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THE THREE C'S OF VACCINE HESITANCY: THE INDIAN PERSPECTIVE

Community Medicine

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ABSTRACT

The immunization programme has been a key player in the healthcare services of India since the introduction of Universal Immunization Programme (UIP) in 1985. It was implemented with the goal to achieve 85% coverage of primary immunization among infants and this was later increased to ensure universal coverage to all eligible children. Three decades later, the immunization coverage of India is far from the goal with only 62% of children being fully immunized according to NFHS-4 data (2015-2016). To address the immunization gap and to assess the correlates behind focal outbreaks of vaccine preventable diseases in the post polio eradication era, the issues of vaccine hesitancy needs be taken into account. This review was undertaken to elaborate on the concept of vaccine hesitancy in order to ascertain the attributes associated with such focal outbreaks and if possible to zero in on.

Understanding the spectrum of vaccine hesitancy is a growing challenge for countries seeking to achieve universal immunization coverage and research should be expanded to encompass the multiple factors of this phenomenon.

KEYWORDS

vaccine hesitancy, immunization, outbreak

Introduction

Of all the public health measures, Immunization is one of the most successful and cost effective public health intervention that prevents the suffering that comes from avoidable sickness and death, thereby helping immunized children to prosper and achieve their full potential.[1] India is the second most populous country in the World and records the largest birth cohort in the world: more than 26 million a year, and also accounts for more than 20 percent of child mortality worldwide. Though a lot of improvement has taken place in the past few years, India still accounts for the largest number of children who remain unimmunized, approximately 7.4 million. [2] Success in vaccination programs is dependent on reaching and maintaining the target coverage rates and according to the latest national coverage evaluation survey by NFHS-4 (2015-16), the percentage of fully immunized children at 12-23 months is only 62% in India. [3] WHO has recommended that immunization programmes need to regularly determine the presence and location of pockets of under-immunized subgroups in a country as part of good program management services; the reasons for which needs to be established and addressed so as to close the immunization gap. [4]

To deal with the problem of immunization gap, which is hampering the immunization services, the WHO has recently introduced a term known as "Vaccine Hesitancy" which is receiving focus and attention worldwide and its role in India also needs to be taken into account.

The Concept

According to Vaccine Hesitancy Working group WHO, "*Vaccine hesitancy refers to delay in acceptance or refusal of vaccination despite availability of vaccination services and occurs along the continuum of full acceptance, including high demand for vaccine, and outright refusal of some or all vaccines*." [4] [Figure 1]

Vaccine hesitancy is a multifarious and complex phenomenon, varying across communities and regions and it is important to elaborate the determinants of vaccine hesitancy and take corrective measures lest they may hamper the efforts towards the achievement of universal immunization coverage.

The key components that influence vaccine hesitancy are confidence, complacency, and convenience. [4]

Confidence is reliance in vaccines and in the medical workforce/ health care providers, providing immunization and other health care services. [4] If there is distrust in the public about the vaccines or the providers, it could result in vaccine hesitancy and low immunization coverage. The original global polio eradication goal that was resolved by the World Health Assembly in 1988 was to target global eradication for polio by the year 2000. India, an endorser of this decision, increased the frequency of national immunization days from 2 to 6 per year, supplemented with subnational immunization days. Mop-up polio campaigns were also held and all this brought vaccination coverage of polio from 92% to 99% in the year 2000. However, this sudden intensification led to resentment and suspicion among the families who were previously content with having their children vaccinated twice a year, giving way to anti vaccination rumors especially among the marginalized communities in the State of Uttar Pradesh and Bihar eventually leading to an outbreak in 2002. [5,6,7]

Uttar Pradesh was once called the polio capital of India with over 1242 of the 1600 polio cases coming from U.P alone. This posed the threat of polio being reintroduced to the other states of India. UNICEF focused on its communication intervention to counter the various misconceptions among the resistant community. It was with great difficulty that the trust was restored. Reputed educational institutions and universities were approached, and along with the involvement of religious leaders, success was achieved within a community that had displayed lack of trust towards the polio programme. Meetings and joint appeals by religious leaders and medical doctors were organized to continuously reinforce the messages related to the importance of polio vaccination. UNICEF had engaged with 2800 religious leaders and 2000 madarasa teachers as part of the strategy. Positive messages from religious leaders through banners and pamphlets played a key role in shifting the community's resistance to the vaccine to acceptance. Their efforts reduced the level of resistance of the vaccine to 0.9% in 2012.[8] Communication through advertisements staring film stars had increased the credibility and trustworthiness of the polio campaign. TV and Radio spots about polio prevention were broadcasted to over 80 million homes, which eventually lead to elimination of Polio few years down the lane. [9]

Caregivers will not get their children vaccinated if they do not trust the safety of vaccines. An immunization survey conducted in Delhi by Yadav et al (2006) observed that among the unimmunized children, more than half of the mothers were unaware of the need for giving immunization to their children and many did not have faith it its role. Information education and communication between caretakers and local health workers will enhance trust in the health care system and show improvement in the routine immunization coverage. [10,11] For the success of immunization programmes worldwide, public confidence in vaccines is imperative as public distrust can lead to vaccine hesitancy. [12]

Complacency in vaccines exists when anticipated perils of vaccine preventable diseases are low and vaccination is not considered a perceived need. Success of immunization programs however may

paradoxically, result in complacency and eventually hesitancy, as individuals may be more worried about vaccine safety and weigh risks of vaccines against risk of developing a diseases that are no longer common. [13] India has been polio free since 2011 and received polio certification from World Health Organization in March 2014. [14] However, India still needs to maintain a high level of polio vaccination coverage as we share porous borders with endemic countries like Pakistan and Afghanistan increasing the chances of importations. In such situation, vaccine complacency could prove to be very costly. [15,16] In 2009, WHO declared a global influenza pandemic caused by the Influenza H1N1 virus, yet the anticipated uptake of vaccine was remarkably low, even among those who belonged to the high-risk groups, which could have resulted from complacency. [17,18] In a study conducted in Pune (India) it was observed that even though majority felt that a vaccine would prevent swine flu, the reported uptake was poor, as many perceived the personal risk to be low. Hesitancy in this scenario seemed more an issue from complacency than from lack of confidence and the study recommended the need to promote awareness both for public and health care providers regarding the value of vaccination. [18, 19] A study conducted in Lucknow by Nath B et al on the determinants of immunization coverage observed that lack of knowledge in vaccines and considering Polio drops as the only vaccine ever present turned out to be significant independent reasons for non-immunization. Knowledge gaps about the need for vaccination along with not knowing when the next vaccination is due can steer into low compliance. [20] Finally, Lack of knowledge and awareness about the severity and transmission of diseases can give room to complacency leading to reemergence of previously controlled diseases in the area and thereby nullifying vaccination programs. [21]

Hesitancy in terms of **vaccine convenience** includes availability, affordability and accessibility of vaccines; in simpler terms those who forgo vaccination because it is inconvenient distant or costly. [5,22] Percentage of fully immunized children is generally more in urban areas compared to rural areas, as parents from rural areas have to travel outside their communities for vaccination due to lack of access of health facilities in their own villages. [23,24] Major growth in India is due to migration to the cities, which leads to mushrooming of urban slums. Continuous flow of unprotected population may lead to a threat of an outbreak of vaccine preventable diseases as poor coverage of primary immunization is found in the urban slums. In a study by Kusuma YS et al, immunization coverage was evaluated among the socio economically disadvantaged rural-urban migrants living in Delhi. The study recommended that migrant status favored low immunization status and services must be delivered with a focus on recent migrants along with investments in education and socio economic development to improve and sustain equitable health care services. [24] Parents may not have fears or any objections about immunization but at the same time may not be motivated enough about its benefits to overcome the tendency to delay vaccination; as it takes time and effort to go to the centre to get the child vaccinated. [26] In 2015, Larson et al, conducted a global survey of confidence in vaccines and immunization programmes. It was carried out in 5 countries including India, and it reported that 12.5% of hesitants were present in India. The reasons for hesitancy in India were categorized under confidence (49%), convenience (18%), complacency (3%) and others (31%). Others included baby cries and don't know. The study concluded that in all 5 countries, confidence was the number one reason for hesitancy and recommended to investigate the complex scenario of vaccine confidence and its various influences. [12] Poverty, ignorance, fear of needles, migration, illness of the child at the time of vaccination are some of the other reasons which may also result in reduced vaccine uptake and contribute to the vaccine coverage gaps. [26]

Conclusion

Addressing vaccine hesitancy is a laborious task and multitude of other factors can be a determinant of vaccine hesitancy, which may be linked to region, socioeconomic and cultural factors and can potentially influence a parent's decision for vaccination uptake. Vaccination programs are deemed successful when target coverage rates of immunization are reached and maintained. Improving acceptability of vaccines requires confidence in vaccines and its delivery system. To generate a demand regarding immunization services, interpersonal motivation and communication should be encouraged to ensure a consistent coverage for all the vaccines. Understanding the spectrum of vaccine hesitancy is a growing challenge for countries seeking to achieve universal immunization coverage and research should be expanded to encompass the multiple factors of this phenomenon.

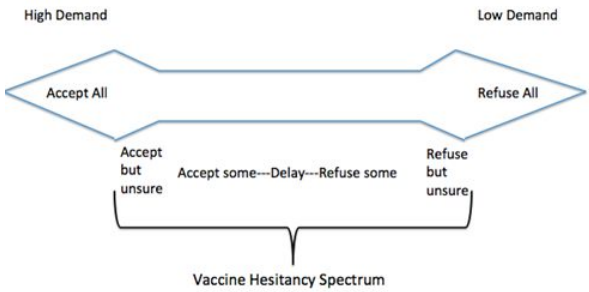

Figure 1

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