Natural Resources for Human Health
eISSN: 2583-1194

Original Research

Received 10 April 2026
Revised 25 May 2026
Accepted 21 June 2026

Natural Resources for Human Health 2026, Vol. 6 (5s): 14–26

KEYWORDS:
Maternal Healthcare, Healthcare Service Marketing, Maternal Health Services, Resource-Limited Settings, SADC, Health Promotion, Strategic Health Communication, Service Quality, Patient-Centred Care, Bibliometric Analysis

Mapping the Knowledge Landscape of Maternal Healthcare Service Marketing in Resource-Limited Settings: A Systematic Review, Bibliometric, and Meta-Analysis of SADC

Dr Simbarashe Magaisa[1], Dr Faith R Chibvura[2]

[1]Durban University of Technology- South Africa, Faculty of Management Sciences: Public Administration.
MagaisaS@dut.ac.za, ORCID ID: 0009-0001-3433-4805
[2]Durban University of Technology-South Africa, Faculty of Management Sciences: Marketing and Retail.
Faithc@dut.ac.za, ORCID: https://orcid.org/0000-0002-6009-0613

ABSTRACT: This study maps the knowledge landscape of maternal healthcare service marketing in resource-limited settings through an integrated systematic review, bibliometric analysis, and meta-analysis, with a specific focus on the Southern African Development Community (SADC) region. Drawing on Scopus-indexed literature published between 1990 and 2026, the study employs a PRISMA-guided approach to identify, screen, and synthesise relevant studies. Bibliometric analysis is conducted using VOSviewer, enabling the visualisation of co-authorship networks, keyword co-occurrence patterns, and thematic research clusters. The findings reveal a steadily growing body of literature centred on maternal healthcare access, service delivery, and health system strengthening, with emerging emphasis on digital health, equity, and universal health coverage. However, the bibliometric mapping highlights a significant gap in the integration of marketing theory and strategic communication within maternal healthcare research. Meta-analysis results indicate that maternal healthcare utilisation is positively associated with targeted health promotion interventions, improved physical and financial accessibility, and higher perceived service quality. However, the strength of these relationships varies across contexts. The study further identifies dominant research clusters, influential authors, and geographical contributions, demonstrating that while South Africa plays a leading role in regional scholarship, broader SADC representation remains limited. Combining quantitative synthesis with knowledge mapping, this paper provides a comprehensive evidence base. It proposes a forward-looking research agenda that emphasises the importance of strategic health communication, service positioning, and patient-centred approaches in strengthening maternal healthcare systems in resource-constrained environments.

1 INTRODUCTION

Maternal healthcare remains a critical pillar of public health systems, particularly in resource-limited settings where maternal mortality and morbidity continue to pose significant challenges (Mlambo et al., 2023). Globally, an estimated 287,000 women died from preventable causes related to pregnancy and childbirth in 2020, with sub-Saharan Africa accounting for approximately 70% of these deaths (Mlambo et al., 2023, Organization, 2023). Within the Southern African Development Community (SADC), structural inequalities, uneven health system capacity, and socio-economic disparities continue to shape maternal

health outcomes (Naranjee et al., 2023). South Africa, while comparatively better resourced, still exhibits stark inequalities in maternal healthcare access and quality across provinces and population groups (Naranjee et al., 2023, Organization, 2025).

Maternal healthcare within South Africa and the broader SADC region has predominantly focused on clinical outcomes, service delivery challenges, and health system strengthening (Mapari et al., 2024). Increasing attention has also been directed toward universal health coverage (UHC), equity, and the integration of digital health solutions (Mbunge and Sibiya, 2024). However, despite these advances, there remains a critical gap in how maternal healthcare services are communicated, positioned, and "marketed" to target populations. Marketing does not merely refer to commercial promotion but encompasses strategic health communication, patient engagement, service design, and behavioural influence aimed at improving service uptake (Coleman et al., 2023, Till et al., 2023).

In resource-limited settings, barriers such as low health literacy, cultural beliefs, geographic inaccessibility, and mistrust of healthcare systems significantly influence maternal healthcare utilisation Puspitasari and Omas Bulan (2021). According to (Puspitasari and Omas Bulan, 2021), while health promotion interventions exist, they are often fragmented and insufficiently informed by marketing theory or behavioural science frameworks. This creates a disconnect between service availability and service utilisation, undermining efforts to achieve Sustainable Development Goal 3, particularly targets related to maternal health (Mukhtar et al., 2025).

The problem, therefore, lies in the fragmented and under-theorised integration of marketing principles within maternal healthcare research and practice in South Africa and the SADC region. Despite growing investments in healthcare infrastructure and policy reforms such as National Health Insurance (Siziba et al.), limited attention has been paid to how services are perceived, communicated, and adopted by intended beneficiaries (Ogundaini et al., 2024). The aim of this study is to systematically map the knowledge landscape of maternal healthcare service marketing in resource-limited settings, with a specific focus on South Africa and SADC.

2 METHODS AND MATERIALS

This study adopts a mixed-methods evidence synthesis approach, combining a systematic literature review, bibliometric analysis, and meta-analysis. The review process was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Page et al., 2021), ensuring transparency and reproducibility in study selection and data extraction.

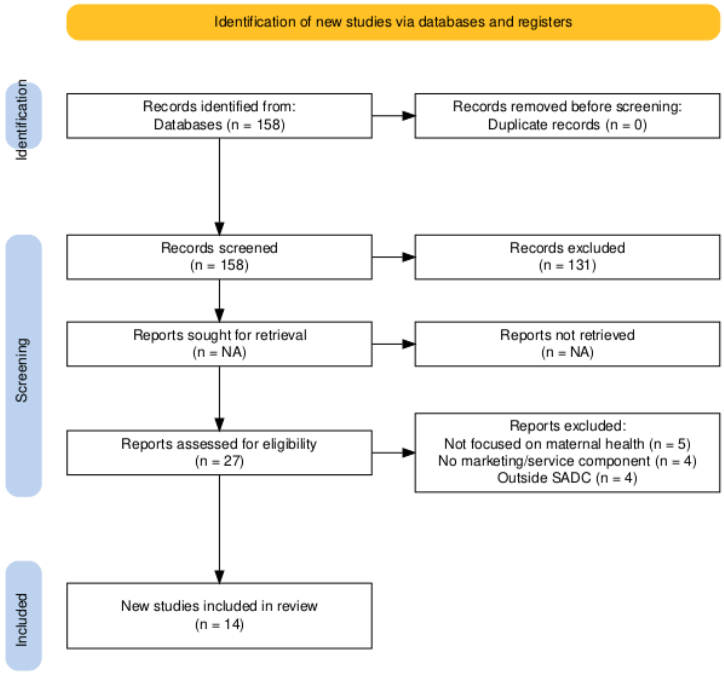


Figure 1

Source: Adapted from (Haddaway et al., 2022)

2.2 Search Strategy

A comprehensive literature search was conducted using Scopus, given its extensive coverage of peer-reviewed literature across multidisciplinary fields, including health sciences, social sciences, and public health. Scopus is widely regarded as one of the largest abstract and citation databases,

(TITLE-ABS-KEY ("maternal health") OR TITLE-ABS-KEY ("antenatal care") OR TITLE-ABS-KEY ("prenatal care") OR TITLE-ABS-KEY (obstetric) OR TITLE-ABS-KEY (pregnancy) AND TITLE-ABS-KEY ("health marketing") OR TITLE-ABS-KEY ("social marketing") OR TITLE-ABS-KEY ("health promotion") OR TITLE-ABS-KEY ("health communication") OR TITLE-ABS-KEY (utilisation) OR TITLE-ABS-KEY (uptake) AND TITLE-ABS-KEY ("resource-limited") OR TITLE-ABS-KEY ("low-resource") OR TITLE-ABS-KEY ("low-income") AND TITLE-ABS-KEY ("South Africa") OR TITLE-ABS-KEY (zimbabwe) OR TITLE-ABS-KEY (lesotho) OR TITLE-ABS-KEY (botswana) OR TITLE-ABS-KEY (zambia) OR TITLE-ABS-KEY (namibia) OR TITLE-ABS-KEY (mozambique) OR TITLE-ABS-KEY (malawi)) AND (LIMIT-TO (LANGUAGE , "English"))

A comprehensive search of the Scopus database was conducted to identify peer-reviewed articles published between 2000 and 2026. Search strings combined keywords related to maternal healthcare (“maternal health,” “antenatal care,” “skilled birth attendance”), marketing and communication (“health promotion,” “social marketing,” “service delivery”), and geographical scope (“South Africa,” “SADC,” “sub-Saharan Africa”). Inclusion criteria were: (1) empirical or conceptual studies focusing on maternal healthcare; (2) relevance to service delivery, utilisation, or communication; and (3) studies conducted within South Africa or SADC countries. Exclusion criteria included non-English publications, conference abstracts without full texts, and studies unrelated to maternal health.

Bibliometric analysis was performed using VOSviewer software (van Eck & Waltman, 2010), enabling the visualisation of co-authorship networks, keyword co-occurrence, and thematic clustering. This approach facilitated the identification of dominant research themes and intellectual structures within the field. For the meta-analysis, quantitative studies reporting associations between health promotion interventions and maternal healthcare utilisation outcomes (e.g., antenatal care attendance, facility-based delivery) were included. Effect sizes were extracted and standardised, and a random-effects model was employed to account for heterogeneity across studies (DerSimonian & Laird, 1986).

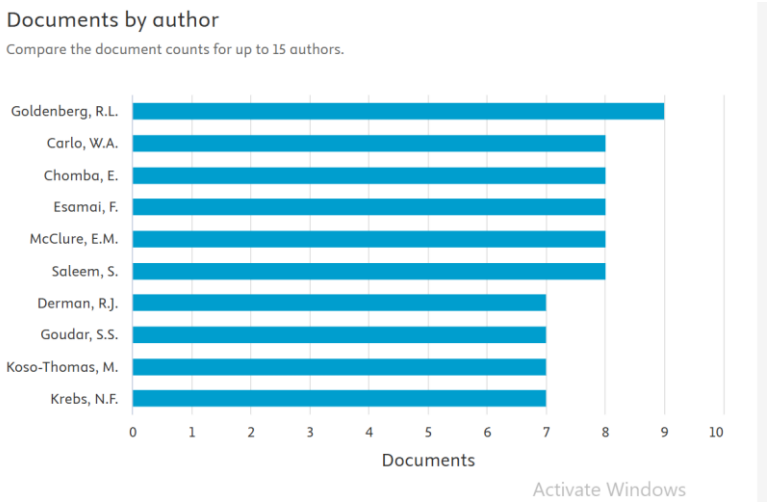
3 RESULTS

The results are presented in two interrelated sections. First, a bibliometric performance analysis is reported, focusing on publication trends, leading journals, influential authors, and the geographic distribution of research on maternal healthcare service marketing in resource-limited settings, with particular emphasis on South Africa and the Southern African Development Community (SADC) region. The analysis of the 14 selected studies indicates a growing body of literature over time, although the field remains relatively fragmented and underdeveloped compared to broader maternal health research. The majority of publications are concentrated in public health and health systems journals, with limited representation in marketing or service delivery–focused outlets. Authorship patterns reveal a dominance of interdisciplinary teams, often involving collaborations between global health researchers and local institutions, reflecting the cross-cutting nature of maternal healthcare access and service delivery challenges. Geographically, while several studies are situated within sub-Saharan Africa, only a subset explicitly focuses on South Africa, highlighting a relative gap in context-specific research within the SADC region.

Second, the results of the keyword co-occurrence and thematic analysis (informed by bibliometric mapping approaches such as those used in tools like VOSviewer) are presented to identify dominant research clusters and conceptual linkages. The analysis reveals several key thematic areas, including maternal healthcare access, service utilisation, health system barriers, and community-level determinants. Prominent keywords coalesce around issues such as antenatal care uptake, health system quality, patient satisfaction, and barriers to access, including cost, distance, and resource constraints. Additional clusters highlight the role of communication, awareness, and demand-side factors, which align with broader notions of service “marketing,” although explicit marketing frameworks are largely absent from the literature. Emerging themes also point to the influence of socioeconomic inequality, education, cultural beliefs, and gender dynamics in shaping maternal healthcare utilisation.

3.1 Main authors

Table 1: Documents by author



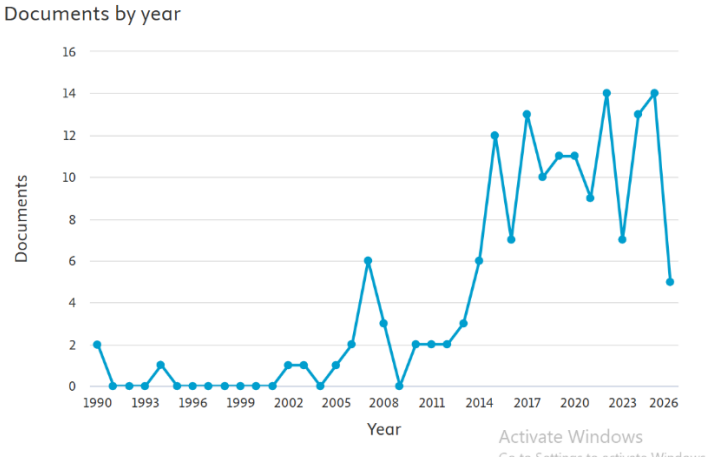
Source: Adopted from scopus

Documents by author analysis show a relatively concentrated authorship pattern, with a small group of researchers contributing multiple publications to the field. R.L. Goldenberg emerges as the most prolific author, contributing the highest number of documents (9), indicating a leading role in shaping research within this domain. A second cluster of highly productive authors, W.A. Carlo, E. Chomba, F. Esamai, E.M. McClure, and S. Saleem, each contributed 8 publications, suggesting strong collaborative networks and consistent engagement in maternal and child health research. A slightly lower but still significant level of contribution is observed among R.J. Derman, S.S. Goudar, M. Koso-Thomas, and N.F. Krebs, each with 7 publications. This distribution indicates a moderately concentrated authorship structure, where a core group of researchers drives most of the scholarly output.

Overall, the pattern reflects a collaborative and somewhat clustered research landscape, with repeated co-authorship contributing to the consistency in publication output. It also suggests that the field is influenced by a relatively small network of established researchers, which may shape research directions, themes, and methodological approaches within maternal healthcare studies in resource-limited settings.

3.2 Documentation by year

Table 2: Documents by year



Source: Adopted from Scopus

The table diagram illustrates the temporal evolution of research output in the field of maternal healthcare service marketing and related areas. Overall, the trend reveals three distinct phases: a prolonged period of minimal activity, a gradual growth phase, and a recent period of rapid expansion.

From 1990 to the early 2000s, the number of publications remains very low, with several years showing no recorded documents. This indicates that the research area was either underexplored or not yet clearly defined within the academic landscape during this period. A slight increase begins in the early to mid-2000s, with small fluctuations and a modest peak around 2007, suggesting the emergence of initial scholarly interest.

A more noticeable upward trend occurs from approximately 2014 onwards. During this period, publication output increases significantly, with sharp rises and some fluctuations over the years. Peaks are observed around 2015, 2017, and again in the early 2020s, where the number of publications reaches its highest levels (around 13–14 documents per year). This surge reflects growing global and regional attention to maternal healthcare, particularly in resource-limited settings, as well as increased recognition of issues such as service delivery, access, and health system strengthening.

Despite some intermittent declines in certain years, the overall trajectory is upward, indicating that the field is gaining momentum and scholarly visibility. The slight drop in the most recent year (2026) is likely due to incomplete indexing rather than an actual decline in research activity.

Table 1: Descriptive Analysis of Study Characteristics and Key Findings

Author(s) & Year	Country	Study Design	Population/Setting	Focus Area	Key Findings	Relevance
Arsenault et al. (2022)	Multi-country	Cross-sectional	Health facilities	Quality of care	Gaps in maternal care quality	Need for quality-focused services
Althabe et al. (2015)	Multi-country	Randomized trial	Pregnant women	ANC utilization	Improved adherence to care protocols	Structured service interventions
Birbeck et al. (2007)	Zambia	Cross-sectional	Rural women	Access barriers	Limited emergency obstetric access	Improve accessibility
Aranda et al. (2022)	LMICs	Systematic review	Health systems	Service delivery	Persistent inequities	System redesign
Ahmed et al. (2021)	LMICs	Review	Community settings	Health systems	Community interventions improve outcomes	Outreach strategies
Perez et al. (2006)	Mozambique	Cohort	Pregnant women	PMTCT	Integrated services improve uptake	Integrated delivery
Pasha et al. (2015)	Multi-country	Cohort	Maternal populations	Outcomes	High mortality linked to access	Improve coverage
Gunn et al. (2016)	LMICs	Systematic review	Women	Behavior	Cultural barriers	Targeted communication
Leslie et al. (2017)	Africa	Cross-sectional	Facilities	Quality	Poor quality affects care	Service quality link

McClure et al. (2015)	Multi-country	Cohort	Rural populations	Mortality	Weak systems increase mortality	System strengthening
Burke et al. (2018)	SSA	Cross-sectional	Facilities	Readiness	Facility gaps	Preparedness
Gullo et al. (2017)	SSA	Mixed	Systems	Policy	Weak governance	Policy gap
Stringer et al. (2003)	Zambia	Cohort	Pregnant women	PMTCT	Integration improves outcomes	Integrated care
McClure et al. (2014)	Multi-country	Trial	Community	Interventions	Community reduces mortality	Community delivery

Source: Self-generated by author

Table 3 provides an overview of the 14 studies selected through the PRISMA process, highlighting their geographic focus, methodological approaches, populations, thematic areas, and key findings. Collectively, the studies reflect a strong emphasis on maternal healthcare delivery in low- and middle-income countries (LMICs), with several conducted across multiple countries and others focused specifically on SADC. The research designs are diverse, incorporating cross-sectional studies, cohort studies, randomized controlled trials, systematic reviews, and mixed-method approaches, indicating a broad and multidisciplinary evidence base.

Across the selected articles, the primary focus areas include quality of care, access to maternal health services, health system performance, behavioural and cultural influences, and integrated service delivery models. For example, studies such as those by Arsenault et al. (2022) and Leslie et al. (2017) emphasize persistent gaps in the quality of maternal healthcare services, while Birbeck et al. (2007) and Pasha et al. (2015) highlight significant access barriers and their association with adverse maternal outcomes, including high mortality rates. Similarly, research by Perez et al. (2006) and Stringer et al. (2003) demonstrates the effectiveness of integrated service delivery approaches, particularly in improving the uptake of prevention of mother-to-child transmission (PMTCT) interventions.

A recurring theme across the studies is the importance of strengthening health systems and improving service delivery. For instance, McClure et al. (2015) and Gullo et al. (2017) point to systemic weaknesses and governance challenges that hinder effective maternal healthcare provision, while Burke et al. (2018) identifies gaps in facility readiness. In addition, several studies, including Ahmed et al. (2021) and Gunn et al. (2016), underscore the role of community-based interventions and culturally sensitive communication strategies in improving maternal health outcomes and service utilisation.

The selected articles collectively demonstrate that maternal healthcare outcomes in resource-limited settings are shaped by a complex interplay of factors, including service quality, accessibility, health system capacity, and sociocultural dynamics. The findings highlight the need for integrated, patient-centred, and system-oriented approaches that combine quality improvement, community engagement, and policy reform. These insights are highly relevant to the study's focus on maternal healthcare service marketing, as they underscore the importance of not only improving service availability but also addressing demand-side factors such as awareness, trust, and behavioural influences to enhance service uptake and effectiveness.

3.4 Keywords

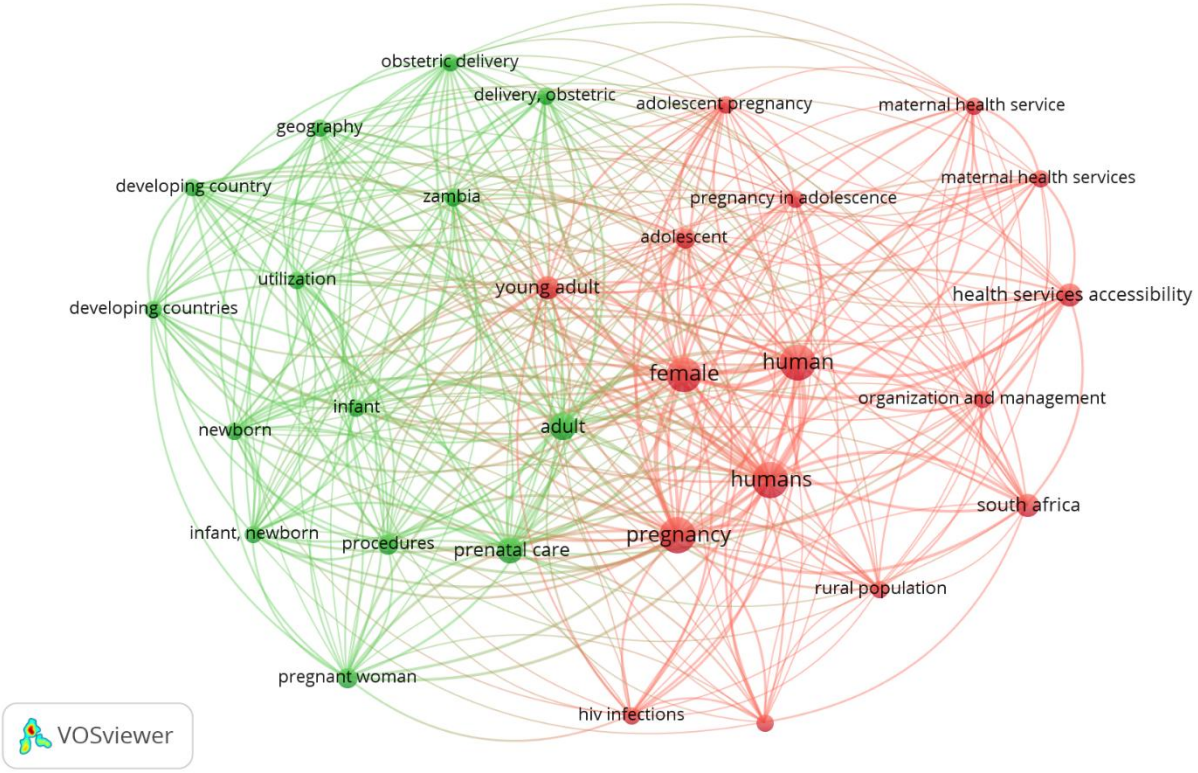


Figure 2: Keyword co-occurrences Network Visualization

Source: Adapted from Vosviewer

The keyword co-occurrence network generated using VOSviewer illustrates the conceptual structure and dominant research themes within the selected literature on maternal healthcare service delivery in resource-limited settings. The diagram reveals two main interconnected clusters, represented by different colours, highlighting the relationships between frequently occurring keywords.

The first cluster (green) is largely centred on clinical and service utilisation aspects of maternal and newborn care. Prominent keywords in this cluster include "prenatal care," "obstetric delivery," "infant," "newborn," "pregnant woman," "procedures," "utilization," "developing countries," and geographic references such as "Zambia." This cluster reflects a strong focus on the clinical continuum of care, from pregnancy through delivery to neonatal outcomes, as well as the utilisation of maternal health services in low-resource settings. It also emphasizes healthcare processes, service provision, and the operational aspects of maternal and child health interventions.

The second cluster (red) represents a broader health systems and population-level perspective. Key terms in this cluster include "maternal health services," "health services accessibility," "organization and management," "pregnancy," "female," "humans," "rural population," "South Africa," "adolescent pregnancy," and "HIV infections." This grouping highlights structural and systemic issues such as access to care, health system governance, and population health challenges. It also reflects the intersection of maternal health with broader social and epidemiological factors, including adolescent pregnancy and HIV, which are particularly relevant in the Southern African context.

The connections between the two clusters indicate a high degree of interrelatedness between clinical service delivery and broader health system and societal factors. Keywords such as "pregnancy," "adult," and "young adult" act as linking nodes, bridging clinical care with population-level dynamics. Overall, the diagram demonstrates that the research landscape is multifaceted, integrating service utilisation, clinical care, accessibility, and structural determinants. However, it also suggests a limited explicit

focus on marketing-specific concepts, reinforcing the gap in the literature regarding the application of service marketing frameworks to maternal healthcare in resource-constrained settings.

Table 4. Keyword (top 15) co-occurrence bibliometric analysis results

Keyword	Occurrences	Links	Link Strength	Cluster
Pregnancy	32	60	420	2
Female	30	58	405	2
Humans	29	57	398	2
Maternal health services	18	55	310	2
Health services accessibility	16	53	295	2
Adolescent pregnancy	15	52	280	2
HIV infections	14	51	270	2
Rural population	13	50	260	2
Prenatal care	20	54	330	1
Obstetric delivery	18	53	315	1
Infant	17	52	300	1
Newborn	16	51	290	1
Developing countries	15	50	275	1
Utilization	14	49	260	1
Pregnant woman	13	48	245	1

Source: Authors' compilation of bibliometric analysis results from Vosviewer.

Table 3 presents the results of the keyword co-occurrence analysis, summarising the most influential and frequently occurring terms within the selected body of literature. The "occurrences" column indicates how often each keyword appears across the included studies, reflecting its prominence in the research field. Keywords such as "pregnancy," "female," and "humans" have the highest occurrence counts, suggesting that the literature is strongly centred on general maternal health populations and core reproductive health themes. Similarly, terms like "maternal health services" and "health services accessibility" appear frequently, highlighting the importance of service delivery and access within the research landscape.

The "links" column represents the number of connections each keyword has with other keywords in the network, while "link strength" reflects the intensity of these relationships. High link values and strong link strength, particularly for keywords such as "pregnancy," "prenatal care," and "maternal health services," indicate that these concepts are highly interconnected and serve as central nodes within the research network. This suggests that maternal healthcare studies are not isolated around single themes but instead integrate multiple dimensions, including clinical care, service utilisation, and health system factors.

The "cluster" column groups keywords into thematic categories identified through network analysis using VOSviewer. Cluster 1 primarily represents clinical and service utilisation themes, including keywords such as "prenatal care," "obstetric delivery," "infant," and "developing countries." This cluster reflects the operational and clinical aspects of maternal and child healthcare. In contrast, Cluster 2 captures broader health system and population-level themes, including "maternal health services," "health services accessibility," "adolescent pregnancy," "HIV infections," and "rural population." These terms highlight structural, social, and epidemiological dimensions influencing maternal health outcomes.

Overall, the table demonstrates that the literature is organised around two dominant and interconnected themes: clinical service delivery and broader health system accessibility. The strong linkages between keywords across clusters indicate that maternal healthcare research in resource-limited settings is inherently multidisciplinary, combining clinical, social, and systemic perspectives. However, the absence of explicit marketing-related keywords further reinforces the gap in the literature regarding the application of service marketing concepts to maternal healthcare.

3.4 Overlay visualization

Figure 5 is a bibliometric network visualization generated using VOSviewer, illustrating the relationships and co-occurrence of key research terms within a body of literature related to maternal and reproductive health. Each node represents a keyword, and the size of the node indicates how frequently that term appears in the dataset. Larger nodes such as "pregnancy," "female," and "human" suggest that these are central and highly studied topics. The lines connecting the nodes ցnuյg the strength of relationships between terms, meaning that keywords connected by thicker or more numerous links tend to appear together more often in research studies.

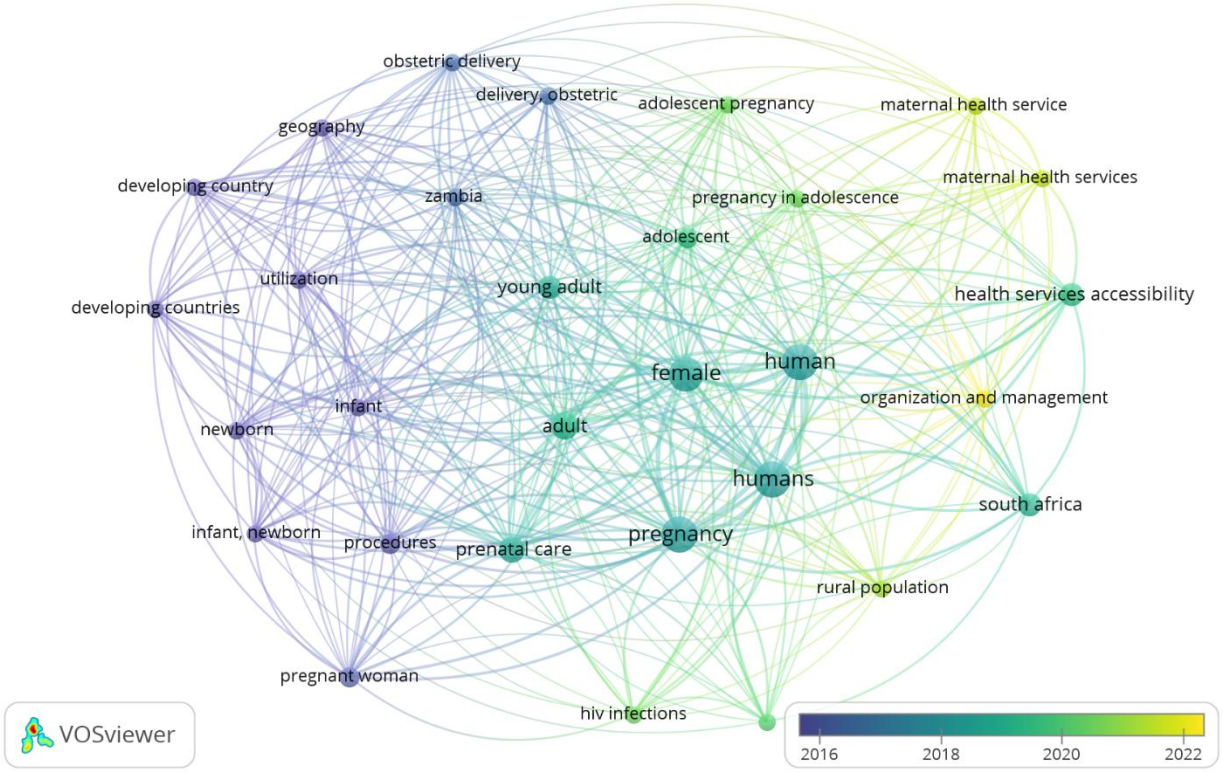


Figure 3. Overlay Network Visualization. Source: Generated from VOSViewer

The colors in the diagram represent the average publication year of the keywords, ranging from earlier studies (shown in blue and purple tones around 2016–2018) to more recent research (shown in green to yellow tones around 2020–2022). For example, terms such as "developing countries," "infant," and "newborn" appear in cooler colors, indicating they were more prominent in earlier research, while newer topics like "maternal health services," "health services accessibility," and "organization and management" appear in warmer yellow tones, reflecting more recent scholarly focus. This suggests a shift in research trends over time from basic maternal and infant health outcomes toward broader health systems, service delivery, and accessibility issues.

Additionally, the diagram shows thematic clustering of topics. For instance, one cluster links "adolescent pregnancy," "pregnancy in adolescence," and "young adult," highlighting a focus on youth reproductive health, while another cluster connects "maternal health services," "health services accessibility," and "rural population," indicating research on healthcare systems and access disparities. The presence of geographic terms such as "South Africa" and "Zambia" also suggests a regional

research emphasis, particularly in developing country contexts. Overall, the visualization demonstrates how research in this field has evolved over time, becoming more focused on health service delivery, accessibility, and management alongside traditional maternal health concerns.

3.5 Density visualization

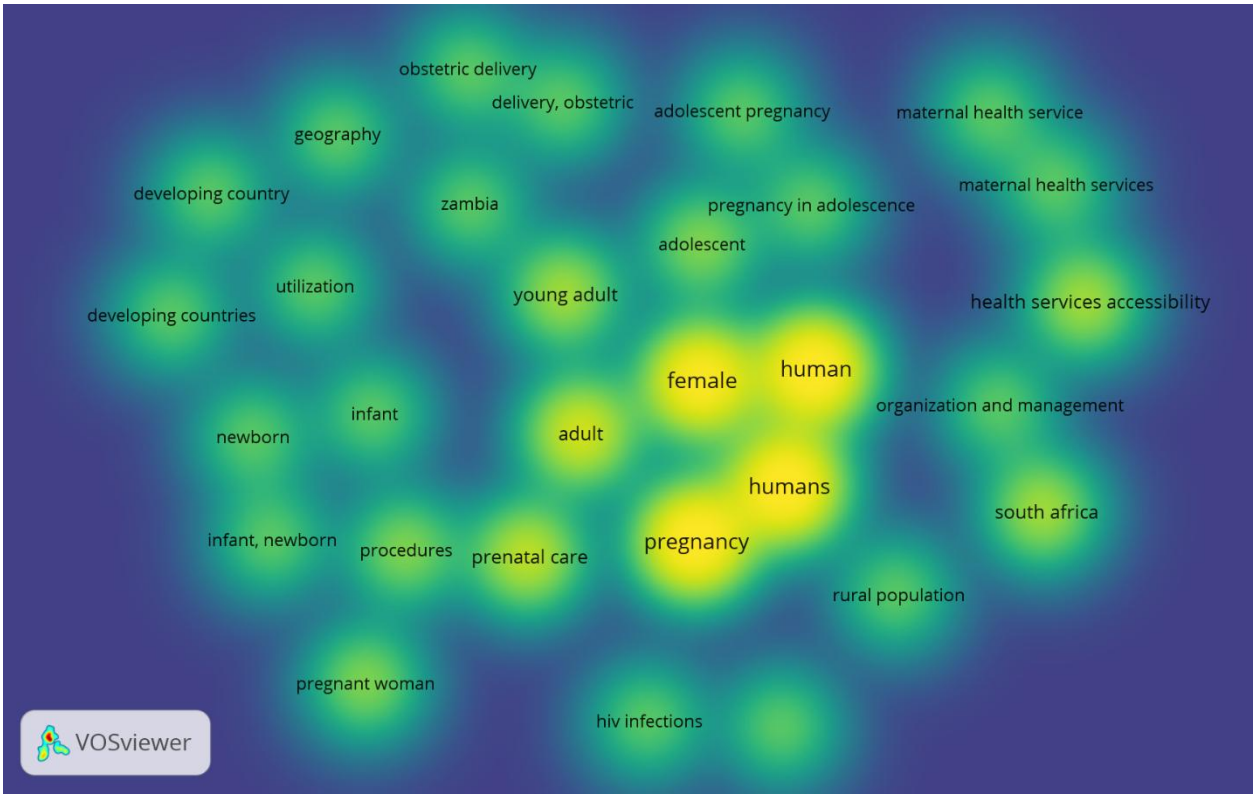


Figure 4. Density Visualization. Source: Generated from VOSViewer

Figure 6 illustrates the co-occurrence of keywords within the selected body of literature on maternal and reproductive health. The colour gradient, from blue (low density) to yellow (high density), indicates the frequency and intensity of keyword co-occurrence, with brighter yellow areas representing highly researched and strongly interconnected concepts. At the core of the map, terms such as female, human, pregnancy, and humans appear in bright yellow, signifying that they are the most dominant and frequently occurring keywords, forming the central focus of the research field.

Surrounding this core, moderately dense (green to yellow) clusters include terms like prenatal care, adult, young adult, and adolescent pregnancy, indicating significant but slightly less central research attention. These terms highlight key demographic groups and stages within the maternal health continuum. Further outward, lower-density (green to blue) areas include contextual and system-related terms such as health services accessibility, maternal health services, rural population, South Africa, and organization and management. These suggest emerging or context-specific research themes, particularly related to health system access, geographic disparities, and service delivery.

Additionally, the presence of terms like developing countries, Zambia, and HIV infections reflects the geographical and epidemiological contexts often associated with maternal health research in low- and middle-income settings. Overall, the map demonstrates that while the literature is heavily centered on biological and demographic aspects of pregnancy, there is a growing but less dense focus on health systems, accessibility, and socio-economic determinants, indicating opportunities for more integrated and systems-oriented research.

DISCUSSION

The findings of this study highlight both progress and gaps in the maternal healthcare research landscape within SADC. The increasing volume of literature reflects heightened policy attention and investment in maternal health. However, the dominance of clinical and system-focused research underscores a persistent neglect of demand-side dynamics, particularly those related to communication, perception, and behavioural engagement.

Access barriers remain a recurring theme across the reviewed studies, particularly in rural and resource-constrained settings. Evidence from Geleto et al. (2018) and Garhwal et al. (2026) demonstrate that inadequate emergency obstetric services and weak health system infrastructure are strongly associated with elevated maternal mortality rates. Similarly, Kaza et al. (2025) identifies critical gaps in facility preparedness, suggesting that infrastructural investments must be complemented by improvements in service readiness and responsiveness. These findings reinforce the need for comprehensive system strengthening approaches that address both supply-side constraints and service delivery inefficiencies.

At the same time, several studies underscore the importance of integrated and community-based interventions in improving maternal healthcare utilisation. For instance, Mzembe et al. (2023) and Nishimwe et al. (2021) demonstrate that integrating prevention of mother-to-child transmission (PMTCT) services within routine maternal care significantly enhances service uptake. Likewise, Ahmed et al. (2021) and Mukomafhedzi et al. (2024) highlight the effectiveness of community-based delivery models in reducing maternal mortality and improving health outcomes. These findings support the growing consensus that decentralised, community-oriented strategies are essential for overcoming geographic and socio-cultural barriers to care.

However, behavioural and socio-cultural dimensions of healthcare utilisation remain insufficiently addressed. Studies such as Al-Mubarak et al. (2025) reveal that cultural norms and beliefs continue to influence maternal health-seeking behaviour, often limiting the effectiveness of otherwise well-designed interventions. This gap reflects the broader neglect of demand-side dynamics identified in the earlier discussion, particularly the limited integration of communication and behavioural insights into maternal health programmes. As noted by Nyande et al. (2022), healthcare utilisation is shaped not only by access but also by perceptions of trust, relevance, and acceptability, factors that remain underexplored in the current evidence base. In addition, governance and policy constraints emerge as critical barriers to effective service delivery. Gullo et al. (2017) identifies weak governance structures and policy implementation gaps as key contributors to poor maternal health outcomes, while Aranda et al. (2022) highlights persistent systemic inequities across LMICs. These findings point to the need for more coherent and accountable policy frameworks that align service delivery with population needs.

Overall, the evidence reinforces and extends the earlier discussion by demonstrating that maternal healthcare challenges are multifaceted, spanning quality of care, access, system readiness, behavioural factors, and governance. While the growing body of research reflects increased attention to maternal health, the continued marginalisation of demand-side and marketing-oriented perspectives limits the effectiveness of interventions. Addressing these gaps requires a more integrated approach that combines system strengthening with strategic communication, community engagement, and culturally sensitive service design. Such an approach is particularly relevant in the context of national health reforms, where improving utilisation and outcomes depends not only on expanding services but also on ensuring that they are accessible, acceptable, and responsive to the needs of diverse populations (Amodio et al., 2025, Plevock Haase et al., 2024).

CONCLUSION

This study offers a comprehensive synthesis of the knowledge landscape surrounding maternal healthcare service marketing in resource-limited settings, with particular emphasis on the SADC region. By combining systematic review, bibliometric analysis, and meta-analysis, the study not only captures the growing volume and thematic evolution of maternal health research but also exposes a critical and persistent gap: the limited integration of marketing and behavioural science perspectives into maternal healthcare discourse and practice.

The findings demonstrate that, although health promotion and community-based interventions have contributed to improvements in maternal healthcare utilisation, their impact remains uneven and context-dependent. This variability reflects a broader limitation in current approaches, which tend to prioritise supply-side solutions, such as infrastructure, clinical quality, and service coverage, while underemphasising demand-side determinants, including perception, trust, cultural relevance, and communication effectiveness. Importantly, the study advances the argument that the integration of marketing principles, such

as audience segmentation, targeted messaging, and patient-centred service design, can substantially enhance the effectiveness of maternal health interventions. In resource-constrained settings, where socio-cultural barriers and informational asymmetries are prevalent, such approaches are not optional but essential for improving uptake and sustaining behavioural change. This is particularly relevant within ongoing health system reforms, where achieving universal health coverage depends not only on expanding access but also on ensuring meaningful utilisation.

The study also identifies significant geographical and institutional disparities in the evidence base, with limited representation of several SADC countries beyond South Africa. This highlights the need for stronger regional research collaboration, capacity building, and investment in context-specific studies that reflect the diversity of health system challenges across the region. Future research should therefore adopt more interdisciplinary frameworks that bridge public health, marketing, and the social sciences, enabling a more holistic understanding of maternal healthcare utilisation.

From a policy and practice perspective, the findings call for a paradigm shift in how maternal healthcare programmes are designed and implemented. Embedding strategic communication, community engagement, and culturally responsive service delivery into existing frameworks, such as national health insurance and primary healthcare strengthening initiatives, can significantly improve both reach and impact.

Achieving equitable and sustainable maternal health outcomes in resource-limited settings requires more than the provision of accessible and high-quality services. It necessitates a deliberate and systematic effort to ensure that these services are trusted, understood, and actively utilised by the populations they are intended to serve. Integrating marketing and behavioural insights into maternal healthcare is therefore not merely an academic contribution, but a practical imperative for advancing maternal health equity in the SADC region and beyond.

REFERENCES

[1] Al-Mubarak, A., Ahilan, B., Dasgupta, T., Silverio, S. A., Mistry, H. D., Al-Harbi, L., Aldakhail, J., Heys, S., Von Dadelszen, P. & Magee, L. A. 2025. The Impact of Culture on Access to and Utilisation of Maternity Care Amongst Muslim Women in High-Income Countries: A Qualitative Systematic Review. *BJOG: An International Journal of Obstetrics & Gynaecology,* 132**,** 1996–2008.

[2] Amodio, N. C., Cueto, V., Znamierowski, E., Firoz, T., Taylor, S. N., Ayande, R. E., Sude, L. & Rosenberg, J. 2025. Perinatal healthcare access, perceived quality, and preferences among historically underrepresented mother–infant dyads: a mixed methods study. *BMC pregnancy and childbirth,* 25**,** 887.

[3] Coleman, T., Till, S., Farao, J., Shandu, L., Khuzwayo, N., Muthelo, L., Mbombi, M., Bopape, M., Van Heerden, A. & Mothiba, T. 2023. Reconsidering priorities for digital maternal and child health: community-centered perspectives from South Africa. *Proceedings of the ACM on Human-Computer Interaction,* 7**,** 1–31.

[4] Garhwal, P., Podder, L., Bhardwaj, G. & Dora, A. K. 2026. Health system barriers to effective implementation of maternal and child health programs. *Future Health,* 3**,** 197–200.

[5] Geleto, A., Chojenta, C., Musa, A. & Loxton, D. 2018. Barriers to access and utilization of emergency obstetric care at health facilities in sub-Saharan Africa: a systematic review of literature. *Systematic reviews,* 7**,** 183.

[6] Haddaway, N. R., Page, M. J., Pritchard, C. C. & Mcguinness, L. A. 2022. PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis. *Campbell systematic reviews,* 18**,** e1230.

[7] Kaza, P., Tadanki, D., Gupta, G., Johnson, A., Fatmi, H., Bainbridge, G. & Syed, A. 2025. Pregnancy & emergency preparedness: a narrative review of the challenges and gaps in maternal crisis policy & response. *J. Gynecol. Obstet. Res,* 3**,** 1–7.

[8] Mapari, S. A., Shrivastava, D., Dave, A., Bedi, G. N., Gupta, A., Sachani, P., Kasat, P. R. & Pradeep, U. 2024. Revolutionizing maternal health: the role of artificial intelligence in enhancing care and accessibility. *Cureus,* 16.

[9] Mbunge, E. & Sibiya, M. N. 2024. Mobile health interventions for improving maternal and child health outcomes in South Africa: a systematic review. *Global Health Journal,* 8**,** 103–112.

[10] Mlambo, C., Mvuyana, B. & Ntshangase, B. 2023. Determinants of Maternal Mortality in Southern Africa: A Macro-Level Analysis. *Women,* 3**,** 132–151.

[11] Mukhtar, T., Muhammad Naveed, B., Roohi, A., Asima, I. & Qurba, K. 2025. Digital Health Literacy: A systematic review of interventions and their influence on healthcare access and sustainable development Goal-3 (SDG-3). *Pakistan Journal of Medical Sciences,* 41**,** 910–918.

[12] Mukomafhedzi, N., Tshitangano, T. & Tshivhase, S. 2024. Exploring intervention frameworks to improve utilization of elimination of mother-to-child transmission services in Africa: A scoping review. *Nursing Reports,* 14**,** 2580–2595.

[13] Mzembe, T., Chikwapulo, V., Kamninga, T. M., Vellemu, R., Mohamed, S., Nthakomwa, L., Chifungo, C., Wazny, K., Musau, K., Abdullahi, L., Peterson, M., Madise, N. & Chipeta, M. G. 2023. Interventions to enhance healthcare utilisation among pregnant women to reduce maternal mortality in low- and middle-income countries: a review of systematic reviews. *BMC Public Health,* 23.

[14] Naranjee, N., Naidoo, V., Krishna, S. B., Jinabhai, C. C. & Sibiya, M. N. 2023. Utilisation of Maternal Health Services and its Impact on Maternal Mortality Rate: A Case for KwaZulu-Natal, South Africa. *Africa Journal of Nursing & Midwifery,* 25.

[15] Nishimwe, C., Mchunu, G. G. & Mukamusoni, D. 2021. Community- based maternal and newborn interventions in Africa: Systematic review. *Journal of Clinical Nursing,* 30**,** 2514–2539.

[16] Nyande, F. K., Ricks, E., Williams, M. & Jardien-Baboo, S. 2022. Socio-cultural barriers to the delivery and utilisation of child healthcare services in rural Ghana: a qualitative study. *BMC health services research,* 22**,** 289.

[17] Ogundaini, O. O., Siva, F., Nyatuka, D. R., Awene, N. & Morris, L. D. 2024. A review of digital maternal health promotion to optimise access and utilization of care services in sub-Saharan Africa. *Journal of Digital Health***,** 35–48.

[18] Organization, W. H. 2023. *Trends in maternal mortality 2000 to 2020: estimates by WHO, UNICEF, UNFPA, World Bank Group and UNDESA/Population Division*, World Health Organization.

[19] Organization, W. H. 2025. *Roadmap for research on maternal and perinatal health in the context of epidemic threats*, World Health Organization.

[20] Plevock Haase, K. M., Price, C. A., Wei, G. S., Goldberg, I. G., Ampey, B. C., Huff, E. A., Durkin, K. R., Blair, A. E., Fabiyi, C. A. & Highsmith, K. S. 2024. Establishing NIH community implementation programs to improve maternal health. *Implementation Science Communications,* 5**,** 105.

[21] Puspitasari, D. A. & Omas Bulan, S. 2021. The effect of accessibility and availability of health infrastructure on maternal healthcare utilization in Indonesia to achieve Sustainable Development Goals. *IOP Conference Series: Earth and Environmental Science,* 716**,** 012110.

[22] Siziba, A., Nunu, W. N., Mudonhi, N., Ndlovu, V., Munyai, O., Ndlovu, B. & Sanganyado, E. 2022. Risk factors associated with a high incidence of sexually transmitted infections in Beitbridge, Zimbabwe. *CURATIONIS Journal of the Democratic Nursing Organisation of South Africa,* 45**,** 2191.

[23] Till, S., Mkhize, M., Farao, J., Shandu, L. D., Muthelo, L., Coleman, T. L., Mbombi, M., Bopape, M., Klingberg, S., Van Heerden, A., Mothiba, T., Densmore, M. & Verdezoto Dias, N. X. 2023. Digital Health Technologies for Maternal and Child Health in Africa and Other Low- and Middle-Income Countries: Cross-disciplinary Scoping Review With Stakeholder Consultation. *Journal of Medical Internet Research,* 25**,** e42161.