

An update on the management of chronic pelvic pain in women

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Short title: Chronic pelvic pain in women

Keywords: Chronic pelvic pain, multidisciplinary team

Summary

Chronic pelvic pain represents a major public health problem for women and impacts significantly on their quality of life. Yet, it is under-researched and a challenge to manage. Women who suffer from chronic pelvic pain frequently describe their healthcare journey as long, via a variety of specialists and frustrating, with their pain often dismissed. Aetiological factors and associations are best conceptualised using the 'three P's' model of predisposing, precipitating and perpetuating factors. This integrates the numerous biological, psychological and social contributors to the complex, multifactorial nature of chronic pelvic pain. Overall management involves analgesia, hormonal therapies, physiotherapy, psychological approaches and lifestyle advice, which like other chronic pain conditions relies on a multidisciplinary team approach delivered by professionals experienced and trained in managing chronic pelvic pain.

Chronic pelvic pain is a major public health problem for women. It is as common as asthma and migraine [1] and is thought to account for around 20% of gynaecology consultations, yet comparatively little research has been undertaken on the topic and clinicians frequently describe it as a challenge to manage [2]. This challenge is further exacerbated by the fact that there are multiple organs in the female pelvis, all of which may present functional symptoms associated with the pain, for example: dysuria; heavy menstrual bleeding; and diarrhoea, meaning an individual may bounce between multiple specialties and see multiple clinicians who may provide conflicting explanations and/or management plans. A consistent patient narrative is that their journey with chronic pelvic pain is both long and frustrating. Here we aim to provide a clinically relevant update on chronic pelvic pain in women, focussing on terminology, aetiology and management. Additionally, we include reflections from a young woman with chronic pelvic pain to illustrate some of the challenges experienced and the benefits of co-ordinated multi-disciplinary working. A full review of the topic is beyond the scope of this article but is available elsewhere [3]. It is important to remember that whilst we have used gendered terminology throughout that aligns with the title, not everyone born female and presenting with chronic pelvic pain will identify as a woman or wish to be addressed with the pronouns she/her.

Terminology

Traditionally pelvic pain has only been considered chronic once it has lasted for six months [4,5]. This was, at least in part, due to the fact that for many women pelvic pain is cyclical or associated with functions that may not occur every day or not be continuous throughout the day (defaecation, urination, sexual intercourse) and thus the impact of this pain and its associations may take longer to develop than might be the case for a constant daily pain. However, the new ICD-11 (adopted by the World Health Organisation in May 2019) considers all pains to be chronic after 3 months [6]. Whilst this will clearly increase the number of women defined as suffering with chronic pelvic pain and render much of the epidemiological data out of date, we believe it has the potential to be of benefit to women. Difficulties getting their symptoms taken seriously and accessing secondary/tertiary care is a common story heard from women with chronic pelvic pain and diagnostic (and therefore treatment) delay is seen worldwide for endometriosis. It is hoped that by only waiting 3 months for their pain to be considered chronic, some of these pathways might be expedited.

There are a number of other changes in terminology/classification that arise from this new system. Perhaps the most important is the distinction between primary and secondary pain. Chronic primary pain is “characterised by disability or emotional distress and not better accounted for by another diagnosis of chronic pain”, whilst chronic pain associated with other diagnoses falls into one of the

chronic secondary pain categories. Of note, confusingly chronic primary pain is now being abbreviated to CPP, which has long been the standard abbreviation for chronic pelvic pain; in this review we will therefore spell out both conditions to avoid confusion. Table 1 attempts to map previous terminology to the new classification using some common examples of chronic pelvic pain. It is clear that diagnostic labels are likely to change during the patient's journey if associated pathologies/features are identified or ruled out. A more detailed discussion of the classification of endometriosis-associated pain syndrome is below, as it illustrates some of the features of this new classification. It is important to note that this is more than an academic discussion: it may define who the patient is referred to initially and may also impact on what medication can be prescribed [7]. Moreover, as clinical records increasingly become digital, the possibility to access large cohorts for research is increasing, highlighting the importance of accurate coding if meaningful results are to be obtained.

Clinically the classification "endometriosis-associated pain" is an incredibly useful label. It validates the patients' symptoms and acknowledges the role of endometriosis, with which patients often identify very strongly, having had multiple surgical procedures in relation to the disease and frequently being members of support groups, whilst allowing a discussion about other factors that can generate and maintain pain. However, it is challenging to decide how this should be categorised in the ICD-11. The presence of an underlying pathology (endometriosis) means it is appropriate that it is classified as a secondary pain. As many of the associated functional pains such as: dysmenorrhoea; dysuria; and dyschezia, are visceral in origin, it perhaps sits best as a chronic secondary visceral pain. Given that ongoing inflammation is common, it would also be appropriate to place it in the subdivision "persistent inflammation" [8]. However, there are reasons why for some women this categorisation is not sufficient or another may be just as appropriate. First, the commonest location for endometriotic deposits is the parietal peritoneum which is innervated by both somatic and visceral afferent nerves [9] and therefore it cannot purely be considered a visceral condition. Furthermore, the majority of women will have had at least one surgical procedure to confirm the diagnosis, with many having had repeated procedures with the potential to generate chronic post-surgical pain. There is increasing evidence of a neuropathic-like component to pain in women with endometriosis [10] and finally musculoskeletal dysfunction, including of the pelvic floor, is a common finding on examination [11]. ICD-11 allows for these factors to be considered by including somatic radiation within the visceral category [6] and by providing the option to add "children" to the initial parent code. However, if for a particular individual, the endometriosis is considered only a very minor component it would also be possible to categorise it for example as chronic post-surgical pain as the parent, with

chronic secondary visceral pain as the child category. More detail about this classification system can be found in the set of linked papers published in *Pain* in January 2019.

Aetiology and Associations

The understanding of the aetiology of chronic pelvic pain has moved forward considerably over recent years. We are increasingly aware of the complex, multifactorial nature of chronic pelvic pain [12,13] and whilst initial diagnostic pathways still focus on the identification/exclusion of pelvic pathologies, it is clear that therapies addressing any such pathology are frequently ineffective at completely relieving pain. We therefore prefer to conceptualise chronic pelvic pain using the ‘three P’s’ model, originally proposed for chronic fatigue syndrome [14], allowing us to integrate multiple biological, psychological and social factors into a model that helps the woman to make sense of the pain and provide hope that she can move forwards. This model considers potential aetiological factors and associations in terms of predisposing, precipitating and perpetuating factors. Endometriosis, for example, could be considered as both a predisposing (setting up an inflammatory pelvic environment; causing monthly painful periods) and a perpetuating factor (maintaining an inflammatory milieu; causing stress and anxiety relating to interpersonal relationships and/or fertility concerns). However, for endometriosis to lead to chronic pelvic pain unresponsive to standard treatments targeting the ectopic lesions likely requires one or more of the other factors, including a precipitating event. Frequently, in our experience however, the precipitating event can be relatively minor and often not remembered by the woman, especially if her focus has been on the pathology as the single cause of the pain and when the symptoms have been present for a number of years. Table 2 lists factors that could be involved in the generation/maintenance of chronic pelvic pain and some example factors are discussed below. It should be noted that chronic pelvic pain is relatively under-researched compared to other forms of chronic pain and therefore for some of these factors, published evidence specific to chronic pelvic pain does not exist and these have been highlighted in the table.

Predisposing Factors

To fully understand what makes a woman vulnerable to the development of chronic pelvic pain would require large longitudinal studies that would be both expensive and time-consuming to undertake. With improved women’s health and pain-related questions in many of the ongoing, publicly available cohort studies, it is to be hoped that in the future these data sets may help us understand this question. However, for now the available evidence is, in the majority, from cross-sectional studies making it difficult to determine for some factors whether they are a cause or an effect (or both) of the pain.

Large scale epidemiological studies have confirmed genetic and epigenetic components to pain vulnerability and shown chronic pain to be heritable [15,16]. In the context of chronic pelvic pain specifically, this has been demonstrated for associated pathologies including: endometriosis [17]; inflammatory bowel disease [18]; and for chronic pelvic pain syndromes such as IBS [19], dysmenorrhoea [20], vulval pain syndrome [21] and IC/BPS (limited evidence) [22,23]. In some instances there is considerable overlap with what is known about chronic pain in general. For example, the single nucleotide polymorphism identified in the genome wide association study exploring determinants of dysmenorrhoea severity co-localises with the gene encoding nerve growth factor (NGF) [20]. Whilst a recent genome wide meta-analysis in endometriosis found genetically-associated comorbidity with other conditions associated with chronic pain [17]. Additionally, symptoms commonly found in association with chronic pelvic pain have also been shown to be heritable, including: menstrual cycle length [24] and menstrual flow [25]; urinary incontinence, frequency and nocturia [26]; and a genetic contribution to transit time through the GI tract [27] which may also impact on bowel symptoms.

Whilst dysmenorrhoea can be considered a chronic pain condition in its own right if associated with significant emotional distress and functional impairment, there is increasing evidence that dysmenorrhoea is associated with a variety of changes that could in themselves predispose to the development of other chronic pain conditions [28]. These include: alterations in the structure, function and neurochemistry of the central nervous system; altered hypothalamic-pituitary-adrenal (HPA) axis function; and altered visceral sensitivity and function (both bowel and bladder). Moreover, sex differences in the prevalence of chronic pain conditions begin to emerge after puberty [29] and the onset of painful periods in girls may be one factor contributing to this observation. Unlike many of the other predisposing factors, dysmenorrhoea is preventable. Up to 90% of girls will experience painful periods at some time, with 40-50% complaining of severe pain that impacts their life. It is however, relatively amenable to treatment with non-steroidal anti-inflammatories or with hormonal therapies that induce amenorrhoea [3].

Precipitating Factors

Few studies specifically explore precipitating events in the context of chronic pelvic pain and any retrospective study would have significant recall bias. However, in our clinical experience there are a number of factors that are described with relative frequency.

Although some of our patients will describe their pain starting prior to the onset of their periods, for many their first experience of significant repeated episodes of pain is at menarche. This could represent a selection bias, as a chronic pelvic pain service embedded within a gynaecology department we may seem more relevant to both patients and primary care physicians when pain sounds more “gynaecological” in origin. Patients will often describe their pain as gradually changing from cyclical to daily over the course of the ensuing years without any other obvious cause. We have already described mechanisms by which dysmenorrhoea may increase the chances of developing chronic pain, however, it is not the only thing to commence at menarche. The onset of cyclical hormone changes potentially leads to monthly windows of pain vulnerability when endogenous estrogen levels are low [30] and the use of exogenous hormones as contraceptives or treatments for menstrual dysfunction or other conditions such as acne may further increase this risk (although the evidence to date is relatively limited) [31-33]. It is also worth reflecting on whether this is a time that pain behaviours may develop. Many women will describe having been dismissed by a parent, teacher or healthcare professional when they asked for help with their period pain, often being told it is a normal part of womanhood that they will have to learn to put up with. It is easy to see how this may impact on their willingness to seek help again and/or the way they behave/describe their pain in the future.

There is good evidence that traumatic events including adverse childhood experiences predispose to chronic pain and poor adult health more generally [34,35]. Proposed mechanisms mediating this relationship include dysfunction of the HPA axis, visceral hypersensitivity and psychological factors. Additionally, a specific event may relatively soon be followed by chronic pelvic pain. Such events include musculoskeletal trauma such as a fracture or ligamentous injury, surgery and sexual assault. Again, it is likely that multiple mechanisms are involved in generating the pain which persists beyond these events. One factor that may be particularly important but often overlooked is musculoskeletal dysfunction especially of the pelvic floor [11,36]. A change in gait, prolonged lithotomy position or reactive muscle spasm could all lead to a hypertonic pelvic floor, referring pain to the pelvis and being associated with dysfunction of urination and defaecation, as well as dyspareunia. This is therefore worth assessing for [36] before assuming there is no specific underlying cause amenable to direct treatment.

Perpetuating Factors

As described above, it is frequently difficult to know if associated factors are a cause or consequence of the pain. However, if they are not adequately addressed these factors will contribute to maintaining the pain and thus a failure to respond to other treatments.

Chronic pelvic pain conditions are frequently comorbid with other pelvic pains as well as with chronic pain outside the pelvis. This relationship may in part be due to common predisposing factors for multiple different pain conditions, for example genetics or psychological state, but may also reflect viscerovisceral and viscerosomatic referral patterns leading to/increasing sensitisation [37]. Multiple pain conditions clearly increase the burden of pains suffered by the woman on a day-to-day basis, potentially contributing to psychological distress and poorer quality of life. However, there is increasing evidence that treatment of other chronic pain conditions improves symptoms of pelvic pain [38] and therefore addressing all pains experienced may be necessary to break the cycle of chronic pain.

In common with other chronic pain conditions, there is now convincing evidence that chronic pelvic pain and its related conditions are associated with changes to both the central [21,39] and peripheral [10,40] nervous system. It is likely that there will be multiple factors that could generate sensitisation including the duration and severity of pain and adverse childhood experiences, that may well vary between women. Whether there are some women who are more likely to develop sensitisation after an acute insult remains unknown. In the future it is to be hoped that those with such vulnerability could be identified and targeted with preventative treatments after an acute event such as surgery, trauma or infection, to prevent long-lasting sensitisation developing.

Management

As with any other chronic pain condition, we believe that chronic pelvic pain is best managed by a multidisciplinary team with the appropriate skills and understanding to address the variety of factors that maintain chronic pelvic pain [41,42]. Figure 1 provides some reflections from a young woman with chronic pelvic pain on her experience of a multi-disciplinary approach.

Initial assessment and investigation

The initial assessment needs to include a detailed history taking, physical examination and review of previous investigations and treatments. This is likely to require considerable time and may not always be achievable in a single appointment. The physical examination should be holistic, focussing on all

components of the pelvis. Recommendations of how to assess relevant components of the musculoskeletal system are available [36], however, international agreement on the ideal examination to rule in/out a musculoskeletal component to chronic pelvic pain has not been reached and thus this will tend to be based on clinician experience/preference. Whether an internal examination is performed (per vagina and/or per rectum) will depend on the history, whether the woman has ever been sexually active and her wishes at the time. It is never our practice to perform a vaginal examination on a *virgo intacta*, if there are concerning red flag symptoms these can be investigated in other ways (imaging or if absolutely necessary an examination under anaesthesia). For those women who have been sexually active, we will discuss the additional information to be gained from such an examination, but she may choose to defer this to a later appointment. If this is the case, it is often the physiotherapist who will arrange to perform this examination (assessing for altered sensation of the perineum and vaginal mucosa and tenderness and function of the pelvic floor), as the majority of women will have previously been examined by a gynaecologist or had imaging to assess for deep endometriosis, ovarian cysts or other pelvic pathology.

As already mentioned, it is a commonly heard patient narrative that their journey was long, via a variety of specialists and frequently included their pain being dismissed when no obvious pathology was identified on imaging or at surgery. An essential part of the initial appointment is to establish a trusting and collaborative relationship between the patient and healthcare team. This usually includes attention to the following issues at assessment including: an opportunity to discuss previous explanations/information given to explain symptoms and treatments; understanding the patients beliefs about symptoms and their cause (e.g. a recurrence of pain means endometriosis has regrown and surgery is needed); understanding key concerns (e.g. regarding fertility); introducing a model of pain that both validates experiences of pain and supports engagement with a multidisciplinary approach; and dispelling myths and misconceptions. Such a relationship is essential for supporting self-management, with the vast majority of day-to-day management of chronic pain done independently by the patient and reducing unhelpful pain-related behaviours such as repeat attendance at primary care or emergency departments. It is important to ensure treatable causes of chronic pelvic pain are identified, however, there is little value in repeating investigations and there may be associated harm including: exposure to radiation; surgical risks; or reinforcement of a medical model. Therefore, past investigations should be reviewed and the value of further investigation carefully discussed with the woman.

Analgesia

There is little evidence to inform the use of analgesics in chronic pelvic pain. Interestingly there is also fairly limited data regarding the use of analgesics in women as opposed to men/mixed sex cohorts. Understandably adequate analgesia is frequently requested by women with chronic pelvic pain and a balanced approach needs to be taken, encouraging women to take analgesia consistently/as prescribed to maximise effectiveness, whilst acknowledging the limitations and highlighting the importance of other treatment approaches.

Many of the pathologies underlying chronic pelvic pain are associated with increased inflammation/inflammatory mediators (even if this has not been directly correlated with pain symptoms) and therefore there is a rationale to prioritise nonsteroidal anti-inflammatories. The evidence supporting the use of nonsteroidal anti-inflammatories in various types of chronic pelvic pain has been reviewed elsewhere [3]. For those women trying to conceive, it is worth remembering that nonsteroidal anti-inflammatories can inhibit ovulation and should perhaps be reserved for pain associated with menstruation only. It is our experience that for some women rectal formulations can be particularly useful, however, associated diarrhoea/rectal irritation can be unhelpful and many women are unkeen on this route of administration. There lacks sufficient evidence to recommend the use of COX-2 inhibitors, however, in young otherwise healthy women the risk-benefit profile may be different from that seen in an older cohort and therefore they do warrant further investigation.

A discussion of the harms of opiate use is beyond the scope of this review. Although it is advised against starting opiates to treat chronic pelvic pain except for short term use post-operatively or in the context of acute flares [4,7], many women with chronic pelvic pain will be using opiates ranging from occasional use of mild formulations to prolonged use of strong opiates. Weaning women off long term opiates should be performed by experienced teams and this is usually beyond the scope of a dedicated chronic pelvic pain clinic. However, it is worth discussing with the women the additional reasons why she may want to avoid them in the context of chronic pelvic pain, specifically constipation and endocrine effects. Constipation in a woman with chronic pelvic pain may worsen her symptom burden in general, both by contributing to visceral pain and secondary viscero-visceral referral. In addition it places an extra physical burden on the pelvic floor muscle further exacerbating tension. Many women attending chronic pelvic pain clinics will be of reproductive age and may not yet have completed their families. Opiate induced endocrinopathy is well established [43] and this may be relevant to women trying to conceive currently or wishing to do so in the future.

Despite the increasing evidence of neuropathic-like pain and the presence of central pain mechanisms in many women with chronic pelvic pain, very few studies have explored the use of medications targeting these mechanisms (tricyclic antidepressants, gabapentinoids, selective noradrenaline and serotonin reuptake inhibitors) in chronic pelvic pain specifically. There is some evidence that gabapentin is beneficial for vulval pain syndrome [44] and there had been a suggestion that gabapentin might be beneficial for chronic pelvic pain, however, a recent adequately powered trial demonstrated no benefit of gabapentin over placebo for women with chronic pelvic pain and no identified pelvic pathology [45]. Importantly, about 50% women experienced significant side effects from gabapentin and this was significantly higher than associated with placebo. Given the addictive/abuse potential of gabapentinoids, unless there is clear evidence of neuropathic mechanisms it is now hard to justify the use of this treatment in women with chronic pelvic pain and if it is to be considered a full discussion of the limitations and associated side effects would be required. The recent UK guidance does however suggest that antidepressant drugs including amitriptyline and duloxetine can be considered for chronic primary pain conditions [7].

Hormonal therapies

Many women with chronic pelvic pain will experience cyclical flares to their symptoms no matter what the underlying condition. Furthermore, dysmenorrhoea is commonly comorbid and the use of menstrual products such as tampons, pads and menstrual cups, can exacerbate the situation by irritating the perineum and the pelvic floor muscles. We therefore use hormonal therapies, aiming for amenorrhoea, as a key component of our management plans. This can have the additional advantages of ameliorating cyclical mood changes and facilitating engagement with physiotherapy on a daily basis without interruptions for bleeding days. However, there will be some women who do not wish to use hormones, either due to previous bad experiences or because they are currently trying to conceive. There is no evidence to suggest that any one hormonal regimen is better than another and therefore choice is guided by the woman, considering in particular: past experiences of hormonal therapies (either positive or negative); need for contraception; comorbid migraine with aura; and personal or family history of venous thromboembolic events. Table 3 illustrates possible therapeutic options.

Physiotherapy

Physiotherapy is a key component of chronic pain management and a specialist physiotherapist is a central member of our MDT team. However, there is little evidence to support the use of physiotherapy in chronic pelvic pain. In our opinion, this is not because it is not of benefit, but more due to a lack of robust definitions and published data. Viscero-somatic referral has been documented

repeatedly in chronic pelvic pain leading to altered muscle sensitivity and evidence is emerging that shows musculoskeletal dysfunction in combination with other pelvic pathologies such as endometriosis and in pelvic pain syndromes such as vulval pain syndrome [11,21,37,46]. It is unlikely that a “one size fits all” physiotherapy program could be recommended for the treatment of chronic pelvic pain because the associated musculoskeletal dysfunctions are variable, as are individuals’ attitudes to exercise and relevant psychological barriers. What is important is that the physiotherapist has experience and understanding of chronic pain and women’s health to ensure that an optimum strategy can be devised.

Psychological approaches

Psychological factors are central to the experience of pain and psychological approaches are a core component of pain management [47]. The focus of standard psychological approaches for chronic pain such as, fear and associated behavioural avoidance or catastrophising, are likely to be appropriate for individuals experiencing chronic pelvic pain. For example, as with other chronic pain groups, pain catastrophising is prevalent at clinically relevant levels in women with chronic pelvic pain and is associated with higher pain ratings and decreased quality of life [48].

Cognitive behavioural therapy is a time-limited, problem focused approach in which therapist and patient work collaboratively to understand and address unhelpful patterns. A range of behavioural techniques (e.g. activity scheduling, graded exposure) and cognitive approaches (e.g. cognitive restructuring, problem solving) are utilised to work towards specific goals. There is clear evidence indicating cognitive behavioural therapy has beneficial effects (albeit small) for reducing pain, disability, and distress in chronic pain [49]. Furthermore there is some emerging evidence that it is an effective treatment for chronic pelvic pain specifically [50,51]. There is also limited evidence for other psychological approaches for the management of chronic pain including acceptance and commitment therapy and mindfulness-based interventions [52,53]. Acceptance and commitment therapy is a behavioural therapy focused on developing psychological flexibility through a range of strategies, whilst mindfulness-based interventions focus on: developing a relationship with experience characterised by present moment focus; decentering and an approach orientation; and support the development of qualities such as compassion, wisdom and greater self-regulation. Additionally, compassion focused therapy, originally developed with the purpose of treating depression with high levels of shame, may be particularly helpful for those with persisting pain which is compounded by a significant psychological component [54].

It is important to recognise that there are some unique experiences and specific challenges for those living with chronic pelvic pain and psychological approaches need to be sensitive to these. Normalisation or dismissal of the chronic pelvic pain experience during early help seeking can contribute to a struggle to construct 'pathological' vs. 'normal' pain and a quest for 'validation by diagnosis' [55]. Additional attention to therapeutic engagement, pain education and cognitive strategies focused on addressing unhelpful and inaccurate health beliefs may be required. In addition, a culture of secrecy and feelings of shame are often part of people's experience of living with chronic pelvic pain, suggesting psychological approaches which are particularly effective at addressing difficulties with shame may be helpful. Communication is likely to be more challenging in such circumstances and a greater focus on developing communication skills (which are a key component of pain management interventions) may be necessary. Furthermore, healthy body awareness may be particularly challenging as hypervigilance, self-criticism or disconnection with the body can be common. For those with chronic pelvic pain, symptoms can relate to sensitive issues such as sex and toileting. Psychological approaches which foster the development of interoceptive awareness with attitudes of acceptance and non-judgement may be particularly helpful and support engagement with physiotherapy.

There is substantial evidence that patients with chronic pelvic pain have a high prevalence of psychological distress and impairment functioning in daily activities is common [42,56]. The existence of co-morbid mental health problems alongside long-term physical health conditions is associated with negative outcomes. Identification, assessment and management of comorbid mental health conditions is essential for the effective treatment of chronic pelvic pain. It is important to establish whether psychological difficulties will present a barrier to engagement (e.g. anxiety regarding taking medication, depression contributing to very low levels of activity, post-traumatic stress disorder symptoms preventing engagement with physiotherapy). Whether these problems need addressing prior to or concurrently with chronic pelvic pain treatment needs consideration. Where difficulties are best addressed will depend both on the severity of comorbid mental health and resources to offer psychological therapy within the chronic pelvic pain team. If comorbid mental health problems are mild to moderate in nature and are closely connected to chronic pelvic pain, the opportunity to offer psychological interventions alongside other components of chronic pelvic pain treatment in a coordinated way is likely to be ideal. Failure to consider the impact of these issues may well result in frustration/failure for both patient and health care team and is likely to result in increased health care costs.

Lifestyle advice

It is worth remembering that the majority of patients with chronic pelvic pain are women of reproductive age, often trying to juggle multiple strands to their life including: work/study; friendships; sexual relationships; social activities; and fertility wishes/childcare responsibilities. Encouraging women to reflect on their lifestyle and how it relates to pain is important. In some instances, they may be aware of key issues but need validation/encouragement to facilitate change. For others, a diary may highlight problem areas and frequently the physiotherapist and/or psychologist may need to work with the woman to allow her to implement advice. Interestingly, there has been a shift towards self-management necessitated by the COVID-19 pandemic, which has encouraged a focus on lifestyle interventions even for traditionally very medically/surgically managed conditions such as endometriosis [57].

There is little evidence specific to chronic pelvic pain regarding lifestyle changes, however, there is no reason to suspect that the impact would be different from that of other chronic pain conditions [58] and our advice regarding sleep, pacing and stress reduction is based on this literature. Exercise is known to be beneficial for chronic pain, though it may also exacerbate/flare pain and therefore is usually guided by our physiotherapists in those women where a specific musculoskeletal component has been identified. Dietary factors are more complex, as many women with chronic pelvic pain will have overlapping conditions including irritable bowel syndrome (IBS) and bladder pain syndrome, for which specific dietary modifications are frequently recommended. For some women there is clearly benefit from these changes, whilst others trying to combine multiple strategies such as the FODMAP diet (<https://www.monashfodmap.com/about-fodmap-and-ibs/>), excluding all bladder irritants (blackcurrant, caffeine, alcohol) and perhaps an endometriosis-focussed anti-inflammatory diet may end up with a nutritionally poor diet and a negative effect on quality of life due to the limited foods they can enjoy and the impact this may have on social interactions. In such cases a dietician will be an additional important member of the MDT. There is clearly an impact of diet on bowel and bladder function and many women's health physiotherapists are skilled at discussing and advising on these areas. It is also important to consider toileting behaviour. For example, many women will limit their fluid intake throughout the day either to avoid the need to go to the toilet at school/work (in our experience particularly common in adolescents) or to reduce the chances of leakage if incontinence is an associated problem. Altering this behaviour may have a positive impact on symptoms related to bladder irritation and pelvic floor tension.

Conclusion

Chronic pelvic pain is common, challenging to treat and has a significant negative impact on quality of life. Although our understanding has moved forwards in recent years it remains a long way behind other chronic pain conditions. An increased research focus on pain in women more generally and chronic pelvic pain specifically will help to close this evidence gap. In the meantime, extrapolating from what we know about other chronic pain conditions and engaging with a multidisciplinary approach to chronic pelvic pain is likely to be of more benefit to the woman, than continuing to work in disease/organ system focussed silos.

Acknowledgments

We are grateful to Prof Qasim Aziz and Prof Maria-Adele Giamberardino for their guidance relating to the ICD-11 classification.

Competing interests

KV has received research funding from Bayer Healthcare and honoraria for consultancy and lectures for Bayer Healthcare, Grünenthal, Eli Lilly, and AbbVie. EE has no competing interests to declare.

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Tables

Table 1: ICD-11 categorisation of example chronic abdomino-pelvic pain conditions previously defined in the IASP Classification of Chronic Pain [5].

Two ICD-11 categories have been excluded from this table: chronic secondary headache or orofacial pain as it is anatomically distinct from chronic pelvic pain and chronic cancer-related pain as previous definitions of chronic pelvic pain have excluded pain associated with cancer.

ICD-11 classification	Chronic primary pain	Chronic postsurgical or post-traumatic pain	Chronic neuropathic pain	Chronic secondary visceral pain	Chronic secondary musculoskeletal pain
Conditions defined in the IASP Classification of Chronic Pain	Chronic pelvic pain syndrome	Endometriosis-associated pain syndrome	Endometriosis-associated pain syndrome	Endometriosis-associated pain syndrome	Endometriosis-associated pain syndrome
	Irritable bowel syndrome	Abdominal cutaneous nerve entrapment syndrome	Abdominal cutaneous nerve entrapment syndrome	Inflammatory bowel disease	Pelvic floor muscle pain syndrome
	Bladder pain syndrome*	Abdominal wall pain: segmental or intercostal neuralgia	Abdominal wall pain: segmental or intercostal neuralgia	Adenomyosis	
	Vulvar pain syndrome†		Neuralgia of: genitofemoral nerve; ilioinguinal nerve; iliohypogastric nerve; or pudendal nerve	Secondary dysmenorrhoea	
	Primary dysmenorrhoea				

* previously known as interstitial cystitis, † previously known as vulvodynia

Table 2: The ‘three Ps’ model for chronic pelvic pain.

BMI, body mass index; PID, pelvic inflammatory disease; UTI, urinary tract infection

Predisposing	Precipitating	Perpetuating
Genetics*	Acute pain episode	Endometriosis/Adenomyosis*
Epigenetics	Inflammatory event e.g. appendicitis, acute PID	Dysmenorrhoea*
Adverse childhood experiences*	Trauma – physical or psychological	Comorbid chronic pain*
Socio-economic background*	Surgery	Musculoskeletal factors*
Cultural background/beliefs*	Menarche	Central nervous system factors*
Dysmenorrhoea*	Coitarche	Psychosexual factors*
Endometriosis/Adenomyosis*	Stress	Toileting behaviour
Repeated episodes of urogenital infection e.g. UTI, candida*		Sleep disorders*
Other chronic pain condition*		Dietary factors*
Heavy menstrual bleeding*		Opioid use
Musculoskeletal factors		Stress*
Obesity		Physical activity*
Low BMI*		High pain catastrophising*
Physical activity*		Depression*
Central nervous system factors*		Obesity
Hormonal factors*		Anxiety*
High pain catastrophising		Shame
Depression		Poor pacing
Anxiety		Low pain self-efficacy
Stress		Low pain acceptance
Sleep disorders		Cultural background/beliefs*

* those with supporting evidence in chronic pelvic pain

Table 3: Hormonal therapies for chronic pelvic pain

(adapted from [3], fuller information about all contraceptive options available at:

<https://www.fsrh.org/standards-and-guidance/>)

BMI, body mass index; COCP, combined oral contraceptive pill; GnRH, gonadotrophin releasing hormone; IUS, intrauterine system; POP, progesterone only pill; VTE, venous thromboembolic

Formulation	Regime	Contraceptive	Main contra-indications*	Additional notes
COCP (monophasic variety)	Tailored (i.e. no “pill free week”; stop for 4 days if 4 days of bleeding then restart)	Yes (as long as tailored break between 4-7 days and not happening more than every 4 weeks)	Migraine with aura; personal or family history of VTE; liver disease; raised BMI; increased age; history of breast or gynaecological cancer (discuss)	Worth trying if previously taken in a standard fashion (e.g. 21 days and then 7 day break) and suited mood
POP	Continuous	Yes	History of breast or gynaecological cancer (discuss)	Double dose may be used if persistent irregular bleeding
Provera	Oral: 5mg tds im: 12 weekly sc: 12 weekly	Oral: no im/sc: yes	Bleeding diatheses for im/sc; history of breast or gynaecological cancer (discuss)	1 month trial of oral formulation before switching to im/ic may be sensible in case of mood disturbance
Norethisterone	Oral: 5mg tds	No	As for COCP	No longer first line for delaying menstruation due to VTE risk, therefore consider alternatives first
Levonorgestrel IUS	3 – 5 years	Yes	Current pelvic infection	May need replacing earlier as bleeding may return even within time frame of contraceptive efficacy. Doesn't reliably inhibit ovulation and therefore other cyclical symptoms may not be as well suppressed as with other options
GnRH agonists	28 day or 3 monthly preparations	No	Known low bone density	License is only for 6 months; off license use is common, combined with low dose continuous combined HRT after 3 months of treatment. For treatment longer than 2 years most specialists arrange an assessment of bone mineral density every 1-2 years and review need to continue on an annual basis

* for all preparations pregnancy should be excluded first

Figure 1: Patient reflections on her experience of a multi-disciplinary approach to the management of chronic pelvic pain: Learning from Experience using Gibb's Reflective Cycle [59]
(Edited to remove administrative details relevant only to one specific centre).

Journey to the pelvic pain service

I visited my GP numerous times throughout childhood and teenage years with pelvic pain. My pain was put down to heavy periods and a contraceptive pill was prescribed. I remember being frustrated about thisbut did not know enough to know that the pain could be caused by something else. At 20 years old, I became sexually active and my pain increased significantly. I visited a different GP ...and, for the first time, they examined me They wondered whether I hadendometriosis. I was referred for an ... ultrasound but did not report anything of note. Voicing my frustrations of having no answers to my pain, a further ultrasound at the hospital was arranged They found ...adenomyosis and referred mea gynaecologist... who suggested that the pain could be caused by pelvic floor dysfunction. My appointment with [the gynaecologist] was the first time I had spoken to a health professional who made me feel as though my pain was valid and my frustrations were understandable, and that finally, I would be able to resolve the issue.

What did your care from the Pelvic Pain Service involve?

I had a face-to-face consultation and telephone appointments with [a gynaecologist]. I had many appointments and a course with physiotherapists, anda course with [a clinical psychologist].

What were your INITIAL thoughts and feelings about your care and treatment plan?

I was relieved to have my pain seen and heard and I was grateful to have a team that was taking my pain seriously. As time went on, I felt frustrated to be receiving such great support and treatment, but annoyed and guilty that my (personal) circumstances meant that my progress was ...hindered and my body was not able to achieve what we hoped. My progress really started to take shape once my appointments began with [the clinical psychologist]... alongside my physiotherapy, as it felt as if the final puzzle piece fit into place and I was able to understand my pain from all aspects and how they linked.

What do you think and feel about your care and treatment plan NOW?

I am still so grateful to have experienced the care and support of this team and to have had the opportunity to learn so much more about my body that I wish I had known growing up

Evaluation

What are the positives?

The support, knowledge and understanding I received from the health professionals.... was outstanding and this is integral to keeping myself determined and focused on ...the issue. The fact that each professional took the time to explain the issue to me and have me ask questions was invaluable.

What did not go so well?

.... when infertility was being explored, I found it hard to sit in the waiting room with expecting parents..... This stopped when infertility was ruled out, but I can imagine this can be hard for those of which infertility is the issue.

Analysis

What has helped?

...good communication between each of the professionals ... was great in making me feel supported and that my issue was being worked on. The team was great in following upand offering advice on the ever-changing nature of the issue I was facing when I experience new symptoms.

What got in the way?

.....being able to access appointments with the pain psychologist and physiotherapist alongside each other ... from the beginning... would have been very helpful and given me the knowledge and understanding of the mental and physical aspects of my pain at the earliest opportunity.

Conclusions

I feel strongly that my issue would not have been resolved without the knowledge and insight of both physiotherapy and psychology and I think it would be have been great to have been able to access both of these services at the very beginning of my time with the service.