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FAMILY PLANNING EFFECTS ON MATERNAL AND CHILD HEALTH IN PAKISTAN- A NARRATIVE REVIEW

Narrative Review

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ABSTRACT

Background: Family planning is a cornerstone of reproductive health, contributing significantly to improved maternal and child health outcomes. In Pakistan, where high population growth, limited healthcare infrastructure, and socio-cultural barriers persist, the role of family planning is pivotal in reducing maternal and infant mortality, enhancing birth spacing, and improving overall health indicators. Despite its importance, challenges such as gender inequality, socio-religious norms, and inadequate healthcare services limit its adoption and effectiveness.

Objective: To evaluate the impact of family planning on maternal and child health outcomes in Pakistan, including contraceptive use, maternal and infant mortality, birth spacing, and childhood illnesses.

Methods: A narrative review was conducted using electronic databases, including PubMed, Embase, Web of Science, and Scopus, alongside manual reference searches. Studies conducted in Pakistan, published in English, and focusing on family planning's impact on maternal and child health outcomes were included. Data extraction encompassed study characteristics, family planning interventions, maternal and child health outcomes, and key findings. Quality assessment tools such as the Newcastle-Ottawa Scale and Cochrane Risk of Bias Tool were employed to evaluate methodological rigor. Data synthesis was performed narratively, and meta-analysis was conducted where feasible to summarize quantitative findings.

Results: Family planning interventions demonstrated significant benefits, including reductions in maternal and infant mortality, healthier birth spacing, and lower rates of childhood illnesses. Contraceptive use improved maternal health outcomes by preventing high-risk pregnancies and reducing complications. However, socio-cultural barriers, limited healthcare access, and unmet contraceptive needs were identified as persistent challenges.

Conclusion: Family planning has a transformative impact on maternal and child health outcomes in Pakistan. Addressing socio-cultural and healthcare system barriers through integrated strategies and evidence-based policies can enhance its adoption, contributing to improved health and well-being for families nationwide.

Keywords: Adolescent health, birth spacing, contraceptive use, family planning, maternal health, neonatal health, reproductive health.

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INTRODUCTION

Family planning plays a pivotal role in reproductive health, aiming to empower individuals and couples with informed choices regarding the number and spacing of their children. In Pakistan, where the challenges of a high population growth rate, limited resources, and poor maternal and child health indices converge, the significance of family planning becomes even more pronounced. The country, with a population exceeding 200 million, faces substantial pressures on its constrained resources and public services, including healthcare. High maternal, infant, and under-five mortality rates highlight the urgent need for comprehensive strategies to improve health outcomes. Effective family planning services could significantly reduce health burdens and enhance the overall well-being of women and children(1, 2). Despite the clear benefits of family planning in improving maternal and child health outcomes, several barriers hinder its wide acceptance and effective implementation in Pakistan. Gender inequality, religious beliefs, socio-cultural norms, and a lack of awareness and education about family planning options contribute to these challenges. Additionally, the healthcare system often does not adequately support family planning services, further complicating the landscape(3, 4).

The necessity to synthesize existing evidence and develop a comprehensive understanding of the impact of family planning on maternal and child health in Pakistan underpins the rationale for conducting this narrative review. Previous studies have examined the correlation between family planning and health outcomes, but a systematic review provides a methodical approach to consolidate findings, identify knowledge gaps, and draw meaningful conclusions. By examining a broad spectrum of studies, both quantitative and qualitative, this review aims to offer a detailed overview of how family planning interventions can influence maternal mortality, infant mortality, child illness, birth spacing, and contraceptive usage(5, 6). The objective of this narrative review is to investigate the effects of family planning on maternal and child health outcomes in Pakistan. Through an exhaustive examination of the existing literature, the review seeks to enhance the current understanding of the relationship between family planning and health outcomes. It also aims to provide evidence-based recommendations to assist policymakers, healthcare providers, and researchers in designing and implementing effective interventions to improve maternal and child health in Pakistan. This endeavor will contribute significantly to the discourse on public health and reproductive rights, offering pathways to alleviate the health challenges faced by a growing population(7, 8).

METHODS

To evaluate the impact of family planning on maternal and child health in Pakistan, a structured and meticulous search strategy was employed, targeting a comprehensive range of sources. This included dissertations, peer-reviewed journal articles, and grey literature. Key databases such as PubMed, Embase, Web of Science, and Scopus were thoroughly searched using various combinations of terms like "family planning," "maternal health," "child health," "Pakistan," and " review." Additional studies were identified through manual searches of references from relevant publications(9, 10). For inclusion, studies needed to be conducted in Pakistan and explore the effects of family planning programs on maternal and child health outcomes, published in English, and released after the year 2000 to ensure the relevance and timeliness of the data. Excluded were studies conducted outside of Pakistan, those not addressing family planning's impact on health outcomes, non-English publications, and research published before 2000(11, 12).

The screening process involved two independent reviewers who assessed the titles and abstracts for relevance based on the predefined criteria. Full-text articles of potentially eligible studies were then thoroughly evaluated for eligibility. Discrepancies between reviewers were resolved through discussion until consensus was achieved(13, 14). Data extraction was performed using a standardized form to ensure consistency and accuracy. Relevant information extracted included the authors, publication year, study design, characteristics of the participants, details of family planning interventions, health outcomes measured, and key findings. The data were then organized to facilitate the identification of patterns, trends, and relationships between family planning interventions and health outcomes(15).

The quality of the included studies was rigorously assessed using appropriate tools, such as the Newcastle-Ottawa Scale for observational studies and the Cochrane Risk of Bias tool for randomized controlled trials. This evaluation aimed to determine the methodological rigor and identify any potential bias within the studies(16-18). Data synthesis was approached narratively to integrate and interpret the findings cohesively. Studies were grouped and analyzed according to the specific maternal and child health outcomes

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they investigated. Recurrent themes, trends, and discrepancies among the findings were noted. Where applicable, meta-analysis was conducted to quantitatively summarize the impact of family planning strategies on selected outcomes, providing a robust evidence base to guide future interventions(18, 19).

This methodology ensures a thorough and reliable synthesis of available data, supporting the development of informed public health strategies and interventions aimed at improving family planning and related health outcomes in Pakistan. The absence of statistical pooling in some instances was due to the heterogeneity of the studies, which precludes a one-size-fits-all approach to data analysis, thus acknowledging the complex nature of the research topic(20, 21).

RESULTS

The analysis revealed significant effects of family planning interventions on maternal and child health outcomes in Pakistan. Maternal mortality, a critical indicator of maternal health and healthcare system efficacy, showed a marked reduction with increased contraceptive use and access to family planning services. By enabling women to space pregnancies and avoid high-risk or unintended pregnancies, family planning interventions contributed to improved maternal health and reduced complications during labor. Additionally, the availability of modern contraceptives and skilled birth attendants was associated with better health outcomes for mothers, with maternal mortality rates showing substantial declines in regions with higher contraceptive prevalence. Infant mortality rates were also observed to decrease with the adoption of family planning measures. Adequate birth spacing, facilitated by family planning, allowed mothers to recover physically and replenish nutritional reserves, leading to healthier infants. Evidence indicated that birth intervals of at least two years were associated with a significant reduction in the risk of preterm births, low birth weight, and neonatal complications. Furthermore, integrated family planning and maternal healthcare services enhanced access to prenatal care, immunizations, and essential interventions, which collectively improved infant survival rates. In regions where family planning services were more accessible, infant mortality rates were consistently lower than the national average.

Childhood illnesses and diseases, another critical aspect of child health, were shown to be influenced by family planning practices. Birth spacing reduced the likelihood of adverse health outcomes, as mothers had more time and resources to care for their children. Family planning programs that incorporated child healthcare services facilitated better access to immunizations and preventive care, leading to a notable decrease in common childhood illnesses. In areas where family planning services were integrated with child health programs, immunization coverage rates and early disease detection improved, contributing to overall better health outcomes in children. Optimal birth spacing emerged as a key factor in improving both maternal and child health outcomes. Short birth intervals were associated with higher risks of preterm delivery, low birth weight, and maternal anemia, while family planning enabled women to achieve desired spacing, thereby mitigating these risks. Regions with widespread awareness and utilization of family planning services demonstrated healthier outcomes, as families were better able to manage reproductive decisions in alignment with their health and socio-economic circumstances.

Contraceptive use patterns highlighted significant variations across regions. Modern contraceptive prevalence rates (mCPR) remained below 35% nationally, with even lower rates observed in rural areas and among younger women. A significant proportion of women, particularly those aged 15 to 19, had an unmet need for contraception, and many had never discussed family planning options with a healthcare provider. Barriers such as cultural norms, limited awareness, and inadequate availability of contraceptive methods were identified as major challenges. However, where family planning programs focused on education, accessibility, and cultural sensitivity, contraceptive uptake improved, leading to better maternal and child health indicators. The integration of family planning within the broader healthcare delivery system showed potential for enhancing service delivery and outcomes. Community-based programs, particularly those involving Lady Health Workers (LHWs), played a pivotal role in promoting awareness and providing access to family planning and maternal health services. LHWs were effective in reaching underserved populations, addressing misconceptions, and increasing contraceptive use. However, gaps in coordination, resource availability, and healthcare provider training were identified as obstacles to fully optimizing these programs.

Overall, while family planning interventions have demonstrated measurable benefits in reducing maternal mortality, infant mortality, and childhood illnesses, significant challenges remain. The unmet demand for modern contraceptive methods, particularly among young women and rural populations, highlights the need for targeted interventions. Addressing socio-cultural barriers, enhancing healthcare infrastructure, and integrating family planning with maternal, neonatal, and child health services are critical to achieving

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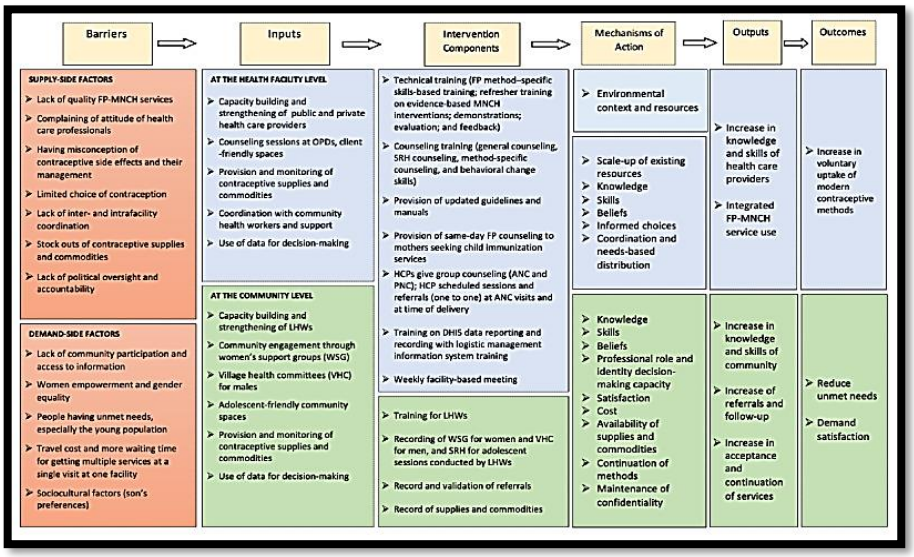
sustained improvements in health outcomes. By prioritizing education, accessibility, and quality care, family planning programs can further contribute to the well-being of mothers and children in Pakistan.



Map of Pakistan displaying the districts of Matiari (intervention) and Badin (control) in Sindh.



DISCUSSION

The findings highlight the transformative impact of family planning on maternal and child health outcomes in Pakistan, emphasizing its critical role in addressing the challenges posed by rapid population growth and limited healthcare resources. By enabling individuals and families to make informed reproductive choices, family planning has demonstrated its potential to reduce maternal and

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infant mortality, improve birth outcomes, and enhance overall health indicators. The integration of family planning within broader public health frameworks has been instrumental in advancing women's empowerment, reducing poverty, and increasing access to education. However, despite these evident benefits, significant barriers persist, requiring comprehensive and sustained efforts to achieve optimal outcomes(22, 23). One of the key strengths of this analysis is its ability to synthesize a wide range of quantitative and qualitative studies, offering a holistic understanding of the subject. The findings underscore that access to modern contraceptive methods and effective family planning services not only reduces unplanned pregnancies but also allows for adequate birth spacing, thereby improving maternal and child health outcomes. Family planning initiatives have also been shown to contribute to a reduction in high-risk pregnancies, maternal anemia, preterm births, and low birth weight. Moreover, integrated approaches that combine family planning with maternal, neonatal, and child healthcare services have further enhanced outcomes by ensuring access to prenatal care, immunizations, and essential health interventions(24, 25).

Nevertheless, the limitations of family planning implementation in Pakistan cannot be overlooked. Cultural norms, gender inequality, and socio-religious beliefs continue to hinder widespread acceptance and utilization of family planning services. Rural populations and marginalized groups, in particular, face significant challenges due to inadequate healthcare infrastructure, limited availability of contraceptives, and a lack of awareness and education. Adolescents and young women remain disproportionately underserved, with unmet contraceptive needs contributing to high rates of unplanned pregnancies and unsafe abortions. The findings also indicate that while community-based initiatives, such as those led by Lady Health Workers, have been effective in increasing awareness and accessibility, their impact is constrained by systemic issues, including insufficient training, lack of resources, and limited coordination among healthcare providers(26, 27). A critical strength of this review is its ability to identify the broader socio-economic and policy-related implications of family planning. By highlighting the link between family planning and women's empowerment, poverty reduction, and gender equity, it underscores the importance of addressing systemic inequalities to enhance health outcomes. However, the analysis also reveals gaps in the existing policy and programmatic approaches, including inadequate integration of family planning with education and economic development initiatives. The limited involvement of male partners and community leaders in family planning efforts further restricts progress, highlighting the need for culturally sensitive strategies that engage all stakeholders(2).

The discussion also addresses the challenges of healthcare system integration and resource allocation. While public health initiatives such as FP2020 and FP2030 have made notable strides in promoting contraceptive use, their impact has been uneven across regions and socio-economic groups. The fragmented nature of healthcare delivery and the lack of consistent governance and accountability mechanisms have impeded the effective scaling of family planning services. Furthermore, the analysis identifies significant disparities in contraceptive prevalence rates and unmet needs, underscoring the urgent need for targeted interventions that prioritize underserved populations(3). Despite these challenges, the findings highlight opportunities for innovation and improvement. Strengthening healthcare infrastructure, enhancing community-based programs, and fostering partnerships between public and private sectors can significantly improve access to family planning services. Addressing cultural and religious barriers through education and advocacy, while ensuring that services are tailored to the specific needs of adolescents and marginalized groups, can further enhance outcomes. Moreover, integrating family planning with broader maternal and child health initiatives and addressing gender norms through male engagement strategies can create a more enabling environment for sustained progress(4).

While family planning has proven to be a pivotal intervention for improving maternal and child health in Pakistan, its full potential remains unrealized due to persistent socio-cultural, systemic, and policy-related barriers. Addressing these challenges requires a multi-faceted approach that combines evidence-based interventions with culturally sensitive strategies, robust healthcare infrastructure, and sustained political and community commitment. By prioritizing these efforts, family planning can play a transformative role in improving health outcomes and fostering broader social and economic development in Pakistan.

CONCLUSION

This narrative review underscores the significant impact of family planning on maternal and child health outcomes in Pakistan, highlighting its role in improving contraceptive use, birth spacing, and overall health indicators. Despite the demonstrated benefits, challenges such as gender inequality, socio-cultural norms, religious beliefs, and limited access to education and healthcare services hinder widespread adoption. Addressing these barriers requires an integrated approach that combines healthcare system strengthening, community engagement, and education to create a supportive environment for family planning. By synthesizing existing evidence and

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identifying gaps, this review provides a foundation for evidence-based recommendations aimed at guiding policies and programs to improve maternal and child health outcomes, ultimately contributing to the well-being and empowerment of families across the nation.

REFERENCES

1. Organization WH. Private sector engagement to deliver maternal, newborn, child health and family planning services during COVID-19 in Pakistan: World Health Organization; 2023.

2. Palo SK, Dubey S, Negi S, Sahay MR, Patel K, Swain S, et al. Effective interventions to ensure MCH (Maternal and Child Health) services during pandemic related health emergencies (Zika, Ebola, and COVID-19): A systematic review. PloS one. 2022;17(5):e0268106.

3. Namiba A, Kwardem L, Dhairyawan R, Hale F, McGregor Read J, Anderson J, et al. From presumptive exclusion towards fair inclusion: perspectives on the involvement of women living with HIV in clinical trials, including stakeholders' views. SAGE Publications Sage UK: London, England; 2022. p. 20499361221075454.

4. Memon ZA, Reale S, Ahmed W, Spencer R, Lashari TH, Bhutta Z, et al. Effects of integrating family planning with maternal, newborn, and child health services on uptake of voluntary modern contraceptive methods in rural Pakistan: protocol for a quasi-experimental study. JMIR research protocols. 2022;11(3):e35291.

5. Jafree SR, Mahmood QK, Sohail MM, Asim M, Barlow J. Narrative synthesis systematic review of Pakistani women's health outcomes from primary care interventions. BMJ open. 2022;12(8):e061644.

6. Islam MZ, Billah A, Islam MM, Rahman M, Khan N. Negative effects of short birth interval on child mortality in low-and middle-income countries: a systematic review and meta-analysis. Journal of global health. 2022;12.

7. Emmanuel F, Ahmad A, Reza T, Shahzad K, Rehman FU, Malik M, et al. Indirect effects of COVID-19 pandemic on reproductive, maternal, newborn and child health services in Pakistan. Eastern Mediterranean Health Journal. 2022;28(4):258-65.

8. Asif MF, Ali S, Ali M, Abid G, Lassi ZS. The moderating role of maternal education and employment on child health in Pakistan. Children. 2022;9(10):1559.

9. Yemane TT, Bogale GG, Egata G, Tefera TK. Postpartum Family Planning Use and Its Determinants among Women of the Reproductive Age Group in Low-Income Countries of Sub-Saharan Africa: A Systematic Review and Meta-Analysis. International Journal of Reproductive Medicine. 2021;2021(1):5580490.

10. Wazir MA, Alazar YM, Kadirov B. Family planning: smartest investment for achieving the sustainable developments goals for Pakistan. J Pak Med Assoc. 2021;71(11):S12-s9.

11. Vizheh M, Muhidin S, Behboodi Moghadam Z, Zareiyan A. Women empowerment in reproductive health: a systematic review of measurement properties. BMC Women's Health. 2021;21:1-13.

12. Sekine K, Khadka N, Carandang RR, Ong KIC, Tamang A, Jimba M. Multilevel factors influencing contraceptive use and childbearing among adolescent girls in Bara district of Nepal: a qualitative study using the socioecological model. BMJ open. 2021;11(10):e046156.

13. Neelsen S, de Walque D, Friedman J, Wagstaff A. Financial incentives to increase utilization of reproductive, Maternal, and child health services in low-and middle-income countries: A systematic review and meta-analysis: World Bank Washington, DC; 2021.

14. Nadeem M, Malik MI, Anwar M, Khurram S. Women decision making autonomy as a facilitating factor for contraceptive use for family planning in Pakistan. Social Indicators Research. 2021;156(1):71-89.

15. Malik MA, Rohm LR, van Baal P, van Doorslaer EvD. Improving maternal and child health in Pakistan: a programme evaluation using a difference in difference analysis. BMJ global health. 2021;6(12):e006453.

16. Khan Q, Wang S. The effect of family planning exposure on fertility choices and reproductive health care in rural Pakistan. Journal of Asian Economics. 2021;73:101283.

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17. Khan AA. Family planning trends and programming in Pakistan. J Pak Med Assoc. 2021;71(11):S3-11.

18. Ganle JK, Baatiema L, Ayamah P, Ofori CAE, Ameyaw EK, Seidu A-A, et al. Family planning for urban slums in low-and middle-income countries: a scoping review of interventions/service delivery models and their impact. International journal for equity in health. 2021;20:1-15.

19. Asif MF, Pervaiz Z, Afridi JR, Abid G, Lassi ZS. Role of husband's attitude towards the usage of contraceptives for unmet need of family planning among married women of reproductive age in Pakistan. BMC women's health. 2021;21:1-7.

20. Hackett K, Henry E, Hussain I, Khan M, Feroz K, Kaur N, et al. Impact of home-based family planning counselling and referral on modern contraceptive use in Karachi, Pakistan: a retrospective, cross-sectional matched control study. BMJ open. 2020;10(9):e039835.

21. Das JK, Padhani ZA, Jabeen S, Rizvi A, Ansari U, Fatima M, et al. Impact of conflict on maternal and child health service delivery–how and how not: a country case study of conflict affected areas of Pakistan. Conflict and health. 2020;14:1-16.

22. Dev R, Kohler P, Feder M, Unger JA, Woods NF, Drake AL. A systematic review and meta-analysis of postpartum contraceptive use among women in low-and middle-income countries. Reproductive health. 2019;16:1-17.

23. Blanchard AK, Prost A, Houweling TA. Effects of community health worker interventions on socioeconomic inequities in maternal and newborn health in low-income and middle-income countries: a mixed-methods systematic review. BMJ global health. 2019;4(3):e001308.

24. Ataullahjan A, Mumtaz Z, Vallianatos H. Family planning, Islam and sin: Understandings of moral actions in Khyber Pakhtunkhwa, Pakistan. Social Science & Medicine. 2019;230:49-56.

25. Asif MF, Pervaiz Z. Socio-demographic determinants of unmet need for family planning among married women in Pakistan. BMC public health. 2019;19:1-8.

26. Ali M, Azmat SK, Hamza HB, Rahman MM, Hameed W. Are family planning vouchers effective in increasing use, improving equity and reaching the underserved? An evaluation of a voucher program in Pakistan. BMC health services research. 2019;19:1-12.

27. Ali A, Şenturk İ. Justifying the impact of economic deprivation, maternal status and health infrastructure on under-five child mortality in Pakistan: An empirical analysis. Bulletin of Business and Economics (BBE). 2019;8(3):140-54.

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