighboring countries.[14] Educated mothers are less hesitant and more likely to remember dates, understand the importance of timely vaccination and interact more freely with health workers. In the present study, higher SES showed a higher likelihood of vaccine hesitancy in contradiction to observations by previous authors.[15]

In the our study, parents who are economically better off, have more hesitant and reluctant towards free govt supply vaccine because they must pay for vaccines as well as the services. If on the scheduled day or week, there is not enough money, they tend to be vaccine complacent [16, 4] and delay or miss doses of costly vaccines such as pentavalent and MR vaccine. Among the characteristics of children, the gender of the child and birth order were not significant predictors for vaccine hesitancy in the present study, although statistically not significant, the proportion of vaccine hesitancy in case of male child was marginally higher than girl child. This contradicts findings from some of earlier studies.[17, 18] Information regarding vaccines is often not properly disseminated resulting in apprehension and fear about newer vaccines like MR vaccine. This might have refrained the families from getting the children vaccinated during the initial MR campaign in 2019. Freed et al.[19] reported more than half of the parents to be concerned regarding serious adverse reactions and question the safety of newer vaccines. In a study by Gust et al.[5] largest proportion of parents who changed their minds of delaying or not getting vaccinated gave "Lack of trust/fear of vaccination" due to lack of information or assurance from health care provider is the main reason. Environ-mental/personal factors reluctance to vaccinate the child was the primary cause of vaccine hesitancy in the present study. Lack of awareness, forgetfulness, and laziness was reasons cited in previous studies in India.[20, 21] Lack of trust in service providers and fear with adverse conditions of newer vaccine was another reason cited by the respondents. This corroborates with the finding that a higher proportion of families who get their child vaccinated follow instructions of their doctors and health-care providers. The inherent migratory and temporary nature of the slum population makes delay and hesitancy even more prominent. This can be deduced from the fact that about 15.7% of caregivers reported being forgets dates as the reason for hesitancy. Parents' decisions to vaccinate are also influenced by multiple factors, as outlined by Dube, et al.[22] These include parent-specific characteristics such as experience with previous immunization under UIP

Personal opinion that 'my child does not need vaccines for diseases that are not common anymore' is a major obstacle. Previous studies[23] support this observation. It is also known that parents who lack sufficient knowledge about vaccines or VPDs are more likely to have negative attitudes towards immunizations, providers, immunization requirements, and trust in the individuals and institutions responsible for immunization policy.[5]

Mothers/caregivers' responses regarding vaccine hesitancy were corroborated with appropriate records. While there are a small number of parents who unequivocally refuse all vaccines, and many parents who overwhelmingly accept vaccines, many families fall between these extremes and express some level of vaccine hesitancy, as characterized by these different models.[24] This group of vaccine-hesitant individuals has been a focus for more recent and ongoing research to identify strategies that can effectively move individuals toward vaccine acceptance.[3] A survey in France also showed that family doctors believed that one of the barriers to MMR vaccination was parental opinion that measles was not a severe illness (80%), as well as a fear of vaccine side effects (50%)[25].

However, the latent issue of vaccine hesitancy has not been widely addressed in the Indian context. Recommendations are a cry into the void without actions, and the non serious nature of vaccine preventable diseases could be used as an excuse for inaction. However, the enormous success seen in the eradication of Polio has proven that even nascent health systems can provide lifelong care. The care models in place for dealing with eradication of Polio can potentially be used to provide a framework for those needed to eliminating hesitation especially for newer vaccine launched. Exploring this aspect of vaccination will definitely help our policymakers to undertake appropriate measures to improve vaccine acceptance, coverage, and reach desired national targets. Countries should incorporate a plan to measure and address vaccine hesitancy into their country's immunization program as part of good program practices. Immunization programs of countries must fit their setting and resources to support vaccine uptake. Education and training of health-care workers need to be undertaken to address vaccine hesitant behaviors among them.3 Be brave; stop hesitation today, Change your own children destiny.

References

1. Wolfe RM, Sharp LK. Anti-vaccinationists past and present. Bmj. 2002; 325:430–2.
2. World Health Organization. Department of Immunization, Vaccines and Biological (IVB). SAGE October 2014. Geneva: World Health Organization; 2014. Available from: http://www.who.Int /immunization/ sage/meetings /2014/October/Yellow book. SAGE2014_final. Pdf? Ua=1. [Last accessed on 2019 Feb 9].
3. WHO SAGE Working Group Summary. Conclusions and Recommendations on Vaccine Hesitancy. Available from: http://www. who.int/immunization/ programmes _systems /summary_of_sage _ vaccinehesitancy_2pager.pdf?ua=1. [Last accessed on 2019 Feb 09].
4. Dasgupta P, Bhattacherjee S, Mukherjee A, Dasgupta S. Vaccine hesitancy for childhood vaccinations in slum areas of Siliguri, India. Indian J Public Health 2018; 62:253-8.
5. Gust D, Brown C, Sheedy K, Hibbs B, Weaver D, Nowak G, et al. Immunization attitudes and beliefs among parents: Beyond a dichotomous perspective. Am J Health Behav 2005; 29:81-92.
6. Leask J, Kinnersley P, Jackson C, Cheater F, Bedford H, Rowles G, et al. Communicating with parents about vaccination: A framework for health professionals. BMC Pediatr 2012; 12:154.
7. Sadaf A, Richards JL, Glanz J, Salmon DA, Omer SB. A systematic review of interventions for reducing parental vaccine refusal and vaccine hesitancy. Vaccine. 2013; 31:4293–304
8. Dube E, Vivion M, MacDonald NE. Vaccine hesitancy, vaccine refusal and the anti-vaccine movement: influence, impact and implications. Expert review of vaccines. 2015;14:99–117
9. Agarwal AK, Sengar A, Gupta P, Gupta R. A Study of Vaccine Hesitancy among Mother & Care Provider During MR Vaccine Campaign. Natl J Community Med 2019;10(11):605-611
10. Opel DJ, Mangione-Smith R, Taylor JA, Korfiatis C, Wiese C, Catz S, et al. Development of a survey to identify vaccine hesitant parents: the parent attitudes to childhood vaccines survey. Hum Vaccin. 2011; 7(4):419-25. 16.
11. Larson HJ, Jarrett C, Eckersberger E, Smith DM, Paterson P. Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature,

2007-2012. Vaccine 2014; 32:2150-9.

12. Lauridsen J, Pradhan J. Socio-economic inequality of immunization coverage in India. Health economics review. 2011 Dec;1(1):11.
13. Sharma S. Socioeconomic factors of full immunization coverage in India. World Journal of Vaccines. 2013 Aug 20; 3(03):102.
14. Naeem M, Adil M, Abbas SH, Khan MZ, Naz SM, Khan A, Khan MU. Coverage and causes of missed oral polio vaccine in urban and rural areas of Peshawar. Journal of Ayub Medical College Abbottabad. 2011 Dec 1; 23(4):98-102.
15. Clark A, Sanderson C. Timing of children's vaccinations in 45 low-income and middle-income countries: an analysis of survey data. The Lancet. 2009 May 2;373(9674):1543-9.
16. World Health Organization. Department of Immunization, Vaccines and Biologicals (IVB). SAGE October 2014. Geneva: World Health Organization; 2014. Available from: http://www.who.int/ immunization/ sage/meetings/2014/October / Yellow-book SAGE2014_ final. pdf?ua=1. [Last accessed on 2020 May 20].
17. Sharma S. Socioeconomic factors of full immunization coverage in India. World Journal of Vaccines. 2013 Aug 20; 3(03):102.
18. Naeem M, Adil M, Abbas SH, Khan MZ, Naz SM, Khan A, Khan MU. Coverage and causes of missed oral polio vaccine in urban and rural areas of Peshawar. Journal of Ayub Medical College Abbottabad. 2011 Dec 1; 23(4):98-102.
19. Freed GL, Clark SJ, Butchart AT, Singer DC, Davis MM. Parental vaccine safety concerns in 2009. Pediatrics. 2010 Apr 1; 125(4):654.
20. Mandal NK, Sinhamahapatra B, Sinha N, Mukhopadhyay DK, Das R, Biswas AB. Child immunization and Vitamin A supplementation in the district of Bankura, West Bengal. Int J Med Public Health 2011; 1:22-6.
21. Manjunath U, Pareek RP. Maternal knowledge and perceptions about the routine immunization programme – A study in a semiurban area in Rajasthan. Indian J Med Sci 2003; 57:158-63.
22. Dube E, Laberge C, Guay M, Bramadat P, Roy R, Bettinger J. Vaccine hesitancy: an overview. Human vaccines & immunotherapeutics. 2013; 9:1763–73
23. Why infants miss vaccination during routine immunization sessions? Study in a rural area of Anand district, Gujarat. Indian J Public Health 2011; 55:321-3
24. Gowda C, Dempsey AF. The rise (and fall?) of parental vaccine hesitancy. Human vaccines & immunotherapeutics. 2013; 9:1755–62
25. Pulcini C, Massin S, Launay O, Verger P. Knowledge, attitudes, beliefs and practices of general practitioners towards measles and MMR vaccination in south-eastern France in 2012. Clinical Microbiology and Infection. 2014;20(1):38-43