**FACTORS CONTRIBUTING TO LOW IMMUNIZATION COVERAGE: A REVIEW**

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## ABSTRACT

Several reasons affecting childhood immunization such as parents’ objection, disagreement or concern about immunization safety, long distance walking, long waiting time at health facilities are the most common reasons for incomplete vaccination/ immunization. Lack of access to immunization services contributed to low immunization coverage as results of negative health workers’ attitudes. Socio-economic factors such as mother's education, husband occupation and family’s monthly income. Lack of awareness on the importance of immunization.

***Keywords****: Immunisation, coverage, factors affecting immunisation*

## INTRODUCTION

Immunization is one of the major public health interventions to avoid childhood illnesses and mortality (Obeagu, 2022; Ibebuike *et al.,* 2017; Hassan *et al.,* 2022; Agu *et al.,* 2021). Without the same, more than five million children would die each year and many more fall ill (Arooj, 2015). The re-emerging vaccine preventable diseases like measles and polio calls for the need for new approach, if the country is to achieve Millennium Development Goals (MDGs) for universal access to health care and reduction in child mortality (WHO, 2012).

About 23.2 million children remained unvaccinated of which 15.3 million (65%) are from eight countries in Africa (Elizabeth *et al*., 2015). African Medical and Research Foundation (AMREF) reported that low immunization coverage exposes large proportion of children to infectious diseases and disease outbreaks mainly come from pockets of low immunization areas such as remote places or islands, urban slums, or in certain population groups such as ethnic and racial minorities (Koskei *et al*., 2014).

According to the WHO/UNICEF (2008), Nigeria accounts for more than 50% of new polio cases globally largely associated with socio-cultural factors which limit utilization of immunization services. In Kenya, the Expanded Program of Immunization (EPI) which changed to Division of Vaccine and Immunization (DVI) has been in operation since 1980s largely following WHO guidelines for vaccinating all children however; the national coverage was 59% for urban children and even lowers coverage in rural areas in 2008/2009 report (Kenya Demographic and Health Survey, 2009). This is far from WHO standards of 90% immunization coverage for urban areas and 80% for rural areas.

According to the Ugandan National Expanded Programme on Immunisation (UNEPI), a child is considered fully vaccinated if it has received one dose of BCG (given at birth), 4 doses of polio vaccines (given at birth, 6 weeks, 10 weeks and 14 weeks), 3 doses of Diphtheria Pertussis and Tetanus (DPT), Hepatitis B, Haemophilus influenzae type B vaccine (given at 6 weeks, 10 weeks and 14 weeks), and 1 dose of the measles vaccine (given at 9 months) (Clark, 2008). Despite the overall, less than half (45.6%) of all children in Uganda received all vaccines within the recommended time ranges (Babirye *et al*., 2012)

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## Heath system related factors contributing to low immunization coverage

Health system determinants of receipt of immunization completion are complex and interwoven. A study done on reasons for incomplete vaccination and factors for missed opportunities among rural Nigerian children identified several reasons affecting childhood immunization such as parents’ objection, disagreement or concern about immunization safety (38.8%), long distance walking (17.5%) and long waiting time at health facilities (15.2%) are the most common reasons for incomplete vaccination/ immunization (Abdulraheem *et al*., 2011). This showed that parental belief about immunization safety is the major reason for incomplete immunizations among Nigerian children (Abdulraheem *et al*., 2011).

Nevertheless, Health institution born children were 7.5 times more likely to be vaccinated and 4.4 times more likely to complete vaccination than home born children, which is consistent with studies from other places (Jagrati *et al*., 2008). In addition, Children born in health institution were (95%) times likely to be fully vaccinated than those who born a home after adjustment for another variable. This mean most children who are born from home missed to be immunized for at birth dose such as BCG and Polio 0 (Jagrati *et al*., 2008).

A study done by Koskei *et al*. (2014), showed that all respondents had heard about the importance of immunization, they were found to have poor health seeking behavior. In addition, 35.76% reported that they always attended medical appointment for her/himself and for the child while 49.70% of the respondents admitted failing to attend clinic appointment because they did not understand the explanation well due to language barriers between providers and their clients. Most of them understood pokot language (mother tongue) and Kiswahili (Koskei *et al*., 2014).

Furthermore, a study conducted in Urban Dili District of Ethiopia by Amin (2013), found that lack of access to immunization services contributed to low immunization coverage as results of negative health workers’ attitudes and the manner in which they treated mothers on aspects of service organization and inadequate supply of vaccines.

Health facility is another factor which contributed to full immunization of the child. Different studies showed the importance of availability and accessibility of health facility in immunization coverage (Rup, 2008). Families nearer to the health facility are more likely to complete the immunization than those far from it. Cross sectional study done in India, Assam district showed that immunization status of the children was significantly higher where the distance of the health centre was less than 2 kilometer compared with those residing in remote inaccessible areas with a distance of greater than 5 kilometer to the health centre (Rup, 2008).

According to Omolo (2007), study reported that the emerging challenge is how to change the behaviour of the health workers since the incinerators are not being used by some health workers for various reasons, it is clear that health workers’ attitudes can significantly influence mothers’ attendance. Therefore, improving staff attitudes and greater community mobilization will be the key approaches to increasing the immunization coverage inSiaya District, Kenya (Omolo, 2007).

Nevertheless, a study conducted on the assessment of Expanded Programme on Immunization Service Utilization in Sekyere West District of Ashanti Region, Ghana revealed that most of the reasons (low vaccines supply, inadequate knowledge of health workers and limited understanding of vaccinations among caregivers linked to low vaccine uptake) with 57.1% pointed to be the obstacles to access to immunization services and missed opportunities and the prominent amongst the reasons being postponement until another time and other reasons given were, mother being too busy, family problem including illness of mother, child-ill not brought and time of immunization inconvenient (Isaac, 2010).

## Community related factors contributing to low immunization coverage

The Parents/caretakers, who disagree or are concerned about immunization, are significantly more likely to have low educational level and to have children who are completely unimmunized (Hemoke, 2009). Children not fully immunized due to illness or access reasons are likely to have started the immunization schedule, up to 38.8% of the study parents/caretakers do not immunize their children because they object, disagree or are concerned about immunization safety and side effects (Abdulraheem *et al*., 2011).

According to Abdulraheem *et al*. (2011), identified the reasons for partial immunization and factors that contributed to missed opportunities for immunization in children less than one year of age in a rural area in Awe, Nasarawa State, Nigeria that less than half (37.2%) of the mothers completed routine immunization schedules for their children by the age of 9 months because of parents objection, disagreement or concern about immunization safety (38.8%), long distance walking (17.5) and long waiting time at the health facility (15.2%), (Repeated material could be deleted).

A study on child immunization coverage in 700 households in the slum areas of Rajshahi City Corporation Bangladesh, it was found that full immunization was higher (92.3%) in the higher ages (24+ months) than the age 12-23 months (89.5%), the high coverage in the higher ages of 24+ months was attributed to demographic and socio-economic factors such as mother's education, husband occupation and family’s monthly income (Rafiqul *et al.,* 2007).

In addition, the study found that the place of delivery and exposure to mass media had highly significant effects on child immunization. In other words, the mothers who were exposed to any mass media were more likely to have their children immunized compared to the mothers who were not exposed to any mass media (Rafiqul *et al.,* 2007).

In a survey to describe the immunization coverage in a rural part of north India with a sample of 747 children, it was found out that 94.8 % (708 of 747) eligible children were immunized and had received the required doses of the primary schedule vaccines (Singh, 2007). The coverage found only 39 (5.2%) of the eligible children had not completed immunization schedule for BCG, DPT, Polio and Measles due to temporary or permanent migration of the children or family to the village or went back to the parents’ home or divorce or the child was adopted by relative (Singh, 2007).

In Bangladesh the study showed that programmatic factors are linked to drop out from immunization. In the same study found lack of information about schedule of session and non-holding of session according to schedules were commonly cited reasons for dropouts and other reasons identified were no idea about doses, vaccinator did not inform about subsequent doses, refusal by health professionals due to lost card or vaccine exhausted (Abdul *et al*., 2010).

Knowledge on the benefit of immunization is also an important reason for the defaulting and non-immunization. For instance in southern of Ethiopia Wanago Woreda mothers who had poor knowledge about the benefit of vaccines were 6 times more likely to have defaulted than mothers who had good knowledge, also mothers who had negative perception towards health institution support were 2.3 times more likely to have defaulter children than mothers with positive attitude (Tadesse, 2009).

A base line survey done in Ethiopia in 2008 by core group polio project indicated that, a reason for not immunization were, health workers did not come and give vaccine at the village (28.2%) followed by lack of awareness about vaccination (25.9%), absence of health facility in the locality (19.1%), vaccination is of no use (7.7%), and vaccination hurts children (5.0%) (Bisrat and Worku, 2008). Also reasons for defaulting are reported absenteeism of vaccinators (23.8%), vaccination time is inconvenient (18.7%), lack of awareness on importance of vaccination (15.2%) and vaccination site is far away (10.9%), not knowing whether to come back for second and third vaccination (9.8%) are the main reason identified (Bisrat and Worku, 2008).

## Conclusion

## Several reasons affecting childhood immunization such as parents’ objection, disagreement or concern about immunization safety, long distance walking, long waiting time at health facilities are the most common reasons for incomplete vaccination/ immunization. Lack of access to immunization services contributed to low immunization coverage as results of negative health workers’ attitudes. Socio-economic factors such as mother's education, husband occupation and family’s monthly income.

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