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SPECIAL CONTRIBUTION

Chronic Maternal Pelvic Morbidity: A Neglected Tragedy: Where is Pelvic Maternal Morbidity in Maternal and Child Health?

Advocating for a Public Health Approach to Pelvic Floor Disorders Resulting from Pregnancy and Childbirth Trauma

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Abstract

Pelvic floor disorders (PFDs) — which include pelvic organ prolapse, urinary incontinence, perineal trauma, fecal incontinence, and sexual dysfunction — affect one in four women globally. There is compelling epidemiological and pathophysiological evidence that these conditions result from childbirth trauma. Yet chronic maternal pelvic morbidity remains a neglected issue within the maternal health agenda worldwide. Current health systems limit public health approaches to maternal health to just 6 weeks after birth, overlooking the long-term pelvic floor consequences of childbirth trauma. In many countries, women suffering from PFDs often face stigma, cultural isolation, and economic hardship yet have little access to care owing to cultural taboos, policy-based neglect, systemic under-reporting and underinvestment, and limited preventive and cost-effective care frameworks within the public health system. This white paper advocates for the extension of the paradigm of maternal health beyond 6 weeks postpartum to encompass all the repercussions of childbirth pelvic floor trauma, irrespective of the timeframe of their development. It concludes with a call to action urging multilateral agencies, national health ministries, policymakers, urogynecologists, public health professionals, and the social sector to join forces in a coordinated multisectoral response. Addressing chronic maternal pelvic morbidity requires the inclusion of pelvic health services within existing maternal and reproductive health programs, the development of global public health guidelines that prioritize prevention and timely management, and the training of health care providers at all levels of the health system. This white paper asks for sustained policy support, greater investment in research and the development of cost-effective therapies, stronger advocacy, and integration with existing programs such as fistula care.

Keywords Childbirth trauma · Chronic maternal pelvic morbidity · Maternal health · Maternal morbidity · Pelvic floor disorders · Pelvic floor trauma

Introduction

The launch of the Safe Motherhood Initiative by the UN in 1987 [1] led to enhanced efforts to reduce maternal mortality internationally and the prioritization of intervention strategies to combat acute obstetric emergencies in most local, regional, and national maternal health programs [2]. In addition, the Sustainable Development Goals (SDGs) initiated in 2015 and the SDG target 3.1 of reducing the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 brought about a renewed commitment to maternal health [3].

However, maternal mortality is just the "tip of the iceberg" and accounts for only a small fraction of the overall burden of poor maternal health as it excludes maternal morbidity [4]. The true extent of maternal morbidity is unknown, but it has been suggested that for each maternal death, 20 or 30 women suffer from maternal morbidity [5]. Several medium- and long-term consequences of pregnancy and childbirth appear much later than the 6 weeks of

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puerperium (often several years postpartum) and continue to affect women late into their reproductive years or postmenopause [2]. A major subgroup within these chronic conditions consists of disorders that result from pelvic floor trauma associated with pregnancy and childbirth.

Pelvic floor disorders (PFDs), including pelvic organ prolapse (POP), urinary incontinence (UI), fecal incontinence (FI), perineal trauma, and sexual dysfunction, encompass an array of conditions that may have their etiology in disruptions of the support, anatomy, or nerve supply of the pelvic floor and its contents [6] resulting from pregnancy and childbirth trauma. One in four women suffer from one or more PFDs [7], a significant proportion of them in their reproductive years. PFDs can have lifelong social, economic, and health consequences [2]. However, postnatal care services in most public health systems worldwide, especially in low-and-middle-income countries (LMICs), focus only on the immediate postnatal period up to 6 weeks postpartum. Care pathways for screening, referral and management of these conditions have not been established as a part of the public health system in most countries, including the high-income countries (HICs) who have channeled adequate resources to meet the global targets for the 2030 SDGs agenda [2]. In addition, the low social status of women coupled with the ingrained sense of modesty associated with PFDs in traditional societies have ensured that there is a culture of silence around these conditions in LMICs, leading to delayed or no care-seeking [8]. Even in settings where individuals present to health services with pelvic floor sequelae of childbirth in the post-natal period, attending health providers are often ill-equipped to address these chronic conditions owing to a lack of training and facilities [2]. PFDs remain overlooked and underappreciated in national and global health agendas [2].

This white paper advocates for women's rights to access appropriate care for pelvic floor disorders and emphasizes addressing these long-term effects of pregnancy and childbirth as a priority area in women's health. Pelvic floor disorders are common, with substantial evidence linking them to pregnancy and childbirth. The global neglect of PFDs has a debilitating impact on the quality of life of the affected women. There is a need for more widespread recognition of the concept of chronic maternal morbidity and the development of public health approaches to chronic maternal pelvic morbidity. Maternal health agendas locally, nationally, and globally need to expand to include appropriate preventive, promotive, and curative care (including referral pathways) for PFDs that are part of chronic maternal morbidity. The paradigm of maternal health should not end at 6 weeks postpartum.

Prevalence of Pelvic Floor Disorders

About one quarter of women report at least one PFD in both HICs and LMICs [9, 10]. The pooled prevalence of UI and POP is higher in LMICs compared with HICs [9–11] due to early age of marriage, higher average parity, greater numbers of vaginal deliveries with unskilled birth attendants etc., compounded by co-morbidities and chronic under-nutrition [8]. However, most studies are surveys of predominantly white women living in Europe or North America [12]. Only 7.5% and 30.6% of the studies in a recent review [9] on PFDs in LMICs were from low-income and lower middle-income countries respectively. Additionally, there is considerable variation in the prevalence estimates for all PFDs in LMIC-based studies, due to varying age groups of women studied, and heterogeneity in the study design, definitions used and the methods of collecting data [8]. Poor accessibility to health care and poor health-seeking behavior due to social stigma leading to underreporting is also a critical contributory factor [9].

Prevalence of Individual Pelvic Floor Disorders

The pooled prevalence of POP, UI, and FI in community-based studies in LMICs are 15%, 30%, and 8% respectively according to a recent meta-analysis [9]. In a 2011 review of both hospital and community-based studies in LMICs, the mean prevalences of POP, UI, and FI were reported to be 19.7%, 28.7%, and 7% respectively [8]. In a recent meta-analysis focused on the Eastern Mediterranean region, in which most studies reported a high number of vaginal deliveries, the pooled prevalence of POP, UI, and FI was calculated to be 39%, 48%, and 14% respectively [13].

Pelvic Organ Prolapse

The reported prevalence of POP overall varies widely (up to 65%) based on whether its presence is ascertained by symptoms (up to 31%), pelvic examination (10–50%), or both (20–65%) [12]. POP prevalence in the reproductive-age group has been reported to be 14.2% [14]. High parity was found to be the strongest risk factor for POP after adjusting for other risk factors [15].

Urinary Incontinence

Reported prevalence of UI worldwide and in the developing world is 8.7–69.8% [13, 16–19] and 25.7% respectively [20]. The reported prevalence in Sub-Saharan African and South Asian studies is only 4.6% and 14.2% respectively (which reduced the overall prevalence for the developing world).

This may have resulted from reduced care-seeking behavior owing to a sense of embarrassment, social constraints, lack of trust in the health system, and lack of knowledge and understanding of UI as a disease [20]. Although some women hide their condition, others might misconstrue UI as a natural process of aging [21].

The prevalence of stress urinary incontinence (SUI) ranges from 13 to 69.8% [18, 22–25]. The overall prevalence of urgency urinary incontinence (UUI) in Middle Eastern countries in women over the age of 40 is 53.8% [26]. Mixed urinary incontinence (MUI), which consists of both stress and urge incontinence, has a prevalence ranging from 7.8 to 64.3% in a Turkey-focused review [22] and 32% in a review of English-language literature [24].

Obstetric Anal Sphincter Injuries and Fecal Incontinence

The prevalence of obstetric anal sphincter injuries (OASIS) in the general population is 0.25–6% and 1.4–16% in primiparous women [27]. In the long term, 35–60% women who had an OASI develop FI [27]. A recent meta-analysis found a pooled prevalence of anal sphincter injury of 26% among women who gave birth vaginally, whereas 19% of women had anal incontinence symptoms at over 1 year after delivery [28]. The principal factors associated with OASIS are nulliparity and instrumental (vaginal operative) delivery; the others are advanced maternal age, history of OASIS, macrosomia, midline episiotomy, posterior cephalic positions, and prolonged labor [29]. In a nulliparous pregnancy cohort of 1507 women, approximately 17% reported FI at some point in the 1 st year postpartum and 12.8% reported FI beyond the first 3 months postpartum [30].

Sexual Dysfunction

Thirty-five percent of postpartum women have dyspareunia: 43% of women from 2 months to 6 months postpartum, 22% from 6 months to 12 months, and 40% from 12 months to 24 months [31]. A poorly investigated and often neglected symptom of pelvic floor dysfunction linked to childbirth trauma is vaginal laxity [32], which has been defined as a complaint of excessive vaginal looseness [33]. It is experienced mostly as reduced vaginal sensation during sexual intercourse, carrying physical and emotional consequences [34]. Although vaginal laxity is an under-reported symptom [35], it has been documented in 24–38% of women attending a urogynecology clinic in some studies [36, 37].

Pathophysiology of Individual Pelvic Floor Disorders: Association with Pregnancy and Childbirth

There is clear evidence that the pathophysiology of PFDs is intimately associated with pregnancy and childbirth. Childbirth trauma to the pelvic floor has an evolutionary basis: human brain evolution has resulted in a tight or disproportional fetopelvic fit, which is reflected in the observation that human births more frequently result in difficult labors owing to fetal head–pelvic disproportion, as compared with other primates [38]. A recent meta-analysis revealed significantly higher rates of POP, UI, FI, and overall pelvic morbidity following vaginal birth when compared with cesarean section (OR: 3.28) [14]. Vaginal birth can lead to injury of pelvic connective tissues, pelvic skeletal and smooth muscles, and the nerves that supply them. The currently accepted paradigm is that the demands placed on pelvic soft tissues during vaginal birth exceed their physiological limits, even when being modified during pregnancy, leading to childbirth injury, and predisposing a woman to POP [39], SUI [40–42], and FI [41, 42]. Animal models of simulated birth injury show that large stresses and strains can lead to incomplete recovery of biochemical and biomechanical vaginal properties postpartum [43, 44].

Pelvic Organ Prolapse

Several large-scale studies have identified the strong epidemiological link between POP and vaginal birth, with first vaginal birth and forceps delivery being the main risk factors [45–48]. Imaging studies documenting levator ani muscle (LAM) injury (pelvic muscle injury), including LAM avulsion and enlargement of the hiatal area, after spontaneous and operative vaginal delivery [49, 50], clearly show the key role of pelvic floor muscle injury in the pathogenesis of POP. The long latency between obstetric events and their eventual consequences for pelvic floor function do not hinder the establishment of a cause–effect relationship as LAM injury represents a credible intermediate endpoint [50, 51].

Stress Urinary Incontinence

The prenatal physiological, hormonal, and mechanical changes that occur during pregnancy can lead to SUI [52–56]. Vaginal delivery is an established risk factor for UI among young and middle-aged women [57–61]. In the Twin Birth Study, planned vaginal delivery was associated with higher odds of SUI post-delivery than planned Cesarean birth [62]. Maternal expulsive efforts during vaginal delivery can lead

to weakening of the fascial structure and connective tissue supporting the bladder neck and urethra, resulting in urethral hypermobility [63–66]. Stretching and compression of the pelvic nerves leads to compromised pudendal nerve function. Partial denervation of the striated urethral muscle can weaken closure forces generated by the urethra and partial denervation of the pelvic floor can lead to muscle atrophy and poor transmission of abdominal pressure changes [67, 68].

Fecal Incontinence

One of the most common causes of mechanical disruption or injury to the anal sphincter is OASI [69]. Even in women with no documented OASI during childbirth, "occult injuries" of the anal sphincter were noted in 35% and 44% of primipara and multipara women respectively, at 6 weeks postpartum on endoanal ultrasound [70]. Of these, 13–23% developed defecatory symptoms after delivery [70].

Denervation injury or impaired efferent conduction of the pudendal nerve, caused by excessive stretching of pelvic tissues, is more common in multiparous women, forceps deliveries, prolonged second stage of labor, third- and fourth-degree perineal tears, and high birth-weight babies. Women with pudendal nerve damage have an ineffective puborectalis muscle continence reflex [71].

Sexual Dysfunction

Vaginal laxity could result from overstretching of the vaginal walls and introitus during vaginal delivery or an increase in levator ani hiatal dimensions resulting from trauma to the levator ani muscle via frank avulsion (microtrauma or overdistension) during childbirth [72, 73]. Three-dimensional ultrasound examination has demonstrated a statistically significant increase in pelvic floor distensibility measures—including the levator hiatal area, anteroposterior diameter, and coronal diameter at the plane of minimal hiatal dimensions during maximal Valsalva—in women reporting symptoms of vaginal laxity [32].

Obstetric Fistula is Devastating—As Are the Other Pelvic Floor Disorders

The devastating impact of obstetric fistulas in low-income countries has been increasingly recognized over the past two decades [74]. It is encouraging to note that a dedicated stakeholder community has ensured high-profile advocacy, public health research, guidelines [2], and long-standing donor support for fistula care in several LMICs [75]. Obstetric fistulas are less common than the other, often concomitant, pelvic floor sequelae of childbirth—incidence rates range from 0 to 4.09 per 1000 births [76]. Quality-of-life consequences of POP, UI, and FI rival those of obstetric fistulas [77, 78] and women in LMICs suffer from untreated POP and UI for longer [75]. However, these conditions are rarely acknowledged [2] or prioritized in the global public health landscape [2, 75]. The high burden of POP and inadequate level of treatment is also corroborated by the experiences of fistula surgeons in under-resourced settings, who report that a significant proportion of women who seek care do not have fistulas but rather POP and other forms of incontinence [75, 79].

Several key stakeholders in the fistula community have rightly suggested that there is a strong case to be made for integrating resources and advocacy efforts for obstetric fistula and other PFDs, which could be more cost-effective and sustainable in the long run [75]. Facilities providing access to fistula repair surgery may be the most efficient environment for expansion of services to include surgical care for POP and UI not caused by genital fistula [8, 75]. The same instrumentation and a related set of clinical, diagnostic and surgical skills [75] are needed, which make it conceptually logical to develop joint approaches to training, funding, capacity building, and service delivery [75]. This integrated approach can mirror the broader trends in global health programming, which are moving away from silo-funded activities [75] to supporting packages of closely related surgical procedures, thereby improving capacity and maximizing impact in low-resource settings.

A recent survey with respondents from 26 fistula hospitals in Sub-Saharan Africa and South Asia established the feasibility of integrating POP services at fistula centers and its potential value in enhancing the quality of POP care while increasing the sustainability of fistula care [75]. The fistula surgeons surveyed reported a high level of interest in expanding and improving POP services, both surgical and nonsurgical, with synergies noted in human resources, infrastructure, equipment, and supplies. They recognized the potential for teambuilding and improved provider morale, noted the overlapping surgical skills required, and identified the need for similar community mobilization and referral. One surgeon described this as having the potential to create "total awareness" about maternal and reproductive morbidities. Another respondent saw this as "the opportunity to provide total motherhood care without discrimination" [75].

Neglect of Chronic Pelvic Morbidity Resulting from Childbirth Trauma: Where is the "Chronic Morbidity" in the M of MCH, Especially Chronic Pelvic Morbidity?

In 1985, *The Lancet* published an influential article by Rosenfield and Maine, titled "Where is the 'M' in MCH?," which suggested that the international aid community was focused on child health to the exclusion of the mother's

health [80]. The launch of the Safe Motherhood Initiative in 1987 followed by the establishment of the Millennium Development goal 5 in 2000, galvanized and sustained international efforts that have led to a considerable decline in maternal mortality in most parts of the world [81].

However, the maternal morbidity burden remains substantial [81]. During recent years, several lower-income countries have moved through the obstetric transition: a gradual shift from a pattern of high maternal mortality to low maternal mortality and increasing morbidity in an aging maternal population [82]. Fortunately, the "Survive, Thrive and Transform" agenda of the Global Strategy for Women's Children's and Adolescents' Health (2016–2030) [83] moves away from a single focus on mortality reduction to an emphasis on ensuring good health overall. LMICs now need to go beyond mere maternal survival to establishing integrated health care services that can maximize the health, well-being, and potential of women throughout their lives [83].

Given the calls for "rethinking maternal health" using a life-cycle and life-course approach [84], a maternal health issue that needs to be prioritized is chronic maternal morbidity associated with pelvic floor trauma due to childbirth. In medicine, as a field, women are primarily viewed as reproductive bodies, mainly to bear healthy children (https://www.concern.org.uk/news/womens-health-neglected-human-right). However, the pelvic floor problems arising from this function are often ignored owing to cultural and patriarchal bias [85]—which deprioritizes women's chronic health issues.

In 2012, the World Health Organization (WHO) convened the Maternal Morbidity Working Group (MMWG) for an in-depth, evidence-based approach to addressing maternal morbidity [86]. The operational definition of maternal morbidity adopted by the MMWG was any health condition attributed to and/or complicating pregnancy and childbirth that has a negative impact on the woman's wellbeing and/or functioning [4]. A matrix of 121 conditions (with 58 symptoms, 29 signs, 44 investigations, and 35 management strategies included in the identification criteria) was generated [4, 87]. However, although perineal tear/perineal laceration has been included in the unanticipated complications section of direct maternal morbidity, FI has not been defined as a symptom. Similarly, although UI (urge, stress), POP, and obstetric fistula have been defined as conditions within the indirect maternal morbidity ambit, the symptom of UI and feeling/seeing a vaginal bulge have not been included in the symptom list.

Although the chronicity of several conditions has been acknowledged, only the long-term consequences of morbidities occurring up to 6 weeks postpartum have been considered, for instance, the association of hypertension during pregnancy with cardiovascular diseases at older ages [81]. There is ambiguity about the inclusion of conditions caused or exacerbated by childbirth trauma that only emerge several months to years post-delivery. The tools developed for measurement of the conditions that constitute maternal morbidity also focus only on pregnancy and puerperium until the 6th week post-partum.

A review of the literature revealed just one paper, which acknowledged the comparative neglect of labor and birth complications that can emerge or persist months or years postnatally [2]. Another editorial, which defined the term "chronic maternal morbidities" included UI in the "milder disabilities" component of postpartum maternal morbidities [88]. Unless chronic maternal morbidity is clearly defined to include conditions such as pelvic floor disorders that can emerge several years post-delivery, estimation of their true burden and population-level tracking of treatment outcomes would not be possible. Each of the 121 conditions needs their own treatment and referral pathways developed within an integrated post-natal care model and may need involvement of a multidisciplinary team. To develop the same for PFDs, concerted advocacy is needed. This will only be possible when urogynecologists and pelvic floor physiotherapists build bridges with community health worker networks, midwifery communities, public health experts, and professionals working in the space of gender, social justice, and equity.

Consequences of the Lack of Prioritization of Pelvic Floor Disorders in the Global Health Landscape

Current Models of Care for Pelvic Floor Disorders are Skewed Toward Curative, Surgical, High-Cost Tertiary Treatments

Maternal and child health forms the centerpiece of the public health agenda in all countries, especially LMICs. However, the ambit of formal national maternal health services has historically ended at the 6th week point post-delivery, in keeping with the official WHO definition of the postpartum period as lasting up to 42 days post-birth [89]. Unfortunately, public health guidelines in LMICs do not include appropriate pathways for prevention, screening, and referral of pelvic floor disorders, even in the post-partum period.

In the absence of a preventive care model that is universal, systemic, and cost-effective, the care services that have developed globally are scattered, inconsistent [90], almost entirely curative, and often privately owned and industry-led with expensive therapies and diagnostics that are difficult to implement in low-resource settings. There are considerable discrepancies in funding, with insufficient emphasis on preventive and conservative management including physical rehabilitation therapies. The high cost of services have

ensured that continence services are a relative luxury, to which countries with low per-capita income are unlikely to devote scarce resources [90]. The immaturity of the wider health care system in the developing world ensures that precedence is given to reducing mortality and other population health issues over chronic pelvic morbidity impacting quality of life [90].

In an efficiently functioning health care system, which provides cost-effective appropriate care to the largest number of patients, specialists would form the tertiary part of the referral chain, with clear operational integration with the primary care system responsible for prevention, screening, basic treatment, conservative management, and referral [90]. However, in the real world, even in developing countries where sporadic care is available in the urban context, single specialists, in private practice, working in their own silos, focused almost entirely on surgical management with no consistent collaboration or integration with preventive obstetric services or primary care, constitute the predominant care model [90]. In the developed world, although tertiary academic centers exist, their integration with community-based services has proven difficult, with several barriers to overcome regarding funding sources and existing health care infrastructure [91]. In the UK [92] and Sweden [93] continence care services usually fall under the remit of primary care providers who form the base of triage systems. However, in the era of super specialists, primary care doctors or even gynecologists, in most countries, are ill equipped to enquire about the relevant symptoms with their patients [94]. In a retrospective review, resident physicians documented any type of LUTS in only 16.3% of patients reviewed [95].

Shifting care from physicians to nurses in primary care can potentially reduce costs and physician workload and maintain quality of care [96]. Nurse-led continence services for patients with UI have been integrated into the health system in many countries [97] such as the UK, the Netherlands, Canada, and Sweden [93]. However, this is not the standard of care in most countries, including LMICs. A systematic review discussed the dearth of available research to understand the role of community nurses in continence care and highlighted the need for the positioning of UI as a priority area of care for nurses [98].

Underlying the Lack of Appropriate Care Models is a Lack of Training and Skills at All Levels of the Health System

Urogynecology is a relatively new subspecialty worldwide with limited training opportunities, especially in LMICs, where the disease burden is the highest [99]. Even in the LMICs with fellowship programs, the number of practicing urogynecologists is just a fraction of the number of those actual needed [100]. In Europe, although the European Board and College of Obstetrics and Gynaecology recognizes urogynecology as a subspecialty, not all EU-Member State colleges have recognized it as one.

This lack of training extends to gynecologists, primary care providers, and nurses. In most countries, midwifery and obstetrics training for nurses tends to focus on the management of the leading, acute causes of maternal mortality and morbidity [2]. This has led us to an ironic situation: the nurses and primary care doctors who conduct vaginal deliveries in LMICs are not trained to prevent trauma during the delivery, or screen for resultant pelvic floor disorders and ensure appropriate referrals.

Scarcity of Data on Prevalence, Sociodemographic Characteristics, and Treatment Outcomes

The lack of screening for PFDs at all levels of the health system leads to significant under-reporting. There is a scarcity of data regarding the population-level prevalence, sociodemographic characteristics, and treatment outcomes of PFDs [8]. A recent scoping review, by the MoNITOR (the Mother and Newborn Information for Tracking Outcomes and Results) technical advisory group of the WHO, of the currently used maternal and newborn indicators proposed by or reported by different agencies, academia, and professional groups, for national and global-level monitoring of maternal health, revealed that not a single chronic pelvic floor morbidity indicator was included [101].

Misperception that Pelvic Floor Disorders are Infrequent and Insignificant

The pervasive scarcity of data coupled with the patriarchal bias inherent within health systems, translates into low visibility regarding PFDs to policymakers and other stakeholders resulting in a lack of prioritization of PFDs from a public health perspective. Hence, there is little or no funding support from the international aid community and national governments and almost no collective effort to address these conditions at global, regional, and national levels [2].

Lack of Support for Basic Research and Development of Low-Cost Therapies

Women's health research is deprioritized and underfunded overall (https://womenshealthinnovation.org/opportunity-map/), with PFD research accorded the least importance. This has translated into low-quality epidemiological and pathophysiological studies and a lack of research into the development of affordable diagnostics and therapeutics. Research in the field is often industry driven and focused on expensive and disposable diagnostics, treatments, devices, and implants that may be unaffordable, even in HICs.

In response to the disproportionately low R&D funding in women's health, the Bill and Melinda Gates Foundation and National Institute of Health initiated an inclusive, consultative, cross-sector effort to generate a Women's Health Innovation Opportunity Map to serve as a guide that stakeholders across the women's health R&D ecosystem can use to advance high-impact investments and initiatives to improve women's health (https://womenshealthinnovation.org/opportunity-map/). The only mention of PFDs in the document is in the female-specific conditions section, which deals with the "development of self-administered solutions and new biomaterials such as mesh products and stem cells to support safe and effective treatment options for UI and prolapse in women." Perhaps reflective of the lack of collaboration between urogynecologists and public health specialists and other subspecialties in the field of obstetrics and gynecology is the fact that there was no representation from practicing urogynecologists in the list of 250 diverse stakeholders involved in creating the map.

Overall, literature at large discusses PFDs in a siloed manner as individual, unlinked, purely medical conditions. The global impact in terms of socio-economic development owing to impaired functionality resulting from PFDs, the socio-cultural context behind the historical neglect of these conditions, the role played by patriarchy and gender bias, and their consequences for families and the community at large, are rarely studied.

Lack of Public Health-Focused Evidence-Based Guidelines for the Management of Pelvic Floor Disorders

Timely, women-centered, and evidence-based care is the most effective preventive or reparative strategy [2]. However, most guidelines for PFDs have been issued by professional organizations based in HICs that are exclusively focused on the care for the individual patient. No guidelines have been developed by the WHO, national health ministries, or professional organizations of any LMIC that offer public health-oriented, scalable, and system-level solutions for establishing efficient triage systems for the prevention, screening, treatment, and referral of these conditions. The WHO's postnatal guidelines do discuss UI, but only until 6 weeks postpartum (https://iris.who.int/server/api/core/bitstreams/73dec697-c033-449c-8323-1cd04a8d8f20/content).

Pelvic Floor Disorders Have Lifelong Social, Economic, and Health Consequences Exacerbated by Social, Cultural, Economic, and Policy-Based Neglect

Living with POP, UI, and FI can lead to lifelong impairment of quality of life, which can lead to social and economic isolation [102]. Women with PFDs experience numerous personal and interpersonal challenges, including psychological and functional impairment, skin infections, ulcers, sleep problems, sexual difficulties, and inability to perform religious duties [103]. As a result, large numbers of women world-wide are unable to achieve their educational, professional, and economic potential. The morbidity of PFDs is greater in LMICs, further contributing to economic deprivation and inequality. However, although the negative impact of pelvic floor conditions on every aspect of women's lives is documented, their broader implications for global socioeconomic development remain under-recognized [104].

Data are scarce: a study estimated that women aged 50 with pelvic organ prolapse (POP) lost 217 Disability-Adjusted Life Years (DALYs) per 1,000 women per year, compared with 324.8 DALYs among women aged 60; the corresponding average years of life lost were 14.5 and 10.3, respectively [97]. UUI is associated with a high economic burden that increases with age [105]. The estimated annual cost of UUI was €7 billion in 2005 across Canada, Germany, Italy, Spain, and the UK, while in the USA the cost was reported to be $66 billion in 2007 [98]. FI was estimated to cost €2169 per outpatient per year in a 2004 Dutch study [106]. Many studies, however, focus only on the cost of surgical treatment and omit the cost of conservative treatment and incontinence pads.

Women globally report a societal stigma around pelvic floor conditions that prevent them from discussing their symptoms, a sense of loss of self, being unable to take on roles that are important to them, delayed care-seeking behavior, and feeling that their symptoms, when disclosed to health care staff, are trivialized [107, 108]. SUI is an independent risk factor for the development of anxiety and depression [109]. Women of all ethnicities report feelings of anger, guilt, and frustration with the lack of awareness and discussion around UI [110–112]. Failure to disclose to partners and relatives owing to the embarrassing nature of PFDs and a belief that it was "culturally forbidden" is a common theme [110, 111].

Call to Action and Future Recommendations

Greater recognition, improved measurements, collective action, and funding to prevent and manage medium-term and long-term consequences of labor and childbirth is the need of the hour [2].

There are several critical stakeholders that we hope to work with to enable mainstreaming of PFDs on the global health agenda.

Multilateral Agencies

1. Multilateral agencies including the WHO should come together to reconsider the current practice of using a

postpartum period definition of 42 days post-birth as a threshold for postnatal care services [2]. Chronic pelvic morbidity, which tends to emerge long after childbirth but is traceable to labor and childbirth processes and events [2], should be considered part of maternal morbidity and maternal health.

2. The Foundation for International Urogynecological Assistance (FIUGA) and the International Urogynecological Association (IUGA) look forward to working with relevant multilateral agencies to develop evidence-based public health guidelines for the management of pelvic floor sequelae of childbirth with clear referral pathways defined for prevention, screening, referral, and treatment of PFDs. These guidelines could provide the blueprint for the development of country-specific protocols that are tailored to the ground realities of each country.
3. Measuring maternal pelvic morbidity should be an integral part of current initiatives to expand the measurement of maternal health quality to include standardization and reporting of nonlife-threatening maternal morbidity [113]. Development of a global Maternal Pelvic Morbidity Surveillance and Response (MPMSR) unit with the goal of creating data-driven approaches to reducing preventable maternal pelvic morbidity may be an ideal step forward.
4. Pelvic floor specialists should have a seat at the table in any international, regional, or local deliberations on women's health, to ensure that women's pelvic floor issues are accorded due importance.
5. Greater investment in epidemiological, basic science, interventional (including development of low-cost diagnostics and therapeutics), and implementation research [2], applicable to both LMICs and HICs, is necessary.
6. Investment is also needed to support training of frontline health workers globally in the prevention, screening, referral, and management of PFDs overall, with perineal trauma as the first step.

National Health Ministries

We look forward to working with relevant national health agencies globally through our local IUGA membership using a two-pronged approach:

1. Develop urogynecology as a subspecialty in every country: urogynecology and education regarding PFDs should be part of every Obstetrics and Gynecology training program and where possible, the subspecialty of urogynecology should be developed. The Fellowship committee of the IUGA has developed a tool kit and pathway to assist in the establishment of certified urogynecology subspecialty training programs. The "Inspire" Program of the IUGA recognizes gynecologists who have expertise in urogynecology from countries that do not have a certified subspecialty training program. The Urogynecology Enrichment Program of the FIUGA is aimed at working with the national medical councils of individual countries to train early- and mid-career gynecologists attached to academic institutions/university hospitals with special interest in urogynecology. The FIUGA is currently piloting the Enrichment program in Sri Lanka with three trainees in collaboration with the Menopause Society of Sri Lanka. The FIUGA has supported subspecialty fellowship programs in Nepal and Ghana, with the approval of the respective governments, that have become self-sustaining.
2. Work with the policy makers and health service officials of health ministries of individual countries to determine the optimal mechanisms through which postpartum care in respective countries can be extended and optimized [2] to prevent, identify, and treat PFDs and establish referral pathways. We look forward to collaborating in the creation of tailored practice guidelines for frontline health workers for PFDs overall, with those pertaining to the prevention, screening, treatment, and referral of perineal trauma as the critical initial guideline. Development of improved linkages to relevant community-based services and schemes, as well as countrywide surveillance mechanisms, would be warranted. In keeping with the advocated lifecycle approach, inclusion of questions on symptoms of PFDs during home visits of health workers or during women's visits to public health clinics and including information on PFDs in the IEC material on pregnancy and childbirth may be ideal first steps followed by training of frontline health workers in overall practice guidelines.

The Fistula Community

We support the call from the fistula community to integrate care for all PFDs with fistula care. We would like to work with the fistula community to upgrade the existing fistula centers into urogynecology centers that can provide holistic care, including conservative and surgical treatments, for all PFDs. Prime examples of fistula centers that have grown to become urogynecology centers are the FIUGA fellowship programs in Nepal and Ghana.

There is much to learn from the advocacy success stories of the social movement around fistula care, as widespread awareness-raising is crucial [2] for PFDs. The success of fistula-related advocacy [2] includes framing fistula as a health and human rights issue [114], SDG target-setting [115], generating prevalence data and global estimates [116, 117], implementing national policy initiatives [118] and norms and standards from

international agencies [119–121], and multilateral advocacy at local, national, regional, and global levels [121]. We look forward to traversing the same path for all PFDs with the support of advisors from the fistula community.

Urogynecologists Worldwide

We need to come together and create a dedicated stakeholder community around the cause. It is crucial to extend our ambit from a purely single-patient, curative, and operative model to adopt a larger public health vision of prevention, screening, and scaled solutions. We hope to advocate with multilateral agencies, the international aid community, national health ministries, to adopt the recommendations. We hope to create an advocacy committee and organize ourselves in individual countries. The urogynecology community in each country can advocate with the respective national governments, national medical organizations, especially the ones pertaining to obstetrics and gynecology, national nongovernmental organizations (NGOs), and aid agencies working in the respective countries and ensure support.

Nongovernmental Organizations Working in the Space of Gender, Social Justice, and Equity

The evident neglect of PFDs is a critical issue at the intersection of gender, social justice, and equity and needs to be recognized as such. We hope to work with various stakeholders to build an engaged community to advocate for this important cause.

Conclusion

One in four women suffer from one or more PFDs whose pathophysiology is intimately linked to childbirth trauma. It is essential that chronic pelvic floor morbidity resulting from childbirth is given its deserved space in the larger paradigm of maternal health. Public health approaches to maternal health cannot end at 6 weeks postpartum and need to expand to include all sequelae of childbirth, irrespective of the timeframe of their development post-delivery. Maternal health programs at the local, national, and global level must expand to include appropriate preventive, promotive, and curative care (including referral pathways) for PFDs that constitute chronic pelvic morbidity. The gender and equity issue underlying the neglect of PFDs resulting from childbirth needs to be addressed. Chronic pelvic morbidity needs to be recognized as an important measure of the quality of a woman's life.

Statement from the IUGA President, Professor (Dr.) Anna Rosamilia in support of the white paper

The vision of IUGA in 2025 is to achieve pelvic floor health for all women. There is no greater effort to achieve this than by a concerted collaborative international effort to recognize that this starts with supporting maternal health for the long term. This most important paper from Dr Aparna Hegde and her colleagues on behalf of the Foundation arm of IUGA calls on all of us who care for women during pregnancy, childbirth and afterwards. It has the potential to change public health policy worldwide. It asks us to recognize that childbirth trauma resulting in pelvic floor dysfunction requires recognition, prevention and management long after 6 weeks post-partum. Pelvic floor disorders are highly prevalent and life changing. IUGA calls on societies, national and international educational and policy-making bodies to support this call to action.

A Global Call to Action: Addressing Chronic Maternal Pelvic Morbidity

Millions of women around the world live with life-altering pelvic floor disorders (PFDs) resulting from childbirth trauma – conditions that are **preventable, treatable, and yet routinely ignored**. These conditions, including **pelvic organ prolapse, urinary incontinence, fecal incontinence, perineal trauma and sexual dysfunction**, constitute **chronic maternal pelvic morbidity** and affect an estimated **one in four women globally**.

Pelvic floor disorders often emerge months or years after childbirth and severely compromise **physical function, mental health, economic productivity, and personal dignity**. Yet, despite the global progress in reducing maternal mortality in the last few decades, **most maternal public health services end at six weeks postpartum globally.** They fail to account for the chronic and progressive nature of pelvic floor trauma.

This policy-based structural neglect has led to a **critical global care deficit**:

1. **Inadequate training**: Health workers who conduct vaginal deliveries are rarely trained to prevent, recognize and manage PFDs.
2. **Inequitable Care Models**: Current care frameworks emphasize curative, high-cost, surgical treatments over prevention, screening, primary care and referral pathways.

3. **Stigma and Silence**: Lack of IEC (information, education and communication) approaches – together with cultural taboos – discourages care-seeking.
4. **Under-Reporting and Underfunding**: Systemic under-reporting leads to misperception that PFDs are infrequent and insignificant. Therefore, there is chronic underinvestment in basic research, innovation and development of low-cost therapies.

It is time to **Redefine Maternal Health**. We call on the **WHO, multilateral agencies, national health ministries, and various civil society organizations** to take the following urgent actions:

- Recognize that childbirth can have a lifelong impact on women's pelvic health.
- **Formally recognize chronic pelvic morbidity as a critical component of maternal health regardless of time of onset post childbirth**. The definition of maternal health needs to be extended beyond the six weeks postpartum limit to include long-term pelvic floor sequalae of childbirth.
- Collaborate with IUGA to develop **evidence-based global guidelines** for prevention, screening, referral and treatment of PFDs and locally relevant guidelines in various countries.
- Strengthen health systems capacity by **training frontline health workers** in prevention, screening, and referral of PFDs, especially in low-and-middle-income countries.
- **Include PFD indicators** in global monitoring frameworks of maternal health and SDG metrics.
- Establish **integrated care pathways** within existing maternal, reproductive and fistula programs, especially in low- and middle-income countries, to ensure scalable and affordable access.
- Invest in **research, innovation** and development of low-cost diagnostics and affordable treatments.

We urge global leaders to act now! Help us amplify this neglected truth loud and clear: **maternal health does not end at birth.** This is not merely a public health issue – **it is a matter of gender equality, human rights and reproductive justice.** Chronic maternal pelvic morbidity is a true measure of a woman's long-term health and quality of life.

Every woman deserves to not only live through childbirth – but thrive afterward. Let us close this critical gap! Let us break the silence! Let us ensure that no woman is left behind to suffer in silence!

Pelvic Health is Maternal Health!

SCAN HERE TO ENDORSE THE STATEMENT!

Authors' Contributions A.H.: project development, data collection, data analysis, manuscript writing, final editing; J.G.: data collection, analysis and help with writing a section of the manuscript; R.K.: data collection, analysis and help with writing a section of the manuscript; Y.H.T.: data collection, analysis and help with writing a section of the manuscript; C.C.: data collection and data analysis; K.T.: data collection and data analysis; Z.M.: data collection; M.G.: data collection.

Declarations

Conflicts of Interest None of the authors have any conflicts of interest.

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