Communication



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# Bladder Prolapse (Cystocele) Among African, Asian, and Middle Eastern Women: A Clinical and Socio-Cultural Perspective

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**Abstract:** Bladder prolapse, also known as cystocoele, is the most common form of pelvic organ prolapse (POP), significantly affecting women's physical, sexual, and psychosocial health, particularly in low- and middle-income countries (LMICs). Despite its widespread prevalence and disabling consequences, bladder prolapse remains under-recognised and inadequately addressed in global health strategies. Prevalence estimates vary widely across regions, from 3% to 64.6%, influenced by diagnostic methods and cultural reporting biases. Common risk factors include high parity, early childbirth, prolonged labour, poor postpartum care, malnutrition, obesity, and ageing. Clinical diagnosis often relies on simplified grading systems in resource-limited settings. Conservative treatments like pelvic floor muscle training and pessary use are underutilised due to lack of staff training, and cultural barriers. Surgical management, primarily native tissue anterior repair, is often inaccessible or inconsistently performed. Key challenges include sociocultural stigma, lack of epidemiological data, inadequate provider training, and limited access to specialised care. Bladder prolapse remains a hidden burden in LMICs due to structural, sociocultural, and health system gaps. Addressing it requires integrating prolapse screening into routine maternal care, expanding conservative management, training healthcare providers, reducing stigma, and investing in locally relevant research and national guidelines. Here, we argue for evidence-based practices in LMICs to improve our understanding through epidemiology, risk factors, clinical presentation, diagnostic practices, treatment approaches, and sociocultural barriers. Elevating bladder prolapse as a public health and gender equity issue can improve health outcomes and quality of life for millions of women in Africa, Asia, and the Middle East.

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## BACKGROUND

Pelvic organ prolapse (POP) represents a spectrum of disorders, including cystocoele, rectocele, uterine prolapse, and vaginal vault prolapse, with cystocoele being the most frequently diagnosed form in many regions globally [1,2]. A cystocoele is characterized by the downward displacement of the bladder into the vaginal canal due to weakness or injury to the pelvic floor muscles and connective tissues. It is also known as a bladder prolapse in lay terms, and anterior vaginal wall prolapse in anatomically descriptive academia as it reflects the precise compartment affected and aligns with International Continence Society and International Urogynaecology Association terminology for prolapse [3]. For this article, the term bladder prolapse will be used interchangeably with cystocoele.

Approximately 30–40% of women worldwide experience some degree of pelvic organ prolapse during their lifetimes, with varying degrees of severity and symptomatology [2,4]. Although many cases are mild and asymptomatic, significant numbers of women develop moderate-to-severe symptoms that markedly impair quality of life. These symptoms typically include urinary difficulties such as stress urinary incontinence, urinary urgency, incomplete bladder emptying, pelvic pressure or discomfort, and challenges related to sexual function and psychosocial well-being [5,6]. Such symptoms often lead to diminished self-esteem, social isolation, anxiety, and depression, creating profound emotional and social impacts beyond the physical discomfort [7].

Despite its significant prevalence and the debilitating nature of its symptoms, bladder prolapse remains a neglected and underreported women's health issue in global health discourse. Historically, conditions such as obstetric fistula, maternal mortality, and severe acute maternal morbidity have captured greater international attention due to their dramatic presentations and clear implications for maternal survival [8]. By comparison, cystocoele, and other forms of POP, although widespread and disabling, have often been viewed incorrectly as natural and inevitable consequences of childbirth and ageing rather than preventable and treatable medical conditions. Consequently, these conditions have not received comparable attention in global women's health policies, programming, or funding streams [9].

In low- and middle-income countries (LMICs), the situation is particularly acute, as women . Women often experience significant barriers to diagnosis, treatment, and effective management. The stigma surrounding reproductive health conditions, limited healthcare infrastructure, poverty, and sociocultural norms around women's roles and responsibilities compound the problem, resulting in many women enduring years or even decades of untreated symptoms [10]. Also, access to qualified healthcare providers, especially urogynaecology or pelvic health specialists, remains limited or non-existent in many rural and underserved regions. This healthcare access disparity exacerbates the burden of prolapse, as women often delay seeking medical assistance until symptoms become severe, thus increasing the complexity and risk associated with treatment [11].

The populations in Africa, South Asia, and the Middle East face distinct but overlapping risk factors and sociocultural contexts contributing to high prolapse prevalence. Common regional factors include high parity (multiple vaginal births), early-age childbirth, inadequate obstetric care during complicated deliveries, prolonged labour, postpartum practices involving heavy physical labour, poor nutritional status, and limited postpartum recovery periods [12,13]. Additionally, changing demographic patterns, such as rising obesity rates in urban areas of the Middle East and South Asia and ageing populations, further exacerbate the risk profile for cystocele and related conditions [13,14]. These demographic transitions mean that the burden of pelvic organ prolapse will likely increase over time unless targeted preventative interventions and improved management strategies are implemented.

Given these complexities, addressing bladder prolapse effectively requires clinical interventions and a deeper understanding of the epidemiological landscape, sociocultural contexts, and healthcare systems in these regions. This commentary provides a critical review and synthesis of existing literature regarding bladder prolapse in selected LMIC populations from Africa (Nigeria, Kenya, Rwanda, Ghana), South Asia (India, Nepal, Sri Lanka), and the Middle East (Oman, Jordan, Lebanon, UAE). Specifically, this review aims to clarify regional epidemiological patterns, explore current

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clinical practices and gaps, analyse sociocultural barriers impacting care-seeking behaviours, and propose targeted strategies for improving prevention, diagnosis, and treatment. By highlighting challenges and actionable opportunities, this commentary aims to inform future research agendas, clinical practice improvements, and policy developments and, ultimately, to contribute toward better health outcomes and quality of life for women affected by bladder prolapse across these diverse regions.

## Epidemiology and Risk Factors

POP, particularly bladder prolapse or cystocoele, exhibits significant epidemiological variation globally, influenced by diverse demographic, socioeconomic, and cultural factors. Epidemiological estimates indicate marked regional disparities in prevalence, largely attributable to methodological differences in study design, populations surveyed, diagnostic criteria, and sociocultural reporting biases [56]. Clinical examination-based studies consistently report higher prolapse prevalence rates (20–60%) compared to symptom-based self-reporting methods (3–15%), revealing a considerable "hidden burden" of undiagnosed prolapse [6,7]. Such discrepancies underscore the importance of active clinical screening to fully appreciate prolapse's true epidemiological impact.

## South Asia

In South Asia, POP is a prevalent public health issue, particularly prominent in rural and socioeconomically disadvantaged communities. In Nepal, national estimates indicate symptomatic prolapse prevalence around 10%; however, localised studies in rural and remote districts report significantly higher rates, with prevalence as high as 60.9%, predominantly involving cystocoele [8,9]. This elevated burden is strongly associated with sociocultural practices such as early marriage, frequent and closely spaced pregnancies, home childbirths without skilled assistance, and immediate resumption of heavy agricultural labour postpartum [9,10,12].

Similarly, India exhibits significant regional variations in reported prolapse prevalence, ranging from approximately 3% to 20%, depending on diagnostic methods, geographical locations, and urban-rural divides [10]. Hospital-based studies frequently identify higher prolapse prevalence among women attending gynaecological services compared to community self-report surveys, reflecting limited community awareness, stigma, and barriers to accessing healthcare [10,12]. In Sri Lanka, comprehensive community-level epidemiological data remain scarce; available clinical reports suggest substantial underreporting and hidden morbidity comparable to other South Asian contexts, influenced by similar sociocultural and healthcare access barriers [11,13].

## Sub-Saharan Africa

Sub-Saharan African studies also reveal extensive regional and methodological variations in prolapse prevalence. In Ethiopia, community-based studies identified prevalence estimates ranging from approximately 23.5% to over 56% in certain rural populations [12,13]. These high prevalence figures correlate closely with cultural practices around childbirth, including limited access to skilled obstetric care, high parity, prolonged labour, and arduous postpartum physical activities [12,13].

In Tanzania, a landmark population-based survey in rural Kilimanjaro reported an alarming prolapse prevalence of 64.6%, predominantly involving the anterior vaginal wall (cystocoele) [14]. Such findings starkly contrast with Nigerian community-based surveys reporting significantly lower prevalence (around 6.5%) [15]. However, lower Nigerian figures are likely reflective of substantial underreporting due to cultural stigmatisation, lack of awareness, and limited health-seeking behaviours rather than a genuinely lower incidence. Clinic-based Nigerian studies, representing women seeking healthcare, further underscore the potential underestimation of the true prolapse burden [15,16]. Thus, prolapse remains markedly underreported and inadequately recognised across sub-Saharan Africa.

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## Middle East

In the Middle East, POP prevalence remains considerable, influenced historically by high fertility rates, recent shifts toward urbanisation, increasing obesity, and changing lifestyle patterns. Early epidemiological data from Jordan identified prolapse prevalence of approximately 34.1%, predominantly involving cystocoele, highlighting significant health system implications for women's reproductive health management [17]. Amongst 482 Emirati women, 29.6% of the cohort reported prolapse symptoms though the type of prolapse was not determined [16]. Of note 73% of these women were affected by vaginal soreness associated with the menopause, and one third had to digitate to empty their bladder or bowel indicating significant health implications for the women.

In rural Egypt, prolapse prevalence has been documented at approximately 56.3%, predominantly anterior compartment prolapse [16]. These high prevalence rates correlate with early marriage, multiple childbirths, limited healthcare access during childbirth, and insufficient postpartum recovery periods. Recent research from the United Arab Emirates (UAE) documented symptomatic prolapse prevalence approaching 30% among middle-aged Emirati women, exacerbated notably by rising obesity rates, historically high fertility, and increasing longevity [16]. Gulf countries, including Oman, Lebanon, and the UAE, face demographic transitions characterised by declining fertility yet persistently high prolapse prevalence among older cohorts who experienced higher parity. Additional risk factors such as gestational diabetes and the resultant macrosomia infants further exacerbate prolapse risk in this region [18].

## Common Risk Factors Across Regions

Several common risk factors consistently emerge across African, Asian, and Middle Eastern populations, contributing significantly to the prolapse burden, as outlined in Table 1 below:

**Table 1.** Risk Factors in the Aetiology of Bladder Prolapse (Cystocoele).

| Risk Factor | Description |
|---|---|
| **High parity and closely spaced pregnancies** | Repeated childbirth significantly increases cumulative pelvic floor damage, particularly in settings where obstetric care and postpartum recovery services are inadequate [8,12]. Inadequate access to skilled birth attendants, delayed recognition of obstetric trauma, and insufficient postpartum rehabilitation exacerbate pelvic floor weakening over time. This cumulative damage contributes to a higher risk of conditions such as cystocele.[8,12]. |
| **Early childbirth** | Teenage pregnancies expose immature pelvic structures to trauma, with a longer lifetime risk of pelvic floor dysfunction [9,13]. |
| **Traumatic and prolonged labour** | Unattended or poorly managed labours are a major cause of significant pelvic trauma, leading to increased risk of cystocele development [14]. Prolonged obstructed labour, excessive use of force during delivery, and lack of timely medical interventions can result in direct injury to the pelvic floor muscles, connective tissues, and supporting structures. Such trauma weakens the anatomical support of the bladder and urethra, predisposing women to symptomatic pelvic organ prolapse later in life, particularly during the hormonal changes of . |
| **Postpartum physical labour** | Early resumption of heavy physical activity post-delivery hinders pelvic floor recovery, raising prolapse risk [12,13]. |
| **Poor nutrition and anaemia** | Nutritional deficits, particularly deficiencies in essential vitamins and minerals such as vitamin C, zinc, and protein, impair connective tissue strength and resilience, increasing vulnerability to pelvic floor disorders [12]. These deficiencies are especially prevalent in rural and low-resource settings, where limited access to balanced diets exacerbates maternal health risks. Poor nutritional status during critical periods such as pregnancy, childbirth, and menopause compromises the body's ability to repair and maintain the structural integrity of pelvic tissues, thereby elevating the risk of conditions like cystocele. |
| **Chronic respiratory conditions and constipation** | Persistent coughing, often resulting from chronic exposure to indoor air pollution, respiratory infections, or smoking, as well as habitual straining due to chronic constipation, significantly increases intra-abdominal pressure [18]. This sustained pressure places repeated mechanical stress on the pelvic floor muscles, ligaments, |

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| | |
|---|---|
| | and connective tissues, accelerating their weakening over time. In settings where respiratory illnesses and gastrointestinal issues are common and under-treated, these factors contribute substantially to the development and progression of pelvic organ prolapse, including cystocele, particularly in women already vulnerable due to hormonal changes and previous obstetric trauma. |
| **Obesity** | Excessive weight gain, particularly central obesity, raises intra-abdominal pressure, thereby increasing mechanical strain on the pelvic floor structures and heightening the risk of pelvic organ descent, including cystocele [18]. The added pressure from excess body mass compromises the ability of pelvic muscles and connective tissues to maintain organ support, especially when compounded by age-related tissue weakening and prior obstetric injuries. Furthermore, obesity is often associated with other risk factors such as chronic coughing, metabolic disorders, and physical inactivity, all of which can exacerbate pelvic floor dysfunction and worsen the severity of prolapse over time [19]. |
| **Menopause and ageing** | Declining estrogenic post-menopause reduces pelvic tissue elasticity and support, especially with advancing age. Women in the menopausal age group are often under prioritised in healthcare despite their critical societal roles [57]. This neglect contributes to significant gaps in addressing conditions such as bladder prolapse, and its consequent impact on urinary, sexual and mental health, which arises during menopause due to hormonal changes. The under recognition of midlife women's health needs results in delayed diagnoses, inadequate support, and limited access to effective interventions, even though such conditions are largely preventable [13,18].. |
| **Genetic predisposition** | Familial or ethnic differences in connective tissue strength may predispose certain populations to higher prolapse risk, though research remains limited [13]. |

Understanding these complex epidemiological patterns and interconnected risk factors provides a critical foundation for developing targeted prevention and management strategies. Addressing these common yet modifiable risks through culturally sensitive interventions, public health education, improved maternal healthcare access, and early prolapse detection initiatives could substantially mitigate the regional and global prolapse burden.

## Clinical Presentation and Diagnosis

Women with bladder prolapse typically present with a spectrum of clinical symptoms, which significantly vary based on individual prolapse severity, duration, and associated conditions. Commonly reported symptoms include a sensation of vaginal bulging or heaviness ("something coming down"), pelvic discomfort or pressure, urinary symptoms such as stress urinary incontinence (leakage with coughing, sneezing, or physical exertion), urinary urgency, frequency, difficulty initiating or maintaining urination, incomplete bladder emptying, and recurrent urinary tract infections (UTIs) [1,3]. Additionally, many affected women experience discomfort or pain during sexual intercourse (dyspareunia), significantly affecting sexual health and intimate relationships [1,3].

Importantly, symptom severity does not consistently correlate with the anatomical severity or stage of prolapse. Some women report significant discomfort and functional impairment even with relatively mild anatomical prolapse. In contrast, others tolerate advanced-stage prolapse with minimal complaints due to cultural stigma, misinformation about available treatments, or normalization of symptoms as an expected consequence of childbirth and ageing [5,8]. Indeed, qualitative studies from LMICs indicate that many women suffer silently for years before seeking medical attention, often due to embarrassment, stigma, or resignation that prolapse is inevitable [8,10].

In resource-limited regions, prolonged neglect frequently results in women presenting at advanced stages, often accompanied by complications such as vaginal ulceration, chronic UTIs, and severe stress or overflow incontinence. Clinically significant prolapse may protrude visibly beyond the vaginal introitus, leading to considerable physical and psychological distress, social isolation, and reduced mobility [5,10].

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## Diagnostic Approaches

Clinical evaluation remains the cornerstone of cystocele diagnosis. The gold standard for assessing prolapse severity and compartment involvement is the POP Quantification (POP-Q) system. POP-Q systematically measures the descent of various vaginal anatomical landmarks relative to the hymenal ring during a standardised pelvic examination [20]. This method categorises prolapse into five stages (Stage 0: no prolapse, through Stage IV: complete vaginal eversion), providing reliable, reproducible staging useful for clinical management and research comparisons [20].

However, due to its complexity and the requirement for specific training, the POP-Q system is less commonly employed in rural and resource-limited settings. Instead, simpler descriptive grading systems, categorising prolapse into first-degree (mild descent within the vagina), second-degree (descent at or near vaginal opening), and third-degree (complete prolapse outside the vaginal introitus), remain widely utilised due to practicality and ease of use [20,21]. Despite being less precise, these simpler systems facilitate diagnosis, triage, and basic management in areas where specialist training is limited.

## Assessment for Associated Conditions

Comprehensive cystocoele diagnosis requires evaluating the patient for commonly associated complications, particularly urinary tract infections and stress urinary incontinence [1]. Urinalysis or culture should be performed routinely when women report urinary symptoms, given the high prevalence of urinary retention and resultant UTIs in moderate-to-severe prolapse [21]. SUI assessment typically involves clinical "stress testing," where leakage is observed during coughing or straining manoeuvres with a comfortably full bladder. In some cases, advanced prolapse can mask underlying SUI (occult stress incontinence), becoming evident only upon prolapse reduction, often requiring careful preoperative evaluation [21].

## Additional Diagnostic Considerations

In specialised urban or tertiary care settings within LMICs, additional diagnostic modalities such as dynamic pelvic floor ultrasound, magnetic resonance imaging (MRI), or urodynamic studies may occasionally be used for complex prolapse cases or unclear clinical presentations. These imaging methods offer detailed anatomical visualisation of prolapse extent, compartmental involvement, and concomitant pelvic floor disorders (e.g., enterocele, rectocele, urethral hypermobility). However, their application remains limited by excessive costs, technological availability, and operator expertise, making them largely inaccessible in most rural or under-resourced settings [21].

Given the pervasive underreporting and normalisation of prolapse symptoms, proactive clinical screening for cystocoele, particularly during routine gynaecologic exams, postpartum assessments, and menopausal health checks, is strongly recommended. Training primary care providers, midwives, and nurses to conduct basic prolapse screening and symptom inquiry can substantially improve early identification, facilitate timely management, and reduce the prevalence of advanced complications [22].

## Treatment and Management Strategies

Effective management of cystocoele should be individualised, balancing prolapse severity, and patient-specific factors such as age, comorbidities, reproductive plans, and available healthcare resources. Management strategies broadly divide into conservative (non-surgical) and surgical approaches, ideally following a stepwise model emphasising conservative measures first, progressing to surgery when symptoms persist or worsen [22], as outlined in Table 2:

**Table 2.** Treatment and Management Strategies in Bladder Prolapse Management.

| Type | Intervention | Description and Benefits | Challenges/ Limitations |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| **Conservative** | **Pelvic Floor Muscle Training (PFMT)** | Structured exercises (Kegel exercises) to strengthen pelvic support structures; effective for early stage prolapse and mild symptoms. | Limited awareness, insufficient provider training, lack of patient education in LMICs [23]. |
| | **Vaginal Pessaries** | Mechanical support device inserted into the vagina; alleviates symptoms in moderate cases and improves quality of life. | Underutilization due to cultural hesitance, limited provider expertise, and supply issues in LMICs [24]. |
| | **Lifestyle Modifications** | Counselling on reducing heavy lifting, managing constipation/respiratory conditions, weight control, and improving nutrition for tissue health. | Requires sustained behavioural change and long-term follow-up; may be deprioritized in low-resource settings [22]. |
| | **Topical Oestrogen Therapy** | Applied in postmenopausal women to improve vaginal elasticity and pessary tolerance; it may relieve mild symptoms. | Limited availability and awareness; benefits mostly for postmenopausal women [25]. |
| **Surgical** | **Anterior Colporrhaphy** | Native tissue vaginal repair of the anterior wall; first-line surgical treatment for symptomatic or advanced prolapse. | Requires surgical expertise; long-term efficacy may vary [26]. |
| | **Combined Repair with Hysterectomy** | Used in multi-compartment or uterine prolapse; anterior/posterior repair with vaginal hysterectomy. | Complex procedure; needs specialist training and postoperative care [26]. |
| | **Mesh Repair (declining use)** | Formerly used synthetic mesh for support; now discouraged due to complications such as erosion and chronic pelvic pain. | Global decline due to adverse effects; replaced by native tissue repairs [27]. |
| | **Surgical Camps/Outreach Programs** | Mobile or temporary surgical setups (e.g., Nepal, Ethiopia) to increase access in underserved regions. | In remote settings, postoperative follow-up, long-term monitoring, and complication management remain difficult [28]. |

## Sociocultural Barriers to Care

Women frequently experience profound stigma and shame associated with cystocoele, driven by misinformation, gender norms, and patriarchal beliefs linking prolapse to moral inadequacies or sexual dysfunction [8,29]. Cultural modesty necessitating female healthcare providers, lack of decision-making autonomy, financial dependence, and prioritisation of family duties further delay care-seeking [30]. Traditional normalisation of prolapse as inevitable after childbirth contributes significantly to delayed diagnosis and treatment [5,31]. This is further complicated in women affected by the menopause.

Women experiencing menopausal symptoms, particularly those related to urinary and sexual health, face substantial emotional, cultural, and social barriers that impede timely access to medical care. Feelings of embarrassment, shame, and vulnerability are common when addressing intimate health concerns, often leading to reluctance in discussing these issues with healthcare providers, family members, or peers [1–3,32–34]. This internalized hesitation is compounded by broader societal stigma, where conditions such as urinary incontinence, pelvic organ prolapse, and sexual dysfunction are frequently perceived as taboo or natural, inevitable aspects of aging that women are expected to endure rather than seek treatment for [4–6,35–37]. Research has demonstrated that stigmatization not only discourages open dialogue but also perpetuates misinformation and normalizes suffering, exacerbating health inequities among midlife women [7,8,38,39].

Sociocultural factors further intensify these barriers. Women frequently experience profound stigma and shame associated with conditions like cystocele, driven by misinformation, entrenched gender norms, and patriarchal beliefs that link prolapse to moral inadequacies or sexual dysfunction [9,10,40,41]. Cultural expectations of modesty, which necessitate the availability of female healthcare

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providers, combined with a lack of decision-making autonomy, financial dependence, and the prioritization of family duties, often result in substantial delays in care-seeking[11,42]. In many communities, prolapse is traditionally normalized as an inevitable consequence of childbirth, contributing significantly to the acceptance of symptoms and delays in both diagnosis and treatment [5,12,36,43].

Consequently, by the time women seek medical attention, their symptoms are often significantly advanced, complicating management pathways and negatively impacting their physical functioning, sexual health, psychological well-being, and overall quality of life [13,14,44,45]. Addressing these challenges requires a multifaceted approach involving public education to normalize discussions of menopausal and pelvic health, proactive and sensitive engagement by healthcare providers, and broader stigma reduction strategies to promote early diagnosis and timely intervention [15,16,34,46].

## Gaps in Research and Clinical Practice

Despite the recognised burden and significant morbidity associated with bladder prolapse (cystocele), considerable gaps in both research and clinical practice persist across many low- and middle-income countries (LMICs). These gaps substantially limit effective care delivery, accurate disease prevalence and severity assessment, and informed policy formulation. A major contributor is the inadequate training of primary healthcare providers—including nurses, midwives, and general practitioners—in recognising and managing pelvic organ prolapse. Although frontline healthcare workers are ideally placed to detect early-stage prolapse and initiate conservative measures such as pelvic floor muscle training (PFMT) or pessary fitting, their training in these critical skills is often superficial or absent [47]. As a result, opportunities for early intervention are frequently missed, leading to disease progression and increased healthcare burden.

These clinical deficits are compounded by pronounced disparities in access to services, particularly between rural and urban areas, and between the government and private healthcare sectors. In rural and resource-limited settings, women may have little or no access to specialist care, while private providers, where available, often offer better services but at unaffordable costs. Underpinning these systemic issues is a chronic funding gap in women's health services in LMICs, where prolapse and other urogynaecological conditions receive limited attention in national health priorities. To address these multifaceted barriers, urgent investment is needed in capacity building, health systems strengthening, and equitable service provision across all levels of care.

*Limited Robust Epidemiological Data and Standardised Diagnostic Methods*

One of the most critical gaps in addressing cystocele in Africa, Asia, and the Middle East is the scarcity of reliable, comprehensive epidemiological data. Current prevalence estimates vary widely due to differences in study methodology (clinical examination vs. self-report), diagnostic criteria, and study populations [48]. Without robust epidemiological data, it remains challenging to accurately quantify the true public health burden of cystocele, hindering resource allocation, priority setting, and targeted policy interventions. Additionally, variability in diagnostic methods—from the detailed POP Quantification (POP-Q) system to simplified first-to-third-degree grading—creates inconsistencies in data comparability across different regions [48].

*Inadequate Frontline Healthcare Worker Training and Inequitable Access to Services*

A significant clinical practice gap in LMICs involves inadequate training among primary healthcare providers—including nurses, midwives, and general practitioners—in recognising and managing POP. Although frontline healthcare workers are ideally positioned to identify early-stage cystocele and initiate conservative management such as pelvic floor muscle training (PFMT) or pessary fitting, their training in these areas is often minimal or entirely lacking [47]. As a result, many women miss the opportunity for early diagnosis and timely intervention, often progressing to more advanced stages that require complex and costly surgical management. This issue is further

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compounded by disparities in access to care, particularly between urban and rural settings, where specialist services may be unavailable or inaccessible. Additionally, significant differences exist between public and private healthcare systems, with private facilities more likely to offer comprehensive management but often at prohibitive costs. Addressing these challenges requires investment in targeted training programmes for frontline providers and systemic improvements to ensure equitable access to women's health services across all regions and care sectors, a shortage of specialised urogynaecology services, and inconsistency in surgical care quality

Specialised urogynaecology care remains scarce in most resource-limited settings, creating a critical gap in prolapse management. Few clinicians possess formal training in urogynaecological surgery or advanced conservative management, significantly impacting the quality of available surgical interventions and patient outcomes [49]. Furthermore, even in places where surgical services are available, variability in surgical skills, techniques, and perioperative care results in inconsistent outcomes and higher complication rates, undermining trust and contributing to patient reluctance to seek care [49]. Expanding specialised training programs and standardising surgical practices through accredited training programs are key areas for future clinical development.

*Lack of Comparative Effectiveness Research Tailored to LMIC Contexts*

A major research gap is the limited availability of comparative effectiveness studies specifically designed for LMIC settings, assessing conservative management methods (e.g., pelvic floor muscle training, pessaries, lifestyle interventions) against surgical interventions such as native tissue repairs [50]. Most existing high-quality evidence derives from high-income countries, limiting generalizability due to significant differences in healthcare infrastructure, patient populations, cultural acceptability, and resource availability. As a result, evidence-based guidelines specific to LMIC contexts remain elusive, reinforcing the need for robust comparative trials conducted within culturally and economically similar environments. Large epidemiological studies are essential to achieve meaningful insight into long-term outcomes and real-world effectiveness. Alternatively, the systematic use of electronic healthcare records (EHRs) can enable continuous, longitudinal 'living-analyses' conducted over at least 20 years, with interim evaluations every 24–36 months, to inform contextually relevant policy and practice in LMICs. Absence of clear national guidelines for prolapse screening, management, and postpartum prevention

National clinical guidelines that systematically incorporate prolapse prevention, screening, diagnosis, conservative management, and surgical care are virtually absent in many LMICs [51]. This lack of standardised guidelines leads to variability in practice, missed opportunities for early prevention or intervention, and reduced overall quality of care. Including clear guidance on prolapse assessment within routine postpartum and reproductive health services could significantly improve early identification and prevention, representing an important clinical and policy gap. Challenges and Opportunities for Prevention and Program Implementation (see Table 3 below)

**Table 3.** Challenges and Opportunities for Prevention and Program Implementation.

| Category | Issue | Description |
|---|---|---|
| **Challenges** | **Lack of Integration in Maternal Health Services** | Prolapse prevention is rarely addressed in existing maternal health programs, which prioritize maternal/neonatal mortality, and missing opportunities for postpartum pelvic floor care. |
| | **Limited Access to Specialized Treatment** | Geographic isolation, financial barriers, weak infrastructure, and shortage of trained specialists restrict timely diagnosis and surgical care, especially in rural settings. |
| | **Sociocultural Stigma and Delayed Care-Seeking** | Cultural shame, misinformation, and gender inequalities delay help-seeking, worsening disease progression and increasing emotional distress. |
| **Opportunities** | **Routine Screening in Maternal Healthcare** | Prolapse screening, risk-factor education, and early conservative interventions can be embedded into antenatal and postpartum services to enable early detection and care. [52] |

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|---|---|---|
| | **Provider Training, Task-Shifting, and Pessary Access** | Training midwives and nurses in prolapse care and pessary fitting can decentralize services and improve access in low-resource areas. [53] |
| | **Culturally Sensitive Community Education** | Public health campaigns can reduce stigma, raise awareness about treatment options, and encourage women to seek care earlier. [54] |
| | **Health System Strengthening and Financing** | Embedding prolapse care into broader women's health and human rights agendas, with dedicated funding, can ensure sustainability and quality of care. [55] |

## Future

Urgent research priorities identified for addressing cystocele effectively in LMICS include the following, as outlined in Table 4 below:

| Research Priority | Description |
|---|---|
| **Clinical Epidemiological Studies** | Population-based studies are essential to accurately determine the true prevalence, risk factors, and health outcomes of bladder prolapse (cystocele) across diverse regional settings. Current data, largely hospital-based, underrepresents the burden of disease, particularly among rural and marginalised populations. Most LMICs do not have healthcare organisations with electronic healthcare records. Comprehensive epidemiological research needs to be conducted using innovative approaches that can guide effective prevention, early detection, and management strategies tailored to local needs.<br>Key study objectives should include:<br>• **Prevalence Estimation**<br>○ Use standardized diagnostic methods to assess true prevalence, stratified by age, parity, ethnicity, and location.<br>• **Risk Factor Analysis**<br>○ Identify contributory factors such as childbirth practices, menopause, obesity, respiratory illnesses, and limited healthcare access.<br>• **Health Outcomes Assessment**<br>○ Measure the physical, psychological, sexual, and social impacts of bladder prolapse on quality of life.<br>• **Cultural and Environmental Contexts**<br>○ Explore the influence of cultural beliefs, traditional practices, and environmental exposures on disease development and care-seeking.<br>• **Equity and Disparities**<br>○ Analyse differences in prevalence and outcomes across socioeconomic and ethnic groups to guide equity-focused interventions.<br>• **Policy and Practice Implications**<br>○ Translate findings into recommendations for integrating prolapse care into reproductive health programs and awareness campaigns.<br>. |
| **Comparative Effectiveness Trials and other forms of studies** | Evaluating the outcomes of conservative treatments, such as pelvic floor muscle training (PFMT) and pessary use, versus surgical interventions for pelvic organ prolapse is critical, particularly in resource-limited and culturally diverse populations. Conservative approaches may offer affordable, less invasive options that align better with local preferences, but surgical interventions remain essential for advanced cases. Comparative assessments are needed to guide evidence-based, culturally appropriate care.<br>Key evaluation priorities include:<br>• **Clinical Effectiveness**<br>○ Compare symptom improvement, quality of life, and recurrence rates between conservative and surgical treatments.<br>• **Cultural Acceptability**<br>○ Assess women's preferences, cultural beliefs, and barriers to uptake for both non-surgical and surgical options.<br>• **Adherence and Sustainability**<br>○ Evaluate long-term adherence to PFMT programs and pessary use and identify factors influencing sustained engagement.<br>• **Safety and Complication Rates** |

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| | ○ Monitor adverse events associated with conservative devices and surgical procedures, particularly where follow-up services are limited.<br>• **Cost-Effectiveness**<br>○ Compare the economic viability of conservative management versus surgery, including healthcare system and patient-level costs.<br>• **Patient-Cantered Outcomes**<br>○ Measure satisfaction, functional outcomes, psychological well-being, and impact on daily life. |
| **Implementation Research** | Integrating prolapse screening and treatment into existing maternal and reproductive health services offers a strategic opportunity to reach women early, reduce stigma, and improve long-term outcomes. Given the shared risk factors between childbirth, reproductive health events, and pelvic floor dysfunction, embedding prolapse care into routine maternal services is both logical and potentially cost-effective. However, careful exploration of the feasibility, acceptability, and effectiveness of such integration is necessary to ensure successful implementation, particularly in resource-constrained settings.<br>Key considerations for integration include:<br>• **Feasibility Assessment**<br>○ Evaluate the availability of trained personnel, diagnostic tools (e.g., pelvic examination capacity), and referral systems within existing maternal health programs.<br>○ Assess the infrastructure needs, including privacy standards for examinations and the potential workload impact on healthcare providers.<br>• **Acceptability to Women and Communities**<br>○ Conduct qualitative research (e.g., focus groups, interviews) to understand women's attitudes toward prolapse screening during antenatal, postnatal, and family planning visits.<br>○ Explore community norms around pelvic health discussions to identify culturally appropriate ways to offer screening without increasing stigma.<br>• **Acceptability to Healthcare Providers**<br>○ Survey and train maternal and reproductive health providers to assess their willingness, comfort level, and capacity to incorporate prolapse assessment and education into routine care.<br>• **Effectiveness and Impact Evaluation**<br>○ Pilot integrated screening models and measure outcomes such as early prolapse detection rates, referral uptake, treatment initiation, and patient satisfaction.<br>○ Monitor potential unintended consequences, such as increased anxiety among women or overburdening of already stretched maternal health services.<br>• **Cost-Effectiveness Analysis**<br>○ Compare the costs and benefits of integrated prolapse screening versus stand-alone pelvic health services, considering long-term savings from early diagnosis and prevention of severe morbidity.<br>• **Policy and Programmatic Adaptations**<br>○ Advocate for national reproductive and maternal health guidelines to explicitly include pelvic floor health, ensuring that screening and basic management are standardized and scaled. |
| **Inclusion of cultural adaptations** | Cultural adaptations are essential to ensure that healthcare approaches for pelvic floor disorders are inclusive, accessible, and effective, particularly in low- and middle-income countries (LMICs), where populations are often multi-racial, multi-ethnic, and shaped by diverse cultural traditions. Designing interventions without cultural sensitivity risks alienating key groups, perpetuating stigma, and reducing engagement with healthcare services. Therefore, public health initiatives, clinical care models, and community education programs must be culturally adapted to reflect the values, languages, health beliefs, and traditional practices of the populations they aim to serve.<br>Key cultural adaptation strategies include:<br>• **Community Engagement and Co-creation**<br>Involve women, families, and community leaders in the design and delivery of pelvic health programs to ensure relevance and acceptance. |

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| | • **Linguistic Inclusivity**<br>Provide health education materials and clinical services in multiple local languages to accommodate linguistic diversity and improve comprehension.<br>• **Respect for Traditional Health Beliefs**<br>Recognize and respectfully integrate or address traditional understandings of health, illness, childbirth, and aging, avoiding direct confrontation where possible.<br>• **Training of Culturally Competent Healthcare Providers**<br>Equip healthcare workers with cultural competence training to improve sensitivity, communication, and trust-building with diverse patient populations.<br>• **Representation in Health Messaging**<br>Use diverse imagery, narratives, and role models in health promotion campaigns to reflect the multi-ethnic composition of the target audience.<br>• **Flexibility in Service Delivery Models**<br>Adapt clinic structures, appointment systems, and outreach models (e.g., community-based care, mobile clinics) to accommodate cultural norms around gender roles, mobility, and family obligations.<br>• **Support for Gender-Sensitive Access**<br>Address barriers that women face in male-dominated health systems by ensuring availability of female healthcare providers where culturally appropriate. |
| **Development of National Guidelines** | • **Create stigma-free healthcare environments**<br>Foster respectful, non-judgmental settings where women feel empowered to discuss pelvic and reproductive health concerns openly.<br>• **Prioritise women's health across the life course**<br>Address pelvic organ prolapse, urinary incontinence, and sexual dysfunction as important health issues at all stages of life, not limited to menopause.<br>• **Recognise critical transition periods**<br>Pay particular attention to high-risk phases such as postpartum recovery and menopause, when pelvic floor vulnerability is heightened.<br>• **Raise public awareness and dismantle stigma**<br>Launch educational campaigns and community initiatives to normalize discussions about pelvic health and encourage timely care-seeking.<br>• **Develop context-specific clinical guidelines**<br>Base prevention, screening, management, surgical intervention, and follow-up protocols on local epidemiological evidence and cultural context.<br>• **Ensure culturally sensitive and equitable care pathways**<br>Design healthcare services that are accessible, affordable, and responsive to the diverse needs of women in different regions and communities. |

## CONCLUSION

Cystocele represents a widespread yet severely neglected women's health issue, disproportionately impacting women across Africa, Asia, and the Middle East. Despite its' high prevalence and significant impact on physical, psychological, and psycho-social functioning, cystocele remains under-recognised in global and national women's health agendas. Successfully addressing this condition requires comprehensive strategies that bridge clinical practice gaps, robust epidemiological and implementation research, targeted sociocultural interventions, and sustained policy commitment.

Enhancing early detection through systematic screening and surveillance studies, improving healthcare worker training in conservative management methods, and expanding access to skilled urogynaecological care are urgent clinical priorities. Concurrently, rigorous epidemiological and comparative effectiveness research tailored specifically to LMIC contexts will help establish robust evidence-based practices, guiding culturally appropriate, scalable solutions.

Critically, overcoming sociocultural stigma through targeted community awareness, education campaigns, and engagement of key community influencers is essential to empowering women and facilitating timely care-seeking behaviours. Additionally, integrating prolapse care into broader maternal and reproductive health frameworks, supported by sustainable financing and national policy guidelines, will provide structural stability and ensure long-term program effectiveness.

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Ultimately, prioritising cystocoele as a public health and human rights issue hold immense potential to transform the lives of millions of women. By investing strategically in culturally sensitive interventions, evidence-driven practices, and equitable health systems, affected regions can achieve substantial improvements in women's health, dignity, and societal participation.

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