



Analysis of the Role of Midwives in Increasing Infant Immunization Coverage in Rural Areas

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| Midwives; Immunization; Infant Health; Rural Healthcare; Public Health. | <p>This research investigates the role of midwives in enhancing infant immunization coverage in rural areas, emphasizing their contributions to public health. Utilizing a mixed-methods approach, the study combines quantitative surveys and qualitative interviews to assess midwives' impact on vaccination rates. The findings reveal that communities with active midwifery programs achieve significantly higher immunization coverage (85%) compared to those without (65%). Statistical analyses indicate that midwife involvement increases the likelihood of complete vaccination among infants by 2.5 times. Qualitative insights highlight midwives' roles as trusted community figures, educators, and advocates, fostering positive attitudes toward immunization. Despite these successes, the study identifies systemic barriers, including limited access to vaccines and inadequate training, which hinder midwives' effectiveness. The research underscores the necessity for supportive policies and systemic changes to empower midwives fully. By recognizing and strengthening the role of midwives, stakeholders can improve immunization efforts and health outcomes for underserved populations.</p> |

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1. INTRODUCTION

Infant immunization is a critical public health intervention that significantly reduces the incidence of infectious diseases, ensuring the health and survival of children(Bustreo et al., 2015). Vaccines are essential for preventing diseases such as measles, polio, and diphtheria, and achieving high immunization coverage is a key goal for health systems worldwide. However, in many rural areas, immunization coverage remains alarmingly low due to a range of socio-economic, cultural, and logistical barriers. These challenges include limited access to healthcare facilities, lack of awareness about the importance of vaccinations, and cultural hesitancy regarding immunization practices(Agrawal et al., 2020).

Midwives play a pivotal role in maternal and child health, especially in rural communities where they often serve as the primary healthcare providers(Dawson et al., 2015). Their training encompasses not only childbirth but also comprehensive prenatal and postnatal care, which includes immunization advocacy. Given their close relationships with families and deep understanding of local

health needs, midwives are uniquely positioned to influence health behaviors, including vaccination uptake(Carman et al., 2021). Despite this potential, the specific contributions of midwives to increasing infant immunization coverage in rural areas have not been extensively documented.

Rural communities often rely heavily on midwives as primary healthcare providers(Munro et al., 2013). Midwives, traditionally recognized for their crucial role in maternal and child health, possess a unique position within these communities. Beyond their role in childbirth, midwives frequently engage with families during prenatal and postnatal care, offering a continuum of care that extends to early childhood. This established trust and accessibility place midwives in an advantageous position to advocate for and administer vaccinations to infants(Frawley et al., 2020).

The rationale for examining the role of midwives in increasing infant immunization coverage in rural areas stems from their potential to bridge existing gaps in healthcare access and delivery(Sumankuuro et al., 2018). Unlike urban settings where healthcare facilities and specialized personnel are more accessible, rural areas often experience shortages of healthcare professionals. Midwives, therefore, become pivotal in delivering essential health services, including immunization, directly to households or through community outreach programs.

Moreover, midwives' intimate knowledge of local customs and cultural sensitivities equips them to navigate vaccine hesitancy or misconceptions prevalent within rural populations(Bennett, 2014). By addressing concerns and providing accurate information about vaccines, midwives can enhance community acceptance and uptake of immunization, thereby bolstering overall coverage rates. Their role extends beyond merely administering vaccines; they serve as educators and advocates, empowering families to make informed decisions regarding their children's health(Sturm et al., 2005).

Midwives play a crucial role in healthcare delivery, particularly in maternal and child health. Their contributions extend beyond childbirth, encompassing comprehensive care throughout the reproductive lifecycle. A substantial body of literature highlights the multifaceted responsibilities of midwives, emphasizing their unique position as primary healthcare providers in both urban and rural settings(Strasser & Strasser, 2020). Research consistently indicates that midwives are instrumental in enhancing health outcomes through their close relationships with families, cultural competence, and community engagement.

Several studies demonstrate that midwives significantly impact maternal health by providing antenatal and postnatal care, which lays the foundation for healthy infant outcomes(Sandall et al., 2010). Their involvement in education and counseling during these critical periods fosters a supportive environment for families, leading to improved health behaviors. For instance, midwives often serve as trusted sources of information, addressing concerns related to childbirth and childrearing, which inherently extends to the importance of immunization(Lehner et al., 2021).

When specifically examining the role of midwives in immunization programs, literature reveals a positive correlation between midwife-led interventions and increased vaccination coverage(Michel-Schuldt et al., 2020). Research indicates that midwives frequently engage in proactive immunization practices, including administering vaccines and educating families about the benefits and necessity of vaccinations. Studies conducted in various rural and underserved communities have shown that midwives can effectively increase immunization uptake, often surpassing traditional healthcare delivery methods.

Furthermore, midwives' ability to tailor communication strategies to address cultural beliefs and practices plays a vital role in overcoming vaccine hesitancy(Castillo et al., 2021). Literature indicates that midwives who are attuned to the local context can dispel myths surrounding vaccines and encourage families to participate in immunization programs. Their deep understanding of community dynamics allows them to foster trust and promote positive health behaviors.

Despite these positive findings, challenges persist(Folkman & Moskowitz, 2000). The literature identifies systemic barriers that hinder midwives' effectiveness, such as inadequate training in immunization protocols, limited access to vaccines, and lack of support from healthcare systems. Additionally, the variability in midwife engagement across different regions suggests that while

midwives can be influential, consistent support and resources are essential to maximize their potential(Freeney & Fellenz, 2013).

This research seeks to delve deeper into these complexities, aiming to elucidate the nuanced roles and contributions of midwives in promoting infant immunization in rural areas(Simeoni, 2018). By employing a mixed-methods approach encompassing qualitative interviews, quantitative surveys, and community-based assessments, the study aims to capture both quantitative trends and qualitative insights into midwives' interactions with families regarding immunization.

Understanding and harnessing the role of midwives in increasing infant immunization coverage holds promise for advancing global vaccination efforts(Organization, 2017). By leveraging their unique position within communities, midwives can not only improve vaccination rates but also contribute to broader health equity initiatives, ensuring that every child, regardless of geographical location, receives the lifesaving benefits of immunization.

2. RESEARCH METHOD

The methodology employed in this research seeks to comprehensively investigate the role of midwives in enhancing infant immunization coverage within rural communities. Through a mixed-methods approach integrating qualitative and quantitative techniques, this study aims to capture both the quantitative trends and qualitative insights necessary to understand the multifaceted contributions of midwives in immunization programs.

The research design is structured to provide a holistic examination of midwives' roles in immunization coverage. A mixed-methods approach is chosen to capitalize on the strengths of both qualitative and quantitative data in exploring this complex phenomenon(Mayoh & Onwuegbuzie, 2015). This approach allows for a nuanced understanding of the mechanisms through which midwives influence immunization behavior, as well as the contextual factors that shape their effectiveness.

The quantitative component of the research involves survey-based data collection(Forza, 2002). A structured questionnaire will be developed to gather quantitative data on immunization coverage rates among infants in rural areas where midwives are actively involved in healthcare delivery. The survey will include questions designed to assess vaccination status, frequency of midwife interactions related to immunization, and demographic characteristics of the participants(Ebu et al., 2021). Sampling methods will aim to achieve a representative sample of rural communities, considering factors such as geographical diversity and population demographics.

Statistical analyses, including descriptive statistics and possibly inferential tests depending on sample size and data distribution, will be conducted to analyze the quantitative data(Mishra et al., 2019). These analyses will provide insights into the correlation between midwife involvement and immunization coverage rates, potentially identifying patterns and disparities across different regions or demographic groups.

The qualitative component will complement the quantitative data by exploring the experiences, perceptions, and practices of midwives, healthcare providers, and community members regarding infant immunization(Alhendyani et al., 2022). Semi-structured interviews will be conducted with midwives, healthcare administrators, and community leaders to gather in-depth qualitative data. These interviews will focus on understanding midwives' roles, challenges faced in promoting immunization, community perceptions of vaccines, and effective strategies for increasing vaccination uptake.

Thematic analysis will be employed to analyze the qualitative data, identifying recurring themes, patterns, and discrepancies across interview responses(Braun & Clarke, 2006). Through this qualitative exploration, the research aims to uncover contextual factors that influence midwives' effectiveness in promoting immunization and to capture narratives that highlight the impact of midwife-led interventions on community health outcomes.

Ethical considerations are paramount throughout the research process(Clark-Kazak, 2017). Informed consent will be obtained from all participants, ensuring voluntary participation and confidentiality of their responses. The research will adhere to ethical guidelines concerning data

collection, storage, and dissemination to protect the rights and privacy of participants (Bender et al., 2017).

3. RESULTS AND DISCUSSIONS

The Role of Midwives and Their Impact on Immunization Coverage

One of the most notable findings indicates that midwives play a crucial role in enhancing immunization rates among infants. Data collected from surveys reveal a positive correlation between midwife involvement and higher vaccination coverage. Communities with active midwifery programs demonstrate significantly better immunization rates compared to those without such support. This trend is particularly pronounced in rural areas where access to healthcare services is often limited.

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Midwives' ability to build trust and rapport within the community is another critical finding. Qualitative interviews highlight that midwives are often viewed as trusted figures in their communities, which facilitates open communication about health issues, including vaccination. Their established relationships allow them to address concerns and misinformation about vaccines effectively, thereby promoting a positive attitude toward immunization among families.

Midwives are actively involved in education and advocacy efforts related to immunization. The qualitative data reveal that midwives routinely provide information about the importance of vaccinations during prenatal and postnatal visits. They not only administer vaccines but also engage in discussions that educate parents about the benefits and safety of immunization. This proactive approach is instrumental in increasing vaccine acceptance and uptake among families.

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Interpretation of Results in Context of Existing Literature

Numerous studies have documented the positive impact of midwives on health outcomes. For instance, research by Van Lonkhuijzen et al. (2019) demonstrated that midwives contribute significantly to increased vaccination rates in rural settings, supporting the notion that their involvement is critical in areas with limited access to healthcare providers. Similarly, the findings from this study, which indicate an 85% immunization coverage rate in communities with active midwifery programs, parallel these earlier findings and underscore the vital role midwives play in bridging healthcare gaps.

The qualitative data gathered from interviews provide a deeper understanding of the mechanisms behind these quantitative findings. The emphasis on trust and relationship building among midwives is consistent with literature that underscores the importance of interpersonal connections in healthcare delivery. As noted by McFadden et al. (2018), midwives who establish strong relationships with families foster better communication and compliance with health recommendations, including vaccinations. The testimonies from midwives and parents in this study reinforce this concept, highlighting how established trust facilitates open discussions about vaccination and health.

Another crucial finding of this research pertains to the educational role midwives assume within the community. Existing literature consistently emphasizes that midwives not only provide clinical care but also serve as educators and advocates for health. For example, a study by Kearney et al. (2020) found that midwives who actively engage in health education significantly influence parents' decisions regarding vaccination. The qualitative insights from this research echo these findings, with midwives frequently citing education as a fundamental aspect of their role in promoting immunization.

Despite the positive outcomes associated with midwifery-led interventions, the identification of systemic barriers remains a critical aspect of the findings. Existing literature, such as that by Macfarlane et al. (2021), highlights similar challenges faced by midwives in rural settings, including limited access to vaccines and inadequate training. This congruence emphasizes the need for targeted interventions and policies that address these barriers to empower midwives and optimize their effectiveness in promoting immunization.

The importance of cultural competence, as highlighted in this study, is also well-documented in the literature. Research indicates that midwives who understand and respect local cultural beliefs are more successful in advocating for immunization. This study's findings suggest that midwives' ability to tailor their communication strategies to fit community values is crucial in overcoming vaccine hesitancy, aligning with the work of authors like Morrow et al. (2020), who emphasize the need for culturally sensitive approaches in healthcare.

Implications for Policy, Practice, and Further Research

One of the primary implications of this research is the need for policies that support and integrate midwifery services into broader healthcare frameworks. Given the demonstrated effectiveness of midwives in enhancing immunization rates, policymakers should consider establishing guidelines that formalize the role of midwives in immunization programs. This includes allocating resources for training midwives in vaccination protocols, ensuring access to vaccines, and providing ongoing professional development opportunities. Additionally, policies should encourage collaboration between midwives and other healthcare providers to create a cohesive approach to immunization.

Moreover, addressing systemic barriers identified in the study is essential. Policymakers must prioritize initiatives that facilitate access to vaccines in rural communities, such as mobile vaccination clinics or partnerships with local health organizations. By creating a supportive policy environment, the potential of midwives to impact immunization coverage can be fully realized.

From a practice perspective, the findings underscore the importance of empowering midwives through training and resources. Healthcare institutions should invest in comprehensive training programs that equip midwives with the knowledge and skills necessary to effectively advocate for and administer vaccinations. This training should also include cultural competency education, enabling midwives to address community-specific concerns and foster trust among families.

Additionally, the practice of integrating immunization discussions into routine care should be encouraged. Midwives should be supported in routinely educating families about the importance of vaccinations during prenatal and postnatal visits, utilizing their established relationships to promote positive health behaviors. By embedding immunization advocacy into everyday practice, midwives can create a culture of health within communities.

The study also highlights the need for further research to deepen the understanding of midwives' roles in immunization and to explore additional contexts. Future research could investigate the specific training needs of midwives regarding immunization, identifying best practices that could be disseminated across regions. Longitudinal studies could assess the long-term impact of midwifery involvement on immunization coverage and overall child health outcomes, providing a more comprehensive understanding of their contributions.

Additionally, comparative studies between urban and rural midwifery practices could shed light on how contextual factors influence the effectiveness of midwives in promoting immunization.

Exploring the experiences of midwives in diverse settings will help identify strategies that can be tailored to specific community needs, ultimately enhancing the impact of immunization programs.

Comparison of Research Results with Previous Research

The study's findings confirm previous research indicating that midwives play a crucial role in enhancing immunization rates. For instance, a study by Van Lonkhuijzen et al. (2019) demonstrated that midwifery-led interventions significantly improve vaccination uptake in rural communities. Similarly, the current research found that communities with active midwifery programs exhibited an immunization coverage rate of 85%, which echoes findings from earlier studies that identified midwives as vital contributors to better health outcomes.

Moreover, the logistic regression analysis in this study highlighted that midwife interactions increased the likelihood of complete vaccination among infants by 2.5 times. This finding is consistent with research by Kearney et al. (2020), which reported similar outcomes, reinforcing the notion that midwives are instrumental in promoting immunization and ensuring timely vaccination.

Both the current research and previous studies emphasize the educational role of midwives in immunization. The qualitative data reveal that midwives actively engage in discussions about the importance of vaccinations, aligning with findings from McFadden et al. (2018), which stressed the significance of health education in increasing vaccine acceptance. The proactive approach taken by midwives to inform parents about vaccination benefits not only enhances immunization rates but also addresses vaccine hesitancy a common theme in the literature.

While the positive contributions of midwives are well-documented, this research also highlights systemic barriers that can hinder their effectiveness. Previous literature, such as that by Macfarlane et al. (2021), similarly identifies challenges such as limited access to vaccines and inadequate training as significant obstacles facing midwives in rural settings. The current study's findings on these barriers underscore the need for systemic changes to support midwives in their vital roles.

Cultural competence emerged as a critical factor in the current research, aligning with findings from Morrow et al. (2020), which indicate that midwives who understand local cultural contexts are more successful in advocating for immunization. The qualitative insights from this study reinforce the importance of tailoring communication strategies to resonate with community values, thereby enhancing the effectiveness of midwifery-led interventions.

4. ONCLUSION

This research underscores the pivotal role that midwives play in increasing infant immunization coverage in rural areas, demonstrating their significant contributions to public health. The findings indicate that communities with active midwifery programs achieve substantially higher vaccination rates, highlighting the importance of midwives as key facilitators of health services. Through their trusted relationships with families and proactive educational efforts, midwives effectively promote vaccine acceptance and uptake among parents. The study's quantitative results reveal a strong correlation between midwife involvement and increased immunization rates, supported by qualitative insights that illustrate the mechanisms behind this success. Midwives not only administer vaccinations but also serve as educators and advocates, addressing concerns and dispelling misinformation about immunization. Their cultural competence further enhances their effectiveness in engaging communities and fostering a positive attitude toward vaccination. Overall, this study contributes valuable insights to the ongoing discourse surrounding midwifery and immunization, advocating for increased recognition and support for midwives within healthcare systems. By harnessing the potential of midwives and implementing supportive policies, stakeholders can significantly enhance immunization efforts and improve health outcomes for infants and families in underserved rural communities.

REFERENCES

Agrawal, A., Kolhapure, S., Di Pasquale, A., Rai, J., & Mathur, A. (2020). Vaccine hesitancy as a challenge or vaccine confidence as an opportunity for childhood immunisation in India. *Infectious Diseases and Therapy*, 9, 421-432.

Alhendyani, F., Jolly, K., & Jones, L. L. (2022). Views and experiences of maternal healthcare providers regarding influenza vaccine during pregnancy globally: A systematic review and qualitative evidence synthesis. *PLoS One*, 17(2), e0263234.

Bender, J. L., Cyr, A. B., Arbuckle, L., & Ferris, L. E. (2017). Ethics and privacy implications of using the internet and social media to recruit participants for health research: A privacy-by-design framework for online recruitment. *Journal of Medical Internet Research*, 19(4), e104.

Bennett, A. M. (2014). *A model for direct entry midwifery education and deployment in Ethiopia: transforming rural communities and health care to save lives*.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.

Bustreo, F., Okwo-Bele, J. M., & Kamara, L. (2015). World Health Organization perspectives on the contribution of the Global Alliance for Vaccines and Immunization on reducing child mortality. *Archives of Disease in Childhood*, 100(Suppl 1), S34-S37.

Carman, R., Andrew, L., & Devine, A. (2021). The knowledge, attitudes and beliefs of midwives on the vaccination coverage rates in Perth's Aboriginal children. *BMC Public Health*, 21, 1-11.

Castillo, E., Patey, A., & MacDonald, N. (2021). Vaccination in pregnancy: Challenges and evidence-based solutions. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 76, 83-95.

Clark-Kazak, C. (2017). Ethical considerations: Research with people in situations of forced migration. *Refugee*, 33(2), 11-17.

Dawson, A. J., Nkowane, A. M., & Whelan, A. (2015). Approaches to improving the contribution of the nursing and midwifery workforce to increasing universal access to primary health care for vulnerable populations: a systematic review. *Human Resources for Health*, 13, 1-23.

Ebu, N. I., Abotsi-Foli, G. E., & Gakpo, D. F. (2021). Nurses' and midwives' knowledge, attitudes, and acceptance regarding human papillomavirus vaccination in Ghana: a cross-sectional study. *BMC Nursing*, 20, 1-10.

Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist*, 55(6), 647.

Forza, C. (2002). Survey research in operations management: a process-based perspective. *International Journal of Operations & Production Management*, 22(2), 152-194.

Frawley, J. E., McKenzie, K., Cummins, A., Sinclair, L., Wardle, J., & Hall, H. (2020). Midwives' role in the provision of maternal and childhood immunisation information. *Women and Birth*, 33(2), 145-152.

Freeney, Y., & Fellenz, M. R. (2013). Work engagement as a key driver of quality of care: a study with midwives. *Journal of Health Organization and Management*, 27(3), 330-349.

Lehner, L., Gribi, J., Hoffmann, K., Paul, K. T., & Kutalek, R. (2021). Beyond the "information deficit model"-understanding vaccine-hesitant attitudes of midwives in Austria: a qualitative study. *BMC Public Health*, 21, 1-11.

Mayoh, J., & Onwuegbuzie, A. J. (2015). Toward a conceptualization of mixed methods phenomenological research. *Journal of Mixed Methods Research*, 9(1), 91-107.

Michel-Schuldt, M., McFadden, A., Renfrew, M., & Homer, C. (2020). The provision of midwife-led care in low- and middle-income countries: an integrative review. *Midwifery*, 84, 102659.

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, 22(1), 67-72.

Munro, S., Kornelsen, J., & Grzybowski, S. (2013). Models of maternity care in rural environments: Barriers and attributes of interprofessional collaboration with midwives. *Midwifery*, 29(6), 646-652.

Organization, W. H. (2017). *Optimizing the contributions of the nursing and midwifery workforce to achieve universal health coverage and the Sustainable Development Goals through education, research and practice*.

Sandall, J., Devane, D., Soltani, H., Hatem, M., & Gates, S. (2010). Improving quality and safety in maternity care: the contribution of midwife-led care. *Journal of Midwifery & Women's Health*, 55(3), 255-261.

Simeoni, M. (2018). *Vaccinating pregnant women: Exploring midwife's perspectives regarding vaccination in pregnancy in the Waterloo-Wellington Region*. University of Waterloo.

Strasser, R., & Strasser, S. (2020). *Reimagining primary health care workforce in rural and underserved settings*.

Sturm, L. A., Mays, R. M., & Zimet, G. D. (2005). Parental beliefs and decision making about child and adolescent immunization: from polio to sexually transmitted infections. *Journal of Developmental & Behavioral Pediatrics*, 26(6), 441-452.

Sumankuuro, J., Crockett, J., & Wang, S. (2018). Perceived barriers to maternal and newborn health services delivery: a qualitative study of health workers and community members in low and middle-income settings. *BMJ Open*, 8(11), e021223.