

Ultrasound of Chronic Pelvic Pain in Women at the Reference Health Center of Commune III of Bamako

Diarra Ouncoumba^{1,3,4}, Traore Ousmane^{2,3*}, Kouma Alassane³, Dembele Mamadou³, Keita Moulaye¹, Coulibaly Ibrahima¹, Traore Souleymane¹, Diallo Mahamadou^{3,4} and Keita Adama Diaman^{2,3}

¹Reference Health Center of Commune III, Bamako, Mali.

²Radiology Department of the University Hospital Center Point "G", Bamako, Mali.

³Lecturer and Researcher, Faculty of Medicine and Odontostomatology, University of Science, Technology and Engineering of Bamako, Mali.

⁴Radiology Department of University Hospital center, "Gabriel Touré", Bamako, Mali.

*Correspondence:

Professor Ousmane Traoré, Senior Lecturer in Radiology and Medical Imaging at the Faculty of Medicine and Odontostomatology of the University of Sciences, Techniques, and Technology of Bamako, Mali, Tel: +223 76465335.

Received: 05 Jul 2026; **Accepted:** 14 Aug 2026; **Published:** 26 Aug 2026

Citation: Diarra Ouncoumba, Traore Ousmane, Kouma Alassane, et al. Ultrasound of Chronic Pelvic Pain in Women at the Reference Health Center of Commune III of Bamako. Radiol Imaging J. 2026; 5(2); 1-5.

ABSTRACT

Introduction: Chronic pelvic pain is a frequent problem in gynecological practice and presents a diagnostic challenge due to the diversity of its etiologies. The objective of our study was to evaluate the contribution of ultrasound in the management of chronic pelvic pain in women.

Methodology: This was a cross-sectional study conducted over a 12-month period, involving 133 patients with pelvic pain lasting more than six months at the Reference Health Center of Commune III in the Bamako district.

Results: The results showed that the most represented age group was 27 to 32 years (25.8%). Housewives were the majority, accounting for 63.9% of cases, and 68.4% of patients were married. Clinically, pelvic pain was isolated in 62.4% of cases. Ultrasound was performed predominantly via the suprapubic route (93.9%). Genital causes were predominantly ovarian cysts (29.1%) and uterine fibroids. Extragenital causes were mainly digestive (69.5%). However, the ultrasound was normal in 31.1% of cases.

Conclusion: Pelvic ultrasound is an essential first-line examination, allowing for guidance in the etiological diagnosis of chronic pelvic pain.

Keywords

Pelvic pain, Chronic, Ultrasound, Etiologies, Bamako.

Introduction

Chronic pelvic pain (CPP) is debilitating pain that persists in a woman's pelvis for at least six months [1]. It is a frequent reason for consultation in gynecology or general medicine, and its frequency increases with age [2]. It can be of gynecological or extra-gynecological origin. The etiologies are numerous. Endometriosis is found in approximately one-third of cases, other

causes (irritable bowel syndrome, interstitial cystitis, etc.) account for another third, and the exact cause of the pain remains unknown in the remaining third. In an American survey where 15% of women aged 18 to 50 years presented with chronic pelvic pain, the etiology was unknown in 61% of cases [3]. In the Democratic Republic of Congo, Andy Muller et al. Found 20% of cases of chronic pelvic pain in a study conducted on the clinical profile of urinary incontinence in women [4]. Ultrasound is the first-line examination to request (ideally during the pain episode). Depending on the clinical context, it can be performed solely via

the suprapubic approach or, optimally, in combination, using both the suprapubic and endovaginal approaches [5]. In Mali, a study on the contribution of ultrasound to the diagnosis of non-serious pelvic pain was conducted in 2023 at the Gabriel Touré University Hospital [6]; however, we did not find any specific imaging studies on chronic pelvic pain. Hence this review on the contribution of ultrasound in chronic pelvic pain.

Methodology

This was a cross-sectional study conducted at the reference health center in Commune III of the Bamako district, spanning a 12-month period from January 2024 to December 2024. It included all patients who underwent a pelvic ultrasound at the center for chronic pelvic pain during the study period. Women with pelvic pain lasting at least six months who agreed to participate were included. Data were collected using ultrasound reports, recorded on a questionnaire (one copy of which was kept). Data entry was performed using Microsoft Word 2016 and SPSS version 25, followed by data analysis. The parameters studied were sociodemographic data, clinical data, and ultrasound data. Informed verbal consent was obtained from the patients before their inclusion in the study and anonymity was maintained.

Results

Socio-epidemiological data

During the 12-month study period, 133 ultrasounds were performed in a context of post-contrast surgery out of 3061 pelvic ultrasounds performed, representing a prevalence of 4.3% of cases.

Table 1: Distribution of patients according to age group.

Age group	Effective	(%)
[15-20]	26	19,5
[21-26]	22	16,6
[27-32]	33	25,8
[33-38]	21	16,5
[39-44]	13	9,8
[+45]	17	12,8
Total	133	100

The most represented age group was 27-32 years, accounting for 25.8% of cases. Housewives were the most frequent group, representing 63.9% of cases. Married women were the majority, representing 68.4% of cases. The majority used Jadel as a method of contraception (38.8% of cases). Dysmenorrhea and irregular cycles were the most common gynecological conditions, affecting 33.8% and 33.3% of cases, respectively. Multiparous women were the most numerous group, representing 63.9% of cases.

Clinical data

Eighteen percent of the patients had metrorrhagia and 12% had a menstrual cycle disorder (Table 2).

Ultrasound data

The suprapubic approach alone was widely used, accounting for 93.9% of cases, compared to 2.2% for the endovaginal approach and 3.7% for the combination of both approaches. Functional ovarian

cysts were the most common genital etiology, representing 29.1% of cases, followed by fibroids (20.8%), adenomyosis (13.8%), and tubal pathologies (9.7%). Ovarian pathologies (dystrophy and cysts) accounted for 9.7% and 9.7% of cases, respectively. Cervical cancer was present in 2.7% of cases. Extragenital causes were dominated by digestive disorders (72.7%), followed by IUD fracture (9%) and displaced IUD (9%). Subcutaneous abscesses were present in 4.5% of cases, and urinary tract infections accounted for another 4.5%. Regarding ultrasound appearance, hypoechoic intramural myomas were the most frequent, representing 46.6% of cases, followed by submucosal locations in 26.6%. Adenomyosis was suspected in 100% of cases due to diffuse thickening and a combed appearance of the myometrium. Simple cysts were the most common type of functional ovarian cyst, accounting for 42.8% of cases. They were suspected based on their anechoic contents, thin walls, and size greater than 3 cm in all cases. Dermoid cysts were the most frequent cause, representing 75% of cases. They were suspected due to the presence of fat and intracystic calcification in all cases. The most frequent tubal pathology was hydrosalpinx in 86% of cases (Figures 1,2,3,4 and 5).

Table 2: Distribution according to clinical signs associated with pain (N=50).

Associated signs	Effective	(%)
Fatigue	1	2
Bloating	4	8
Constipation	4	8
Flank pain	1	2
Lower back pain	2	4
Joint pain	1	2
Dysmenorrhea	1	2
Dyspepsia	2	2
Dysuria	3	6
Purulent vaginal discharge	1	2
Fever	4	8
Hirsutism	1	2
Pelvic mass	2	4
Menstrual bleeding	3	2,2
Metrorrhagia	9	18
Abdominal heaviness	1	2
Frequent urination	2	8
Polymenorrhea	1	2
Feeling of heaviness	1	2
Menstrual cycle irregularity	6	12
Total	50	100,0

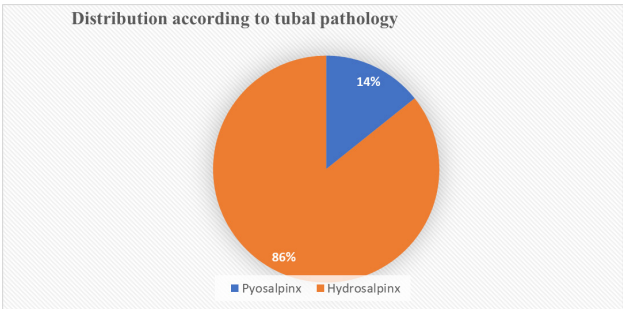


Figure 1: Distribution according to the appearance of tubal pathologies.

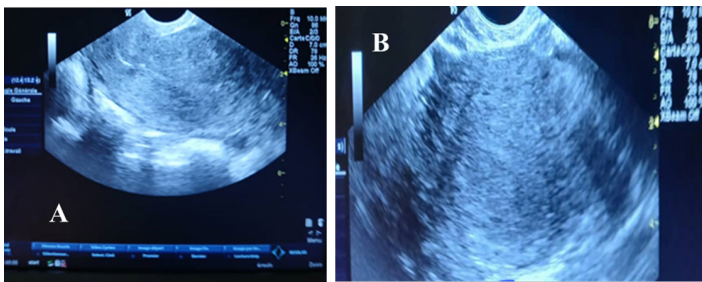


Figure 2: Endovaginal pelvic ultrasound in a 40-year-old woman in longitudinal (A) and transverse (B) sections showing a large uterus with regular contours, heterogeneous due to the presence of multiple hypoechoic images (combed appearance) associated with focal myometrial thickening (**uterine adenomyosis**).

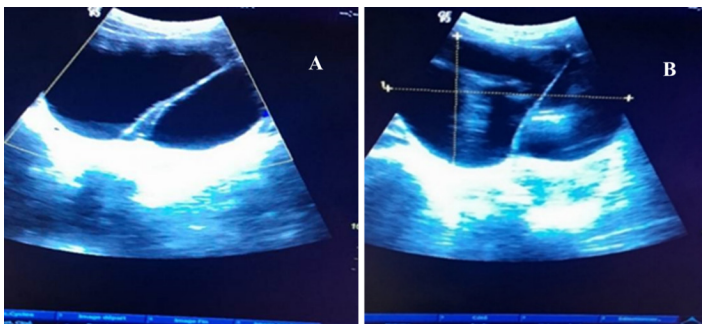


Figure 3: Pelvic ultrasound via suprapubic route in a 19-year-old woman in transverse section + Doppler (A) and longitudinal section (B) showing a large right ovarian cystic formation, septated, with thick wall and posterior reinforcement: **Organic cyst**.



Figure 4: Pelvic ultrasound via suprapubic approach in a 50-year-old woman in longitudinal section showing a tissue mass of the cervix with irregular contours infiltrating the posterior bladder wall. (**Cervical tumor**).

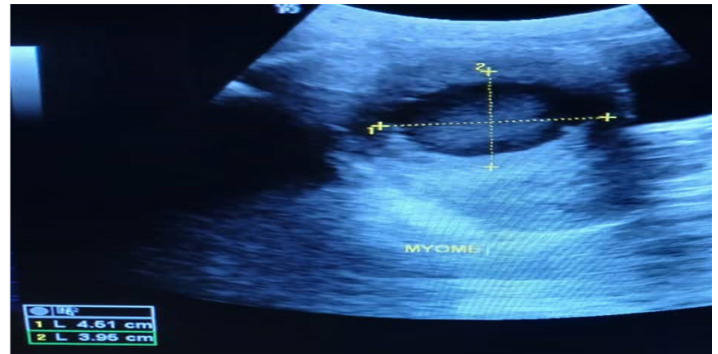


Figure 5: Pelvic ultrasound via suprapubic approach in a 24-year-old woman in longitudinal section showing a fundic myomatous core with necrotic tissue (uterine myoma in necrobiosis).

Discussion

Socio-epidemiological data

During the study period from January to December 2024, 3061 pelvic ultrasounds were performed, representing 55.4% of all ultrasounds during the study period (5521), of which 133 were in the context of post-contrast surgery (PCS), representing 4.3% of cases. This prevalence differed from that reported by Paspulati M, et al. [7], who found a higher percentage of 15% to 20% of cases. This difference could be due to several factors, initially defining the population and varying across studies, as the chosen study population significantly influences prevalence estimates [8]. The 27-32 age group was the most represented, accounting for 25.8% of cases. Moutawakil M [9] found 60% for the 26-35 age group. The predominance of this group was due to the fact that it corresponded to years of high hormonal, professional and family activity, not to mention the psycho-social factors that can influence the intensity and persistence of pain.

Clinical data

Pelvic pain was isolated in 62.4% of patients. In contrast, 6.9% complained of metrorrhagia and 4.6% of menstrual irregularities. These figures were slightly lower than those of M. Diallo, who found 82.2% of cases of isolated pelvic pain and 6% of leukorrhea. The pelvis contains bony, muscular, nervous, vascular, and visceral structures very close to one another; an abnormality or irritation in one of these structures can therefore result in diffuse or poorly localized pain [10].

Ultrasound data

In our study, 99% of ultrasounds were performed transabdominally, compared to 2.3% transvaginally. This result was similar to that of Daou A, who found that 98% of ultrasounds were performed transabdominally and 2% transvaginally [11]. Although the transvaginal approach is much more recommended due to its advantages, this method raises issues of morality and personal habit, hence the reluctance and difficulty in obtaining women's consent. Furthermore, it is generally accepted that the abdominal approach remains the first step in the ultrasound examination due to the intra-abdominal development of certain uterine and ovarian conditions. Genital etiologies were the most frequent,

predominantly ovarian cysts (54.13%) and uterine fibroids (20.8%). In the study by Haidara H [12], ovarian cysts accounted for 27% of cases and fibroids for 69.3%. Extra-gynecological causes were dominated by digestive disorders, accounting for 69.5% of cases. Jarrel et al. [14] estimated that 50% to 80% of women with chronic pelvic pain (CPP) presented with symptoms suggestive of irritable bowel syndrome (IBS). The multifactorial pathophysiology of IBS, involving altered intestinal transit, visceral hypersensitivity, and psychosocial factors, may support these findings. In our study, uterine fibroids accounted for 53.57% of cases, including predominantly intramural (46.6%). Subserosal and submucosal fibroids represented 26.6% and 26.6% of cases, respectively. However, Haidara H [12] found 61.7% of fibroids to be intramural, 14% subserosal, and 24.3% submucosal. Each fibroid has its own genetic, hormonal, and vascular characteristics to which it is subjected during its growth [15]. Adenomyosis was diffuse in all women suffering from this condition. Adenomyosis is generally diffuse in the uterine wall, while the nodular (focal) form is much less frequent [16]. Functional cysts were dominated by simple ovarian cysts, representing 42.8% of cases. This predominance of simple cysts was noted by Haidara H [12]. The predominance of simple cysts could be explained by the fact that functional cysts originate from normal ovarian physiological function, which, when disrupted, leads to the transformation of a follicle into a cyst. Organic cysts: the majority of organic cysts were dermoid in nature, accounting for 75% of cases. Drago F [17] found 83.33% to be dermoid cysts. This predominance of dermoid cysts could be explained by the fact that dermoid cysts are more common in women of reproductive age [18].

L'hydrosalpinx était la pathologie tubaire la plus fréquente avec 86% des cas [19]. L'inflammation chronique générée par les pathologies tubaires peut être un facteur favorisant des DPC [20]. Les troubles digestifs étaient la cause extra génitale la plus fréquente avec 72,7 % des cas. Les femmes présentant une constipation grave peuvent également connaître une DPC; avant de consulter un gastro-entérologue, bon nombre d'entre elles subissent inutilement des chirurgies gynécologiques sans obtenir un soulagement de la douleur [21]. Les causes urinaires et pariétales représentaient respectivement 9 % de l'échantillon. Les fractures et déplacement du DIU représentaient respectivement 9 % des cas. Le déplacement du DIU (malposition, enclassement, migration ou perforation utérine) est une cause reconnue de douleur pelvienne chronique chez la femme, la douleur pelvienne étant le principal symptôme révélateur de ces complications [21]. Hydrosalpinx was the most frequent tubal pathology, accounting for 86% of cases [19]. Chronic inflammation caused by tubal pathologies may be a contributing factor to chronic pelvic pain (CPP) [20]. Digestive disorders were the most frequent extragenital cause, accounting for 72.7% of cases. Women with severe constipation may also experience CPP; before consulting a gastroenterologist, many undergo unnecessary gynecological surgeries without pain relief. Urinary and abdominal wall causes each accounted for 9% of the sample. IUD fractures and displacement each accounted for 9% of cases. IUD displacement (malposition, embedding, migration, or uterine perforation) is a recognized cause of chronic pelvic pain

in women, with pelvic pain being the main presenting symptom of these complications [21].

Conclusion

Chronic pelvic pain is a frequent reason for consultation among women due to its diverse causes and its impact on quality of life. Ultrasound remains the first-line imaging examination thanks to its accessibility, safety, and diagnostic efficacy. It plays a crucial role in guiding therapeutic management. However, its effectiveness can be optimized by using the transvaginal approach when possible and by resorting to additional examinations in complex cases.

References

1. Apte G, Nelson P, Brismée JM, et al. Chronic Female Pelvic Pain-Part 1: Clinical Pathoanatomy and Examination of the Pelvic Region. *Pain Pract.* 2012; 12: 88-110.
2. Zondervan KT, Yudkin PL, Vessey MP, et al. Prevalence and incidence of chronic pelvic pain in primary care: evidence from a national general practice database. *Br J Obstet Gynaecol.* 1999; 106: 1149-1155.
3. Mathias SD, Kuppermann M, Liberman RF, et al. Chronic pelvic pain: prevalence, health-related quality of life, and economic correlates. *Obstet Gynecol.* 1996; 87: 321-327.
4. Nzinga AML, Mbaki IB, Ilunga PK, et al. Clinical profile of urinary incontinence in women hospitalized in the University Clinics of Kinshasa from 2015 to 2016. *Pan Afr Med J.* 2020; 37: 386.
5. Scialli AR. Evaluating chronic pelvic pain. A consensus recommendation. Pelvic Pain Expert Working Group. *J Reprod Med.* 1999; 44: 945-952.
6. Diakité A. The role of ultrasound in the diagnosis of non-pregnancy pelvic pain in women at the radiology and medical imaging department of the CHU du Point G. Internet. 2023 cited 9 August 2025. USTTB/FMOS Disponible Sur.
7. Paspulati RM. Chronic Pelvic Pain: Role of Imaging in the Diagnosis and Management. *Semin Ultrasound CT MR.* 2023; 44: 501-510.
8. Baurant É. Epidemiology of chronic pelvic-perineal pain. *The Practitioner's Review.* 2025; 75: 382-385.
9. Moutawaki EI, Mouncif A. A retrospective study of a very common symptom in women: chronic pelvic pain, involving 120 cases. thesis Morocco Sidi Mohamed Ben Abdellah University. Thèse N° 337/22 USMBA. 2022.
10. <https://www.larevuedupraticien.fr/article/mecanismes-impliqués-dans-la-douleur-pelvi-perineale-chronique>.
11. Daou A. Appearance of pelvic ultrasound results in women at the Gabriel Toure University Hospital Center. Memoir Bamako USTTB 2023 cité 15 nov 2025. Disponible sur 2025.
12. Haidara MH. Ultrasound in the diagnosis of non-pregnancy pelvic masses in the Medical Imaging Unit of the Commune V Reference Health Center of the District of Bamako. USTTB/FMOS N° 47. 2021.
13. Jarrell JF, Vilos GA, Allaire C, et al. No 164 - Directive clinique

- de consensus pour la prise en charge de la douleur pelvienne chronique. J Obstet Gynaecol Can. 2018; 40: e788-e836.
14. https://gynerisq.fr/bibliotheque_docs/recommandation-du-cngof-sur-la-prise-en-charge-des-fibromes-uterins.
 15. <https://radiopaedia.org/articles/adenomyosis>.
 16. Drago F. Ovarian tumors: epidemiological and anatomopathological aspects. Thesis USTTB/FMOS N° 05. 2023.
 17. Bentaleb K, Belaala M, Chaoui A. The physiology and pathophysiology of the ovaries. Mentouri Brothers University Constantine. Faculty of Natural and Life Sciences. 2019.
 18. Bagayoko MO. Hysterosalpingography-ultrasound combination in the diagnosis of female infertility at the CSRéf CV of Bamako Thesis USTTB/FMOS 2023 N° 61.
 19. <https://www.msdmanuals.com/fr/professional/gyn%C3%A9cologie-et-obst%C3%A9trique/vaginite-cervicite-et-maladie-pelvienne-inflammatoire/maladie-pelvienne-inflammatoire>.
 20. Jarrell JF, Vilos GA, Allaire C, et al. Clinical consensus guideline for the management of chronic pelvic pain. J Obstet Gynaecol Can. 2018; 40: e788-e836.
 21. <https://www.gyneco-online.com/node/2710>.