Antenatal Group Care: A Pathway to Achieving SDGs through Peer Support and Maternal Health Improvements in LMICs

Nida Shoaib[1*], Maleeha Khan[1] and Nabeela Shahid[1]

[1]*Indus Hospital & Health Network, Karachi, Pakistan*

Abstract

Maternal mortality is one of the main challenges present in low- and middle-income countries. In Pakistan, the MMR is still at a spike of 154 deaths per 100,000 live births, far away from the global target of 70. AGC, a model combining clinical assessments with structured peer support, has emerged as a high-impact intervention aligned directly with SDG 3 (Good Health and Well-being) with SDG 5 (Gender Equality). Rigorous studies demonstrate that AGC models can reduce the risk of preterm births by up to 33% and significantly increase attendance at essential antenatal visits. Key challenges to implement in LMICs like Pakistan, as compared to HICs, include health system weaknesses and socio-cultural barriers. This commentary offers insights on integrating AGC with healthcare policies through stakeholder collaboration in order to further strengthen and promote sustainable, cost-effective, and scalable maternal health solutions. We recommend integrating AGC into national health policies, leveraging Pakistan's extensive Lady Health Worker (LHW) program, and using digital health tools to create a sustainable solution to improve maternal health outcomes.

Keywords: *Antenatal group care, sustainable development, peer support, maternal health, community engagement.*

INTRODUCTION

Sustainable Development Goals (SDGs) prioritize maternal health as a critical area for global development, particularly through SDG 3.1, which aims to reduce the global maternal mortality ratio (MMR) to less than 70 per 100,000 live births by 2030 [1]. Despite advancements in healthcare systems, many low- and middle-income countries (LMICs) continue to struggle with high maternal mortality rates due to inadequate antenatal care, limited access to skilled healthcare providers, and socio-cultural barriers. Pakistan's MMR is still at a spike of 154 deaths per 100,000 live births, far away from the global target of 70, mainly due to challenges within the healthcare system [2]. The challenges in access to healthcare providers and compromised quality of antenatal care, reduced births (69%) attended by a trained healthcare provider, and socio-cultural barriers reduce further women's autonomy in seeking optimum health care [2, 3].

Creating a more holistic and participatory approach, instead of an individual level, Antenatal Group Care (AGC) has appeared as a transformative model to counter these gaps in healthcare. Centering on the pregnancy program, integrated in AGC, replaced traditional, individual interactions with a dynamic cluster setting for maternal health education, health assessment, emotional well-being, and peer support [4]. AGC also promotes antenatal visits, institutional and safe deliveries, postpartum care for and ensuring safe maternal and child health practices. Following SDG 3 (Good Health and Well-being) and SDG 5 (Gender Equality), these peer support groups are directly aligned with this approach, which promotes women's autonomy, strengthens health systems, and reduces health disparities for mothers [5].

For greater AGC impact, it is necessary to incorporate it into national healthcare policies with strong stakeholder collaboration, especially with healthcare providers, policymakers, and community-based organizations. AGC has the potential to adapt and address maternal morbidity and mortality through the application of evidence-based and culturally appropriate interventions, leading toward an equitable and sustainable healthcare system. As we move forward towards the 2030 SDG targets, implementing this model guides a cost-effective, sustainable, and impactful pathway to empower women, strengthen health systems, and save lives [6].

This commentary distinguishes AGC as an innovative model that not only fosters a strong social network but also elevates antenatal care into a shared learning experience where women can support one another to improve and strengthen maternal health outcomes. This participatory approach will transform traditional antenatal care by bringing pregnant women together for essential health education, clinical assessments, emotional support, and wellbeing, to build a healthy and informed community.

METHODOLOGY

The commentary identified peer-reviewed articles, global reports, grey literature, and policy briefs from 2015 to 2025, focusing on antenatal group care (AGC) and maternal health policy integration in LMICs. Literature search was conducted using

**Corresponding author: Nida Shoaib, Indus Hospital & Health Network, Karachi, Pakistan, Email: drnidashoaib@gmail.com*

Received: June 11, 2025; Revised: August 19, 2025; Accepted: September 17, 2025

DOI: https://doi.org/10.37184/lnjpc.2707-3521.8.7

Table 1: Comparison of enablers and barriers to AGC implementation in HICs and LMICs.

Factor	High-Income Countries	Low- and Middle-Income Countries
Health System Infrastructure and Workforce	Well-established primary healthcare systems, trained midwives, and integrated digital health records facilitate AGC implementation [3].	Limited health infrastructure, staff shortages, and lack of standardized antenatal protocols hinder AGC scalability [9].
Socio-Cultural Norms and Community Acceptance	Greater acceptance of group-based interventions and women's empowerment in healthcare decision-making enhances AGC participation [10].	Cultural barriers, gender norms, and stigma around discussing pregnancy-related issues in groups often deter participation [9].
Financial and Policy Support	Governments and insurers provide financial incentives and insurance coverage for AGC, making it a sustainable intervention [8].	Out-of-pocket costs, lack of financial incentives for providers, and weak policy frameworks pose challenges for long-term AGC implementation [2].
Accessibility and Transportation	Strong transportation networks and telehealth support enable easier access to AGC sessions [11, 12].	Geographical barriers, lack of transportation, and long distances to healthcare facilities limit AGC participation, particularly in rural areas [9].
Digital and Technological Integration	Digital health tools, including mobile apps, electronic records, and telehealth, enhance AGC efficiency [13].	Limited internet access, digital illiteracy, and weak telemedicine infrastructure restrict the use of technology to support AGC [2].

keywords "maternal mortality", "antenatal group care", "sustainable development", "peer support", "maternal health", and "community engagement", at databases such as Google Scholar and PubMed. The selected data sources addressed the challenges and barriers for the implementation of the innovative approach AGC, as well as its alignment with SDG 3 and SDG 5. The commentary is conceptually grounded in the WHO framework, emphasizing intersectoral collaboration for maternal health improvement [7].

Enablers and Barriers to AGC: A Comparison of LMICs and HICs

The SDGs prioritize maternal health, keeping in mind SDG 3.1, which aims to reduce global maternal mortality to less than 70 per 100,000 live births by 2030 [8]. Therefore, AGC has emerged as a transformative model enhancing maternal education, with effectiveness in both lower-middle-income countries and high-income countries, as it is context-specific.

As shown in Table **1**, health infrastructure, socio-cultural norms, financial support, and digital integration act as enablers in HICs but are often major barriers in LMICs.

Challenges and Mitigation Strategies for Implementation of AGC

The effectiveness of AGC is context-specific, with stark differences between HICs and LMICs. While HICs benefit from established infrastructure, LMICs like Pakistan face systemic barriers that require tailored strategies.

Key Challenges in the LMIC Context (with a focus on Pakistan):

- **Health System Weaknesses:** Pakistan faces a critical shortage and maldistribution of healthcare providers, particularly in rural areas [12]. This is compounded by inconsistent supply chains for essential medicines and a lack of standardized clinical protocols for ANC, hindering the fidelity of AGC implementation [13].
- **Socio-Cultural and Gender Barriers:** A meta-ethnography confirmed that cultural norms around privacy and family hierarchies can deter women from participating in group discussions [9]. Furthermore, decision-making power often rests with husbands or mothers-in-law, limiting a woman's ability to attend regular sessions [1, 13, 14].
- **Financial Constraints:** With over 54% of healthcare expenditure in Pakistan being out-of-pocket, the indirect costs of care (*e.g.*, transportation, lost wages) represent a significant barrier for low-income families, even if the service itself is free [15].
- **Geographic Inaccessibility:** In vast rural and remote regions of Pakistan, long distances and poor infrastructure make consistent access to healthcare facilities a major logistical challenge, disproportionately affecting the poorest households [2, 16].
- **Low Digital Literacy:** While it offers promise, internet penetration in Pakistan is approximately 37%, and the digital divide remains vast, especially for rural women, restricting the utility of advanced digital support tools for AGC [17].

Strategic Mitigation for AGC in Pakistan

The challenges for implementing AGC in Pakistan consist of health system gaps, cultural resistance, financial constraints, digital divide, and geographic barriers. The mitigation strategies addressing these barriers are outlined in Table **2**, emphasizing community-based solutions, integration with social protection programs, and leveraging trusted health systems and digital tools.

Policy Recommendations for Scaling AGC in LMICs

1. **Integrate AGC into National Health Policies:** The Ministry of National Health Services should formally adopt AGC as a recommended service delivery model within the National Health Vision 2025 and provincial maternal health strategies [1].
2. **Invest in Midwifery-Led Care Models:** Strengthen and expand midwifery education and grant midwives the autonomy to lead AGC groups. This aligns with global best practices and addresses the physician shortage [6].

Table 2: Strategic mitigation for AGC in Pakistan.

Challenge	Mitigation Strategies & Evidence
Health System Gaps	Strengthen and leverage the Lady Health Worker (LHW) Program. Train and equip LHWs to co-facilitate AGC sessions. The LHW program has a proven track record of improving maternal health outreach in Pakistan and is a trusted community interface [18, 19].
Cultural Resistance	Engage male partners and community gatekeepers. Implement structured community dialogues and male-only orientation sessions to build trust and social approval. Studies show that male involvement significantly improves maternal health service utilization [20].
Financial Constraints	Integrate AGC with social safety nets and demand-side financing. Link participation to programs like the Benazir Income Support Programme (BISP) by providing conditional cash transfers for attending the recommended number of sessions to offset costs [15].
Geographic Barriers	Establish community-based AGC hubs in accessible locations. Utilize existing community spaces (schools, community centers) for sessions and explore mobile health units for remote populations, a model proven effective for increasing access to care [16].
Digital Divide	Use low-tech, high-impact mHealth solutions. Deploy simple interventions like SMS appointment reminders and automated voice calls with health advice in local languages. These tools bypass the need for internet access and have been shown to improve care adherence [3, 17].

3. **Develop a National AGC Curriculum:** Create a standardized, culturally adapted curriculum and training module for AGC facilitators (midwives and LHWs) to ensure program fidelity and quality across all provinces [6].
4. **Leverage Public-Private Partnerships:** Collaborate with Pakistan's large private health sector and non-profit organizations, such as the Agha Khan Health Service, to expand AGC reach into diverse communities, including urban slums [19].
5. **Establish a Robust M&E Framework:** Use the District Health Information System 2 (DHIS2) to track key AGC performance indicators (*e.g.*, retention rates, preterm births, breastfeeding initiation) to enable data-driven program refinement [21].

CONCLUSION

Antenatal Group Care is a new, cost-effective, and evidence-based solution for improving maternal health and accelerating progress towards SDG 3. As HICs have a benefit for having a supportive and strong infrastructure, LMICs face significant financial, cultural, social, and logistical barriers to the implementation of AGC. However, strategic policy interventions, community-driven approaches, and digital innovations can scale AGC effectively in LMICs, ensuring that no woman is left behind in accessing quality maternal care.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ACKNOWLEDGEMENTS

The authors are grateful to the Community Health Directorate, Indus Hospital Health Network, for providing the support.

AUTHORS' CONTRIBUTION

NS is the guarantor of the integrity of the entire commentary. NS generates study concepts and design. MK did literature research, and NS prepared a manuscript. The manuscript was critically reviewed and revised by NaS. All authors have read and approved the manuscript.

GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

ChatGPT was used only for grammatical and language correction; the authors take full responsibility for the content.

REFERENCES

1. Kozhimannil KB, Vogelsang CA, Hardeman RR, Prasad S. Disrupting the pathways of social determinants of health: Group prenatal care as an innovative intervention for reducing health disparities. Womens Health Issues 2016; 26(1): 17-21. DOI: https://doi.org/10.3122/jabfm.2016.03.150300
2. United Nations Population Fund (UNFPA). The state of the world's midwifery report. New York: UNFPA; 2020. Available from: https://www.unfpa.org/sowmy
3. Catling CJ, Medley N, Foureur M, Ryan C, Leap N, Teate A. Group *versus* conventional antenatal care for women. Cochrane Database Syst Rev 2015; (2): CD007622. DOI: https://doi.org/10.1002/14651858.cd007622.pub3
4. Rising SS. Centering pregnancy: An interdisciplinary model of empowerment. J Nurse Midwifery 1994; 39(1): 46-54. DOI: https://doi.org/10.1016/s0091-2182(97)00117-1
5. Midhet F, Hanif M, Khalid SN, Khan RS, Ahmad I, Khan SA. Factors associated with maternal health services utilization in Pakistan: Evidence from Pakistan maternal mortality survey, 2019. PLoS One 2023; 18(11): e0294225. DOI: https://doi.org/10.1371/journal.pone.0294225
6. United Nations Population Fund (UNFPA). The state of the world's midwifery report. New York: UNFPA; 2021. Available from: https://www.unfpa.org/sowmy
7. World Health Organization. Strategies toward ending preventable maternal mortality (EPMM). Geneva: WHO; 2015. Available from: https://platform.who.int/docs/default-source/mca-documents/qoc/quality-of-care/strategies-toward-ending-preventable-maternal-mortality-(epmm).pdf
8. World Health Organization. Recommendations on antenatal care for a positive pregnancy experience. Geneva: WHO; 2016. Available from: https://www.who.int/publications/i/item/9789241549912
9. Bohren MA, Berger BO, Munthe-Kaas H, Tunçalp Ö. Perceptions and experiences of labour companionship: A qualitative evidence synthesis. Cochrane Database Syst Rev 2019; 3: CD012449. DOI: https://doi.org/10.1002/14651858.cd012449.pub2
10. United Nations. Transforming our world: the 2030 Agenda for Sustainable Development. New York: United Nations; 2015. Available from: https://sdgs.un.org/2030agenda.

11. Centers for Disease Control and Prevention (CDC). Group prenatal care: An evidence-based strategy for improving maternal and infant health. Atlanta (GA): CDC; 2019. Available from: https://www.cdc.gov/reproductivehealth/maternalinfanthealth/group-prenatal-care.htm

12. World Bank. Pakistan human capital review: Building a resilient workforce. Washington (DC): World Bank; 2022. Available from: https://www.worldbank.org/en/country/pakistan

13. Every Woman Every Child Initiative. Progress report on global strategy for women's, children's and adolescents' health. New York: Every Woman Every Child; 2021. Available from: https://www.everywomaneverychild.org/

14. Ditekemena J, Koole O, Engmann C, Matendo R, Tshefu A, Ryder R, *et al.* Determinants of male involvement in maternal and child health services in sub-Saharan Africa: A review. Reprod Health 2012; 9(1): 32.
DOI: https://doi.org/10.1186/1742-4755-9-32.

15. World Health Organization. Global health expenditure database: Pakistan. Geneva: WHO; 2023. Available from: https://apps.who.int/nha/database

16. Iqbal A, Anil G, Bhandari P, Crockett ED, Hanson VM, Pendse BS, *et al.* A digitally capable mobile health clinic to improve rural health care in America: A pilot quality improvement study. Mayo Clinic Proceedings: Innovations, Quality & Outcomes. 2022; 6(5): 475-83.
DOI: https://doi.org/10.1016/j.mayocpiqo.2022.08.002

17. Pakistan Telecommunication Authority (PTA). Annual report 2023. Islamabad (PK): PTA; 2024. Available from: https://pta.gov.pk/assets/media/pta_ann_repport_29-01-2024.pdf

18. Lassi ZS, Bhutta ZA. Community-based intervention packages for reducing maternal and neonatal morbidity and mortality and improving neonatal outcomes. Cochrane Database Syst Rev. 2015(3): CD007754
DOI: https://doi.org/10.1002/14651858.cd007754.pub3

19. Haq Z, Hafeez A. Knowledge and communication needs assessment of community health workers in a developing country: A qualitative study. Hum Resour Health 2009; 7(1): 59.
DOI: https://doi.org/10.1186/1478-4491-7-59

20. Ditekemena J, Koole O, Engmann C, Matendo R, Tshefu A, Ryder R, *et al.* Determinants of male involvement in maternal and child health services in sub-Saharan Africa: A review. Reprod Health 2012; 9(1): 32.
DOI: https://doi.org/10.1186/1742-4755-9-32

21. Lee SH, Nurmatov UB, Nwaru BI, Mukherjee M, Grant L, Pagliari C. Effectiveness of mHealth interventions for maternal, newborn and child health in low-and middle-income countries: Systematic review and meta-analysis. J Glob Health 2015; 6(1): 010401.
DOI: https://doi.org/10.7189/jogh.06.010401