

SYNOPSIS

Title: To identify the usage and challenges of digital application for ASHA (Accredited Social Health Activist) and ANM (Auxiliary Nurse Midwifery) in public health delivery system.

Introduction: The involvement of Accredited Social Health Activists (ASHAs) and Auxiliary Nurse Midwives (ANMs) is paramount in public health initiatives due to their unique position within communities. These frontline healthcare workers serve as trusted members who possess a profound understanding of the local culture, language, and healthcare needs. Acting as intermediaries between healthcare institutions, governmental bodies, and the communities they serve, ASHAs and ANMs facilitate effective communication, education, and advocacy for health-related issues.

In response to the growing demand for improved healthcare delivery, public health systems are increasingly turning to digital health interventions. The rapid advancement of digital technologies has revolutionized healthcare practices, offering innovative solutions to enhance the delivery of public healthcare services. One such platform is Khushi Baby, a digital healthcare solution aimed at optimizing healthcare access and delivery in underserved communities.

Khushi Baby leverages wearable technology and mobile operations to streamline healthcare data collection, immunization, monitoring, and mother and child healthcare services in low-resource settings. Given their unique position and trusted roles within communities, the involvement of ASHAs and ANMs is critical in the successful implementation and utilization of digital health interventions.

This study is relevant because digital health has the potential to revolutionize public healthcare delivery. By overcoming these implementation challenges, we can:-

- A. **Increase access to care:** Digital tools can reach geographically dispersed populations and those with limited mobility.
- B. **Improve preventative care:** Interventions can deliver health education, track health indicators, and promote self-management of chronic conditions.
- C. **Enhance efficiency:** Digital systems can streamline workflows, improve data collection and analysis, and optimize resource allocation.

3. REVIEW OF LITERATURE :-

National Programme for IT

Robertson et al. (2011) offer insights into the rise and fall of England's National Programme for IT, highlighting the complexities and challenges of large-scale IT initiatives in healthcare. This is relevant to understanding the potential barriers to the effective implementation of digital health tools in public healthcare systems.

The integration of digital health technologies, such as the Accredited Social Health Activist (ASHA) and Auxiliary Nurse Midwife (ANM) applications, into public healthcare delivery

systems presents both opportunities and challenges. This literature review aims to synthesize existing research findings regarding the challenges affecting the implementation of ASHA and ANM applications in the context of the public healthcare system. Additionally, it will highlight knowledge gaps and propose potential future research directions to address these challenges.

Integration of Digital Health Technologies in Public Health

Kostkova (2015) emphasizes the grand challenges in digital health, including the implementation and integration of digital technologies in public health systems. This highlights the significance of understanding the challenges associated with the adoption of digital health tools, such as ASHA and ANM applications, within the public healthcare delivery system.

Diagonal Development in Global Surgery

Patel et al. (2012) highlight the concept of diagonal development in global surgery, focusing on cleft lip and palate care in resource-limited settings. While their work does not directly address digital health technologies, it underscores the disparities in healthcare resources and the need for context-specific solutions, which is relevant to the challenges affecting the implementation of ASHA and ANM applications in public healthcare.

mHealth in Africa

Folaranmi (2014) discusses the challenges and opportunities of mHealth in Africa. While the focus is on a different geographical context, the challenges identified may overlap with those affecting the implementation of ASHA and ANM applications in public healthcare delivery systems.

Public Health Digitalization

Odone et al. (2019) discuss the digitalization of public health in Europe, emphasizing the need for effective digital strategies in public health. This research insight is valuable as it sheds light on the broader context of digital transformation in public health systems, providing insights into potential challenges and opportunities associated with the implementation of digital health tools.

Impact of COVID-19 Pandemic

Dennerlein et al. (2020) discuss the integrative Total Worker Health framework in the context of the COVID-19 pandemic. The pandemic has underscored the importance of ensuring the safety and health of healthcare workers. Understanding the challenges in implementing digital health tools becomes crucial in the current scenario, where remote healthcare delivery and management are increasingly relevant.

Knowledge Gaps and Future Research Directions

While the provided research insights offer valuable perspectives on digital health and healthcare delivery, there are notable knowledge gaps in understanding the specific challenges affecting the implementation of ASHA and ANM applications in public healthcare systems. Future research should focus on conducting context-specific studies to identify the barriers and

facilitators to the successful integration of these digital health tools. Moreover, there is a need for research that explores the experiences and perspectives of healthcare workers and administrators regarding the implementation of digital health technologies in public healthcare settings. Additionally, comparative studies across different geographical regions and healthcare systems can provide valuable insights into the diverse challenges associated with the implementation of ASHA and ANM applications. Finally, interdisciplinary research that combines insights from public health, technology, and policy domains can contribute to a comprehensive understanding of the challenges and opportunities in implementing digital health technologies in public healthcare delivery systems.

Research question: - What are the usage and challenges of digital application for ASHA (and ANM in public health delivery system.?

Objectives:-

1. To access the usage of digital application in public health care delivery system by ASHA and ANM.
2. To identify the challenges which are faced by the ASHA and ANM to use the digital application in public health care delivery system.

Material and methods

- a) **Study design:-** A Cross Sectional Small Scale Descriptive study is conducted in which there is no comparison group is considered while conducting present study.
- b) **Setting:-** The respective study will be conducted at Jaipur district of Rajasthan.
- c) **Study population:-** Health care worker such as ASHA, ANM etc.
- d) **Study tool :-** Questionnaire (Assessment tool).
- e) **Duration of study :-** The study will be conducted for a period of three months i.e. From March 2024 to June 2024.
- f) **Sampling technique :-** Simple random sampling.
- g) **Sample size :- 10 percent of the user (total: 4000, n=400)**

Data analysis plan :- The data is edited, coded, tabulated, organized according to the requirement of study. The collected data will be analyzed using Microsoft Excel and SPSS software. Data obtained from healthcare worker will be filled in checklist will be coded as per the requirement.

8. ETHICAL CONSIDERATIONS :-

1. Protect the right of Research Participant.
2. Enhance Research Validity.
3. Maintain Scientific or Academic Integrity.
4. Maintain Confidentiality.
5. Informed consent.

6. Misleading Information and Representation of primary data finding in a biased way must be avoided.

9. Implication of research :-

The findings of this study will be applicable to various stakeholders involved in public healthcare:

1.Policymakers: Can develop strategies to address identified challenges and create a supportive environment for digital health implementation.

2.Public health officials: Can tailor digital interventions to specific public health needs and ensure equitable access for all populations.

3.Healthcare providers: Can learn about the challenges and potential benefits of digital health tools, allowing them to integrate these tools effectively into their practice.

4.Technology developers: Can design digital health interventions that are user-friendly, interoperable with existing systems, and address the specific needs of public health.

10. References :-

1. Folaranmi, Temitope A. (2014). mHealth in Africa: challenges and opportunities. Perspectives in Public Health, 134 , 14 - 15 . <http://doi.org/10.1177/1757913913514703>
2. Odone, A., Buttigieg, S., Ricciardi, W., Azzopardi-Muscat, N., & Staines, A. (2019). Public health digitalization in Europe. The European Journal of Public Health , 29 , 28 - 35 . <http://doi.org/10.1093/eurpub/ckz161>
3. Ibrahim, H., Liu, Xiaoxuan., Rivera, Samantha Cruz., Moher, D., Chan, A., Sydes, M., Calvert, M., & Denniston, A. (2021). Reporting guidelines for clinical trials of artificial intelligence interventions: the SPIRIT-AI and CONSORT-AI guidelines. Trials , 22 . <http://doi.org/10.1186/s13063-020-04951-6>
4. Huser, V., Rasmussen, L., Oberg, R., & Starren, J. (2011). Implementation of workflow engine technology to deliver basic clinical decision support functionality. BMC Medical Research Methodology , 11 , 43 - 43 . <http://doi.org/10.1186/1471-2288-11-43>
5. Kostkova, P. (2015). Grand Challenges in Digital Health. Frontiers in Public Health , 3 . <http://doi.org/10.3389/fpubh.2015.00134>
6. Patel, Pratik B., Hoyler, Marguerite M., Maine, R., Hughes, Christopher D., Hagander, L., & Meara, J. (2012). An Opportunity for Diagonal Development in Global Surgery: Cleft Lip and Palate Care in Resource-Limited Settings. Plastic Surgery International , 2012 . <http://doi.org/10.1155/2012/892437>
7. Dennerlein, J., Burke, Lisa., Sabbath, E., Williams, J., Peters, Susan E., Wallace, L., Karapanos, Melissa., & Sorensen, Glorian. (2020). An Integrative Total Worker Health Framework for Keeping Workers Safe and Healthy During the COVID-19 Pandemic. Human Factors , 62 , 689 - 696 . <http://doi.org/10.1177/0018720820932699>
8. Robertson, A., Bates, D., & Sheikh, A. (2011). The rise and fall of England's National Programme for IT. Journal of the Royal Society of Medicine , 104 , 434 - 435 . <http://doi.org/10.1258/jrsm.2011.11k039>
<https://www.semanticscholar.org/paper/3c1b4cc126aa9dc7ca7d6966e888e9eaea9eb238>.
9. Ariani, A., Koesoema, A. P., & Soegijoko, S. (2017). Innovative Healthcare Applications of ICT for Developing Countries. , 15-70 . http://doi.org/10.1007/978-3-319-55774-8_2.