

Brief Report**Feasibility of Engaging Community Healthcare Workers to Identify and Enhance Subfertility Care in The Northern Province, Sri Lanka.****¹Raguraman S, ¹Balagobi B, ¹Kumaran S, ²Kiruththiga T, ¹Shanmuganathan Y, ¹Kanesamoorthy S, ³Arulkumaran S****¹Faculty of Medicine, University of Jaffna, ²Independent Gender and Communication, University of Jaffna, ³St. George's University Hospital, UK****Abstract:**

Subfertility is a significant global reproductive health challenge affecting approximately 1 in 6 individuals worldwide. Despite having a comprehensive healthcare system, Sri Lanka still faces challenges in providing timely and effective fertility care. We propose integrating Community Health Workers (CHWs) into the healthcare system to address these challenges. The present study aimed to assess the acceptability, appropriateness, and feasibility of the Community Health Worker Facilitated Fertility Care (CHWFFC) model in the Nallur MOH area, Jaffna, Sri Lanka. The intervention, conducted over six months, demonstrated promising outcomes, including positive stakeholder feedback, reduced PHMs' workload, and an effective identification and referral system for subfertile couples.

Introduction

Subfertility poses a significant global reproductive health challenge, impacting affected couples' mental, social, and economic well-being. Roughly 1 in 6 individuals worldwide experience subfertility, emphasising the need for accessible, high-quality fertility care services (2). In low- and middle-income countries, subfertility affects approximately 16.5% of the population. Sri Lanka, with a fertility rate of 2.128 births per woman (3), grapples with a considerable number of subfertile couples, estimated between 270,000 to 400,000, with about 1% requiring advanced treatments like Assisted Reproductive Technology (ART) (4). Studies in Sri Lanka, especially in Colombo and recently in Jaffna (22% - under review), indicate higher rates of primary

and secondary subfertility, underlining the severity of the issue.

Despite free access to primary healthcare, delays in fertility care are found to be common in Sri Lanka. The healthcare system encompasses primary, secondary, and tertiary care, with primary diagnosis and referrals to tertiary centers (5). However, challenges, including social stigma, lack of knowledge among young couples, and inadequate primary healthcare resources, hinder effective subfertility care. The issue gets further exacerbated by the intense burden that Public Health Midwives (PHMs) endure when managing subfertility on top of their maternal care routine(6). Thus, we proposed a model that integrates Community Health Workers (CHWs) into the healthcare system to address these challenges. The CHWs model has been proven successful in providing primary health care globally and can be used to extend services, especially in underserved regions (7). Leveraging existing infrastructures such as mothers' clubs (8,9), we suggest training local women as CHWs to engage in subfertility care along with other women's health issues. Their community ties can assist in reducing stigma and improve engagement.

This study aims to assess the acceptability, appropriateness, and feasibility of the Community Health Worker Facilitated Fertility Care (CHWFFC) model in the Nallur MOH area in Jaffna, Sri Lanka.

Methodology

The intervention spanned from June 2023 to November 2023 and targeted six randomly selected PHM areas within the Nallur Medical Officer of Health (MOH) area

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in Jaffna, Sri Lanka. A multidisciplinary core team was formed in collaboration with the Faculty of Medicine, University of Jaffna, with support from the Centre for Digital Epidemiology (CoDE), to plan, implement, and evaluate the interventions.

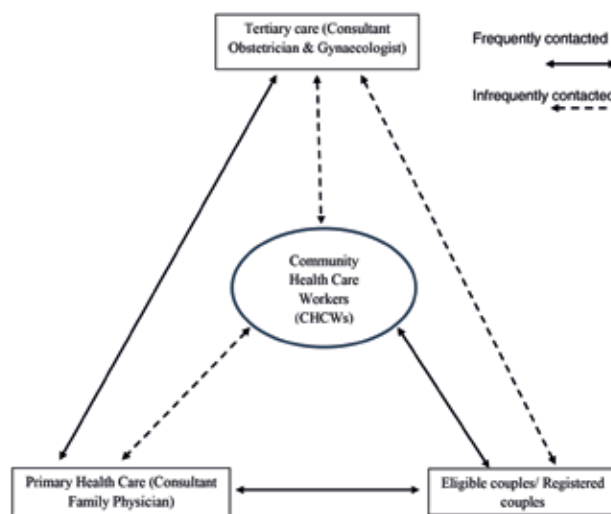
An exploratory sequential mixed-method design was employed, commencing with qualitative data collection and analysis and followed by quantitative data analysis. Qualitative data were gathered through focus group discussions, which the family physician then analysed using content and thematic analysis. Quantitative data were collected through a functioning triage system and analysed descriptively.

The recruitment and training of CHWs were executed in three steps. First, five community healthcare workers were purposively selected based on secondary education completion status and with a minimum of six months of experience in healthcare. Second, two training programs were conducted for CHWs and PHMs utilising the FIGO fertility toolbox, covering various topics related to subfertility, diagnostic methods, treatment modalities, community engagement, and communication skills. Third, CHWs were integrated into the primary healthcare team, assigned to selected PHM areas, and provided on-the-job training to effectively interact with sub-fertile couples, provide health education, and facilitate clinical work.

During field and clinic visits with PHMs, CHWs identified sub-fertile couples, provided health education, and facilitated referrals to family physicians at primary care centers. Specialist family physicians examined and tested identified couples to determine their treatment needs. Those with advanced fertility issues were referred to specialist obstetricians and gynecologists at tertiary care centres for further management.

The intervention's acceptability, appropriateness, and feasibility were evaluated through stakeholder engagement, focus group discussions with PHMs, and quantitative outcomes measured during monthly meetings. This comprehensive approach aimed to enhance fertility care delivery and improve outcomes for subfertile couples in the region.

Figure 1- Central Role of Community Health Workers in the Fertility Care



Results and Discussion

Acceptability:

Qualitative measures indicated positive stakeholder feedback during the Focus Group Discussion (FGD). Public Health Midwives (PHMs) expressed increasing acceptability of the CHCWFFC model as they became familiar with subfertility issues, although concerns about collaboration with CHWs were raised. During conversations, issues such as transportation, logistics, scheduling, and community acceptance of CHWs came up, highlighting potential implementation barriers despite overall positive attitudes.

Appropriateness:

Feedback from PHMs in FGD highlighted the model's appropriateness, emphasizing a significant reduction in their workload when supported by CHWs. They recognized CHWs' proactive nature in learning new tasks but suggested clarifying CHWs' roles and improving logistical support. Although further refinement was desired, the model demonstrated overall high appropriateness, contingent on adequate staff resources and clear intervention structures.

Feasibility:

Quantitative measures demonstrated the feasibility of the CHCWFFC model. Over six months, 47 awareness

programs and health education sessions were conducted, identifying and referring 61 subfertile couples to primary health care. Subsequent consultations with specialist family physicians and referrals to tertiary care centres further facilitated subfertility management. The involvement of CHWs proved instrumental in guiding

couples through the healthcare system, ensuring timely access to quality fertility care. Helpline follow-ups improved continuity of care. These findings affirm the feasibility of the CHCWFFC model in effectively addressing subfertility burdens within the community.

Table 01- Findings showing the acceptability, appropriateness and feasibility.

Acceptability	- Positive feedback from stakeholders during the inauguration program.
	- Stakeholders promised administrative and financial backing.
	- Optimism regarding potential as a model for South Asian countries.
	- Public Health Midwives (PHMs) showed increasing acceptability over time.
	- Concerns about collaboration with Community Health Workers (CHWs) were noted.
Appropriateness	- Significant reduction in workload for PHMs when supported by CHWs.
	- CHWs showed proactive nature in learning new tasks.
	- Suggestions made to clarify CHWs' roles and increase frequency of clinic visits.
	- Desire for further refinement of the model.
	- Sufficient staff resources and clear intervention structure are necessary for high appropriateness.
Feasibility	- Specialist Family Physicians actively participated in community-based sessions.
	- 47 awareness programs and health education sessions conducted over six months.
	- 61 subfertile couples were identified and referred to primary healthcare.
	- 18 consultations with specialist family physicians and 5 referrals to tertiary care centers facilitated the management of subfertility.
	- CHCWs are instrumental in guiding couples through the healthcare system.
	- Helpline follow-up improved continuity of care for 59 couples.
	- Feasibility confirmed for effectively addressing subfertility burdens.

Conclusion and Recommendations

In conclusion, the Community Health Worker Facilitated Fertility Care Model (CHWFFC) has shown promising outcomes in addressing subfertility issues within the Nallur Medical Officer of Health (MOH) area, Jaffna, Sri Lanka. The study highlights this model's acceptability, appropriateness, and feasibility, emphasising the importance of positive collaboration among community health workers, Public Health Midwives (PHMs), and stakeholders. Challenges such as logistical issues and community acceptance of CHWs need to be addressed for successful implementation. Continued monitoring and refinement of the model are essential to optimise its effectiveness in improving fertility care accessibility and outcomes within the community.

The CHCWFFC model has proven effective for diagnosing new cases, operating at low costs, and alleviating the financial burden of subfertile couples. However, long-term effectiveness requires further investigation to ensure a sustained impact on fertility care accessibility and outcomes within the community. This model can be applied in similar settings in other parts of Sri Lanka to improve fertility care accessibility and outcomes with adaptations to local contexts.

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