Protocal

Ovarian cancer presentation and management in sub-Saharan Africa: in lung adenocarcinoma

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Abstract

Introduction

Ovarian cancer is a leading gynecological malignancy mortality globally. Clinical outcomes in sub-Saharan Africa (SSA) are poor, largely due to late-stage presentation and limited accessing to effective treatment options. Referral pathways also delay diagnosis and compromise delivery of guideline-concordant care. A comprehensive mapping of evidence on ovarian cancer presentation and management across SSA is needed to characterize what is known, where evidence is concentrated, and where critical gaps persist.

Methods and analysis

This protocol describes a systematic scoping review of literature on ovarian cancer presentation and management in SSA. The review will be conducted in accordance with the Arksey and O'Malley methodological framework and reported using PRISMA-ScR guidance. The Population Concept Context (PCC) framework will guide eligibility and data charting (Population: individuals diagnosed with ovarian cancer, including epithelial ovarian cancer and, where specified, fallopian tube or primary peritoneal cancer; Concept: presentation from symptom onset to diagnosis and management across the care pathway; Context: SSA). We will search PubMed, Embase, Scopus, Web of Science, CINAHL, and the Cochrane Library, alongside relevant grey literature sources (organizational websites, conference proceedings, dissertations/theses). Searches will be limited to English-language evidence published between January 2000 and June 2026. Two reviewers will independently screen titles/abstracts and full texts, with disagreements resolved by consensus or a third reviewer. Data will be charted using a standardized extraction form capturing study characteristics, presentation indicators (symptoms, stage at diagnosis, delays), diagnostic/staging approaches, management modalities (surgery, systemic therapy, radiotherapy, supportive/palliative care), and barriers/facilitators. Results will be synthesized using descriptive mapping and narrative/thematic synthesis.

Ethics and dissemination

Ethics approval is not required as this review will use de-identified publicly available data. Findings will be disseminated through peer-reviewed publications, conference presentations, and stakeholder engagement to inform policy, service delivery, and research priorities for improving ovarian cancer outcomes in SSA.

Strengths and limitations of this study

This review will provide a comprehensive evidence map across the ovarian cancer care pathway in sub-Saharan Africa, drawing on both published and grey literature to characterize the scope, distribution, and nature of available evidence. Rigor and transparency will be strengthened through dual independent screening of titles/abstracts and full texts. However, restricting inclusion to English-language evidence published between 2020 and June 2026 may result in the omission of relevant studies from earlier periods or those published in other languages. In addition, no critical appraisal of the quality of the studies will be undertaken, consistent with the objectives of a scoping review to map evidence rather than evaluate study quality.

Keywords: Ovarian cancer; Sub-Saharan Africa; Diagnostic delay; Cancer management; Health systems; Scoping review

Background

Ovarian cancer arises when abnormal cells in the ovary, fallopian tube, or peritoneum proliferate uncontrollably to form a tumour[1]. It is an important gynecological cancer mortality globally. Diagnosis and management of these cancers in the African context are particularly constrained by limited health-system capacity, including restricted access to timely patient presentation, diagnosis and specialist oncology care[2]. Although global incidence patterns vary, sub-Saharan Africa (SSA) is experiencing a growing burden, with increasing age-standardized incidence rates reported in several settings[3]. Projections indicate that Africa will experience the fastest rise globally, with an estimated 87% increase in ovarian cancer cases by 2040, intensifying the urgency for context-specific evidence to guide early detection and improved treatment pathway[5]. Clinical outcomes in SSA remain poor largely because most patients present with advanced-stage disease, which substantially limits curative options or remission which contribute to high case fatality[4,6]. This is reflected in a mortality-to-incidence ratio of approximately 0.97 in West and East Africa which is markedly higher than the 0.5–0.6

https://dx.doi.org/10.4314/mmj.v38i2.15

observed in North America[6,7].

The diagnostic pathway for ovarian cancer in SSA is frequently prolonged by vague, non-specific symptoms such as bloating and abdominal pain, which are often misattributed to common benign conditions[8]. Delays occur at multiple levels, including at the patient level due to low symptom awareness and the health system level caused by a lack of awareness at the primary care level, non-available specialists and limited diagnostic tools[9-11]. In many settings, timely diagnosis is further hindered by the limited availability of high-quality imaging, tumor marker assays, and significant backlogs in histopathological confirmation[12,13].

Access to standard-of-care management is severely restricted across SSA due to a critical shortage of gynaecologic oncologists and surgical infrastructure; for instance, some countries have only one specialist for millions of people[13,14]. Surgical management is often compromised by frequent theater cancellations, lack of ICU (Intensive Care Units) capacity, and equipment failures[15,16]. Furthermore, chemotherapy delivery is frequently interrupted by drug stockouts, high out-of-pocket costs, and a lack of oncology-trained nursing staff[13,17]. Palliative care services also remain poorly integrated into many oncology programmes, leaving patients with advanced disease with limited supportive care options[14].

The available literature on ovarian cancer in Africa is fragmented across countries, care settings, and stages of the care pathway. There appears to be no comprehensive systematic synthesis focused specifically on the presentation and management of ovarian cancer across the region. This lack of synthesis limits understanding of what is currently known, where evidence is concentrated, and where important gaps remain.

To map the availability of evidence regarding the presentation and management for ovarian cancer in sub-Saharan Africa, we will conduct a scoping review to systematically identify, collate, and synthesize evidence across the region. This review will map reported stage at diagnosis, documented barriers to timely diagnosis, and the availability and delivery of key management modalities, including surgery, chemotherapy, radiotherapy, and supportive/palliative care. The primary output will be a comprehensive evidence map describing what is known, where evidence is concentrated, and where substantial gaps persist by country, setting, and along the care pathway. Findings will be used to generate actionable implications for strengthening regional oncology policy, service delivery, and clinical practice, particularly around timely diagnosis and equitable access to effective ovarian cancer treatment.

Methodology

Definitions of concepts

Presentation

This concept encompasses the entire journey from symptom onset to diagnosis, including symptom profiles, stage presentation, and the specific time intervals associated with patient, primary care, and referral delays[9,11].

Management

This concept refers to the clinical and systemic processes of care, including diagnostic workup, surgical interventions, chemotherapy availability, referral systems, and the integration of supportive or palliative care[18,19].

Scoping review

This protocol is for a systematic scoping review of literature reporting on ovarian cancer presentation and management in sub-Saharan Africa. A scoping review method was selected because it aims to map the breadth and nature of evidence in this area and to identify gaps requiring further research. The proposed review will be guided by the methodological framework proposed by Arksey and O'Malley[17]. This methodology comprises five steps including: (i) identifying the research question, (ii) identifying relevant studies, (iii) selection of eligible studies, (iv) charting the data, and (v) collating, summarizing and reporting the results. Quality appraisal will not be conducted, as the purpose of this review is to comprehensively map available evidence rather than to assess intervention effects.

A scoping review is the most appropriate methodology for this study because the evidence on ovarian cancer presentation and management in sub-Saharan Africa is fragmented, heterogeneous, and inconsistently reported across study designs, settings, and outcomes. The literature spans diverse sources, including hospital-based case series, observational studies, audits, and other descriptive reports, and has not been comprehensively synthesized in a way that maps evidence across the full care pathway[18,20]. A scoping review is therefore well suited to systematically identify the extent, range, and nature of the available evidence, clarify how key concepts are reported, and identify gaps to guide future research, policy, and service[19,20].

Research question/s

The research question formulation was guided by the Population, Concept, and Concept Framework (PCC) (ref). The main research question for this scoping review is: What evidence is available on ovarian cancer presentation and management in sub-Saharan Africa? To address this, the review will also consider the following sub-questions:

(i) What patterns of presentation are reported, including symptom profiles, stage at diagnosis, and delays in presentation, referral, and diagnosis?

(ii) What diagnostic and staging approaches are described, such as imaging, tumour markers, and histopathology availability and turnaround times?

(iii) What management strategies and care pathways are reported, including surgery, chemotherapy, supportive care, palliative care, and referral arrangements?

(iv) What patient, provider, and health-system factors are associated with late presentation and access to appropriate management?

Identifying relevant studies

A comprehensive literature search will be undertaken to identify published and unpublished studies relevant to ovarian cancer presentation and management in sub-Saharan Africa. Electronic databases will include PubMed, Embase, Scopus, Web of Science, CINAHL, and the Cochrane Library. To capture additional evidence not indexed in bibliographic databases, a targeted search of grey literature will be conducted, grey literature searches will include targeted searches of the websites of the World Health Organization, International Agency for Research on Cancer, and the African Organization for Research and Training in Cancer, as well as institutional repositories and conference proceedings. The search strategy will be developed by ASM,

https://dx.doi.org/10.4314/mmj.v38i2.15

Table 1: Data charting form (extraction fields)

Domain	Items to be Charted
Study identification	Author(s), year of publication, title, country, journal/source
Setting and study design	Study setting, level of care, geographic location, urban/rural context, study design, study period, data source
Participant and tumour characteristics	Sample size, age, marital status, parity, HIV status, ART status where available, CD4 count or viral load where available, prior cervical screening history, tumour histology, tumour grade, stage at diagnosis, lesion characteristics where reported
Indicators of presentation	Presenting symptoms, reason for presentation, referral source, timing of presentation, evidence of delayed presentation, emergency presentation where reported
Diagnostic and staging approaches	Screening method, colposcopy impression, biopsy undertaken, histopathological assessment, imaging used for staging, laboratory investigations, staging system applied
Management patterns	Type of treatment received, excisional procedure performed, surgery, chemotherapy, radiotherapy, palliative care, repeat procedures, referral for further management, follow-up practices
Health-system factors	Availability of screening, diagnostic and treatment services, pathology capacity, imaging access, referral pathways, waiting times, distance to facility, provider capacity, stock-outs, equipment or infrastructure limitations, financial or access barriers where reported
Key findings	Main findings related to tumour presentation, stage distribution, diagnostic pathways, management approaches, health-system barriers or facilitators, and authors' conclusions
Reported outcomes	Final histology, margin status, CIN grade where relevant, occult invasive cervical cancer, persistent disease, recurrent disease, follow-up findings, survival or mortality where reported
Additional notes	Study limitations, contextual observations, and other relevant comments

AT, JM and it will be independently assessed PM. The search strategy will combine controlled vocabulary terms and free-text keywords for ovarian cancer including fallopian tube and primary peritoneal cancers where specified, presentation in terms of stage at diagnosis, diagnostic delay, referral delay, diagnostics and staging, and management including surgery, chemotherapy, palliative care), alongside a geographic filter for sub-Saharan Africa using regional and country terms (see Anex 1). The strategy will be piloted in at least one database to optimize sensitivity and will then be adapted to the indexing requirements of each database. Reference-list screening and citation tracking of included papers will also be conducted to identify additional eligible studies.

Selection of eligible studies

All records identified through the search will be imported into Rayyan, a systematic review management platform, for de-duplication and screening management. Title and abstract screening will be undertaken independently by AT and JM using predefined eligibility criteria based on the PCC framework, after which potentially relevant articles will undergo full-text review. Discrepancies in extracted data will be resolved through discussion or adjudication by ASM. The study selection process will be presented in a PRISMA flow diagram in accordance with PRISMA-ScR, with reasons for full-text exclusion reported.

Inclusion criteria

Studies will be included if they meet all the following criteria:

• Population: Participants diagnosed with ovarian cancer including epithelial ovarian cancer; and where explicitly reported, fallopian tube or primary peritoneal cancer.

• Concept: Reports on at least one aspect of "ovarian cancer presentation" including stage at diagnosis, symptom duration, patient/referral/diagnostic delays, pathways to care and/or "ovarian cancer management: including diagnostic work-up and staging, surgery, systemic therapy, supportive/palliative care, treatment access, referral systems, guideline implementation.

• Context: Conducted in sub-Saharan Africa; single-country or multi-country studies with SSA data extractable.

• Types of evidence: Quantitative, qualitative, and mixed-methods primary studies; routine data analyses; audits; registry-based studies; implementation/health system studies.

• Publication type: Peer-reviewed articles and relevant grey literature with sufficient methodological detail.

• Time period and language: January 2000 – June 2026, English Published or grey literature

Exclusion criteria

• Studies will be excluded if they have any of the following characteristics:

• Basic science, animal studies, or laboratory-only studies not linked to clinical presentation/management pathways.

• Commentaries, editorials, opinion pieces, and narrative reviews lacking primary data (systematic reviews may be retained only for reference-mining).

• Full text cannot be obtained after reasonable attempts (e.g., institutional access, author contact).

Charting the data

Data will be extracted using a standardized charting form capturing bibliographic details, setting and study design, participant and tumour characteristics, indicators of presentation, diagnostic/staging approaches, management patterns, health-system factors, and key findings. The charting form will be piloted and refined, and extraction will be completed by one reviewer and verified by a second (or independently by two reviewers). Extraction fields are presented in Table 1 below.

Collating, summarizing and reporting the results

Results will be summarized using descriptive mapping (counts by year, country, design, setting, and domain) and narrative/thematic synthesis across presentation and management domains. Findings will be presented in summary tables and figures (e.g., stage distribution, delays assessed, management patterns) and will explicitly highlight evidence gaps and inconsistencies in reporting. Critical appraisal will not be

https://dx.doi.org/10.4314/mmj.v38i2.15

undertaken, consistent with scoping review objectives.

Discussion and Limitations of the study

This scoping review will systematically map the available evidence on ovarian cancer presentation and management in sub-Saharan Africa, focusing on the continuum from symptom onset and diagnostic pathways to treatment delivery and supportive care. By collating evidence across diverse study designs and sources, the review will provide a consolidated picture of where, how, and in what settings ovarian cancer is being documented, including the extent to which key indicators such as stage at diagnosis, diagnostic intervals, and access to definitive management are reported across the region. The evidence map will also clarify how "presentation" and "management" are operationalized in the SSA literature, highlighting common definitions, measurement approaches, and reporting practices.

A key anticipated contribution of this review is the identification of system-level and pathway-specific bottlenecks driving poor outcomes in SSA. Existing literature suggests delays may occur at multiple points such as patient recognition of symptoms, primary care evaluation, referral processes, diagnostic confirmation, and initiation of treatment often compounded by limited access to imaging, tumour markers, and histopathology services. On the management side, constraints in specialist surgical capacity, theatre functionality, perioperative support, chemotherapy availability, and palliative care integration may shape the feasibility and quality of guideline-concordant care. By synthesizing these domains together, the review will help distinguish whether gaps are primarily related to late presentation, diagnostic capacity, treatment availability, service organization, or combinations thereof, and whether patterns vary by country, sub-region, or level of care.

The findings are expected to have practical relevance for policy and service delivery, particularly for strengthening early diagnosis and improving equitable access to effective treatment. Evidence on stage distribution and delays can inform targeted strategies such as symptom awareness initiatives, standardized referral pathways, diagnostic triage algorithms, and investments in pathology and imaging capacity. Evidence on management modalities availability of surgery, chemotherapy delivery, treatment completion challenges, and supportive/palliative services can support planning for workforce development, essential medicines supply chains, and regional cancer care networks. The review will also generate research priorities by documenting where evidence is scarce, and by identifying inconsistencies that limit comparability across studies.

Several limitations are anticipated. First, restricting inclusion to English-language evidence and the specified timeframe (January 2020 to June 2026) may exclude earlier foundational studies and relevant evidence published in other languages, potentially underestimating the breadth of work in some settings. Second, the scoping review approach will not include critical appraisal of the evidence itself, meaning that the review will describe and map the evidence but will not assess the certainty or risk of bias of individual findings. Third, heterogeneity in study designs and reporting standards particularly for staging, delay intervals, and definitions of treatment adequacy may limit direct comparison across settings. Nevertheless, these limitations are consistent with the scoping aim of describing the landscape of evidence and identifying gaps for future systematic reviews and primary research.

In summary, this scoping review will provide a structured synthesis of what is currently known about ovarian cancer presentation and management in SSA, where evidence is concentrated, and what remains insufficiently studied. The resulting evidence map and gap analysis will support the development of actionable recommendations for strengthening diagnostic and treatment pathways and will inform future research agendas aimed at reducing avoidable mortality and improving outcomes for women affected by ovarian cancer in sub-Saharan Africa.

Acknowledgements and Funding

This work is partly funded by the ACEPHEM Programme at the Kamuzu University of Health Sciences (ASM & FL).

Author contributions

AT and ASM conceived the study, developed the protocol, and drafted the manuscript. AT, DK and ASM contributed to the study design, refined the research questions and eligibility criteria, and critically reviewed the manuscript. DK and ASM developed the search strategy and advised on information sources and grey literature searching. AT and ASM contributed to the data charting framework and synthesis plan and reviewed the manuscript for intellectual content. All authors read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Availability of data and materials

No primary data will be collected for this study. All data generated for the scoping review will be derived from published and publicly accessible sources. The full search strategy for at least one database (PubMed/MEDLINE) is provided in the Appendix, and any additional materials used for screening and data charting will be Published together with the manuscript from the Scoping Review.

Ethics approval and consent to participate

Ethics approval is not required for this scoping review because it will synthesize data from published literature and publicly available sources and will not involve the collection of identifiable human participant data.

Consent for publication

Not Applicable

Competing interests

The authors declare that they have no competing interests.

Appendices

Appendix 1: Search Mesh

(

"Ovarian Neoplasms"[MeSH]

OR ovarian cancer[tiab] OR ovarian neoplasm*[tiab] OR epithelial ovarian cancer[tiab]

OR "Fallopian Tube Neoplasms"[MeSH] OR fallopian tube cancer[tiab]

OR primary peritoneal cancer[tiab]

)

AND

(

"Diagnosis"[MeSH] OR "Early Diagnosis"[MeSH] OR "Delayed Diagnosis"[MeSH]

OR "Neoplasm Staging"[MeSH] OR "Signs and Symptoms"[MeSH]

OR "Referral and Consultation"[MeSH]

OR late presentation[tiab] OR advanced stage[tiab] OR stage at diagnosis[tiab]

OR diagnostic delay[tiab] OR patient delay[tiab] OR referral delay[tiab]

OR time to diagnosis[tiab] OR time to treatment[tiab] OR pathway*[tiab]

OR "Ovarian Neoplasms/surgery"[MeSH] OR debulking[tiab] OR cytoreduction[tiab]

OR "Neoadjuvant Therapy"[MeSH] OR neoadjuvant[tiab]

OR "Chemotherapy, Adjuvant"[MeSH] OR adjuvant[tiab]

OR "Antineoplastic Agents"[MeSH] OR chemotherapy[tiab]

OR "Palliative Care"[MeSH] OR palliative[tiab]

OR "Health Services Accessibility"[MeSH] OR access*[tiab] OR barrier*[tiab]

)

AND

(

"Africa South of the Sahara"[MeSH]

OR "sub-Saharan Africa"[tiab] OR SSA [tiab]

OR Angola[tiab] OR Benin[tiab] OR Botswana[tiab] OR "Burkina Faso"[tiab] OR Burundi[tiab]

OR Cameroon[tiab] OR "Cape Verde"[tiab] OR "Central African Republic"[tiab] OR Chad[tiab]

OR Comoros[tiab] OR Congo[tiab] OR "Democratic Republic of the Congo"[tiab] OR Djibouti[tiab]

OR Eritrea[tiab] OR Eswatini[tiab] OR Ethiopia[tiab] OR Gabon[tiab] OR Gambia[tiab]

OR Ghana[tiab] OR Guinea[tiab] OR "Guinea-Bissau"[tiab] OR Kenya[tiab] OR Lesotho[tiab]

OR Liberia[tiab] OR Madagascar[tiab] OR Malawi[tiab] OR Mali[tiab] OR Mauritania[tiab]

OR Mauritius[tiab] OR Mozambique[tiab] OR Namibia[tiab] OR Niger[tiab] OR Nigeria[tiab]

OR Rwanda[tiab] OR Senegal[tiab] OR Seychelles[tiab] OR "Sierra Leone"[tiab]

OR Somalia[tiab] OR "South Africa"[tiab] OR "South Sudan"[tiab] OR Sudan[tiab]

OR Tanzania[tiab] OR Togo[tiab] OR Uganda[tiab] OR Zambia[tiab] OR Zimbabwe[tiab]

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