



Current usage of qualitative research in female pelvic pain: a systematic review

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Abstract

Purpose Qualitative research has received growing attention in the multidisciplinary investigation of patients' perceptions about chronic diseases. The purpose of this systematic review was to characterize the usage of qualitative research in women with chronic pelvic pain (CPP).

Methods We performed a structured search in Web of Science, Pubmed, and EMBASE platforms until June 2019. The search combined the keywords: "pelvic pain", "endometriosis", "dyspareunia", "dysmenorrhea", "vaginismus", "focus groups", "qualitative research", "hermeneutics", "grounded theory", and "women". Qualitative studies on female CPP were included and the main findings combined using thematic synthesis.

Results We found 1211 citations, of which 52 were included in this review. The majority of included studies were based on phenomenological design. The main method for data collection was semi-structured interviews. Endometriosis was the theme of 23 studies, chronic pelvic pain of eight, dysmenorrhea of eight, dyspareunia of four, interstitial cystitis of two, vaginismus of two, vulvodynia of two, and pelvic inflammatory disease of one study. We found a wide variety of contributions. Among them, the impact of the disease on women's lives was the commonest.

Conclusion Qualitative research has the potential to reveal and explain several aspects of CPP in women. The medical community may better accept knowledge gained from these studies if the methods are described more transparently in published articles.

Keywords Pelvic pain · Qualitative research · Interviews · Endometriosis

Introduction

Chronic pelvic pain (CPP) is a common cause of disability among women. The prevalence of CPP can be up to 24% in women at reproductive age [1–3]. A large amount of resources is consumed every year to diagnose and treat CPP [4, 5]. The management of this condition is very challenging, and the rate of long-term remission is low.

The multidisciplinary management of the CPP has been recommended for more than 2 decades [6]. However, most of the used evidence is from quantitative research. Qualitative

methods are essential to understanding the social domains of diseases [7]. How a patient experiences the pain and how the pain impacts her social life may influence the treatment outcomes.

We reviewed all published articles on qualitative research and CPP, aiming to characterize its current usage in CPP field.

Methods

Sources

We conducted a systematic review of the literature using the platforms Web of Science (Thomson Reuters), PubMed, and EMBASE to identify original qualitative articles on pelvic pain in women. The search strategy was pre-planned and based on the following terms: women

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AND (pelvic pain OR endometriosis OR dyspareunia OR dysmenorrhea OR vaginismus) AND (interview OR focus group OR qualitative research OR hermeneutics OR grounded theory OR ethnography OR feminism OR phenomenology). We included articles published until June 2019. There was no limitation based on the language of publication or population of the study. The authors BHM, TLP, and FJCR, performed independent searches. The results were compared and discussed, disagreements were solved by consensus.

Study selection

The results of the first search were exported to a BibTex file. The files were imported into a folder of Zotero, and all titles were read by two authors (BHM and FJCR). Titles suggesting qualitative study and pelvic pain or conditions associated with pelvic pain (e.g., endometriosis) were selected to abstract evaluation and copied to another Zotero folder. The abstracts were also read by the two authors. Abstracts of articles not related to qualitative studies or those which the theme was not pelvic pain were discarded. The remaining abstracts were selected for full-text evaluation. The full texts were evaluated by three authors (BHM, TLP, and FJCR), and those considered eligible were included in the final review. After the first cycle of review, new searches were performed based on the references of selected articles until no new article was added.

Study assessment and data extraction

The full-text articles were read, and the findings were extracted onto a REDCap (Research Electronic Data Capture) project. The assessment of selected studies included: the description of the study design, number of participants, methods for data collection, type of qualitative analysis, use of qualitative software, and methods for data analysis. To appraise the quality of the studies we verified if they complied with the COREQ or SRQR statements [8, 9]; however, the quality of the articles was not used to decide inclusion. Data from included articles were extracted independently by BHM and FJCR. The analysis was conducted using R software version 3.4.1.

Study contribution

After reading the selected articles, we identified the main contribution of each study. The contributions were transcribed and where appropriate, merged to form sub-themes and themes using the thematic synthesis approach [10].

Results

The results of our search are presented in a PRISMA flow chart (Fig. 1). We found 1211 unique citations until June 2019. After reading titles, 1005 records were excluded, and the remaining 206 abstracts were evaluated. From them, 63 were selected for full-text analysis. One hundred and forty-three records were excluded based on abstract reading: 77 were not about qualitative research, 43 were not about pelvic pain, 16 were not original, three were of cancer patients, three did not have full text available, and one was duplicated. From 63 articles selected for full-text evaluation, 11 were excluded: one was not original, seven were not on pelvic pain, one was not about qualitative research, and two were about pregnant patients. Fifty-two articles were included in the final review.

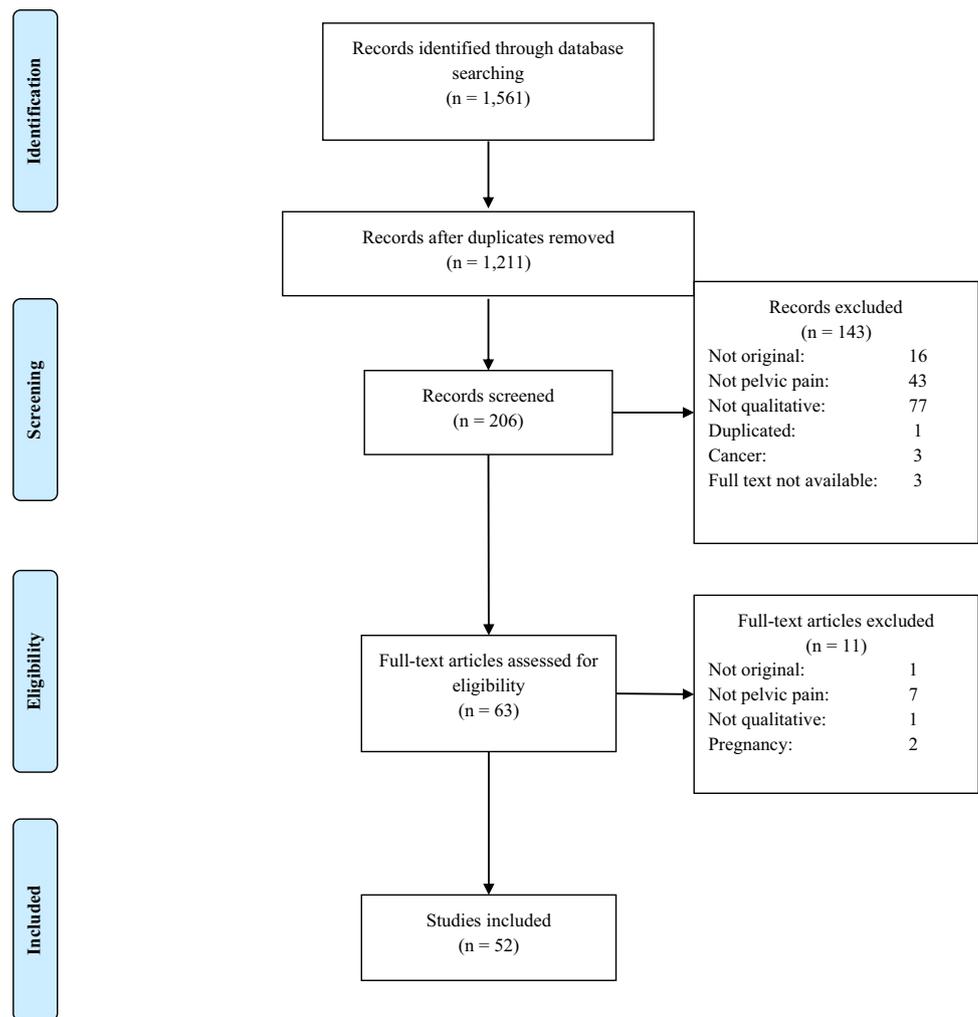
Thirty articles described the study design. Among them, 16 were phenomenological studies, ten based on grounded theory, two ethnographic studies, and two were qualitative descriptive. Six phenomenological studies were described as specific subgroups: four as feminism, one as hermeneutics and one as pragmatism.

The number of participants varied from three to 509. Participants' age from the 44 studies with information available ranged from 13 to 78 years. All studies described the data collection method. Data were collected using semi-structured interviews in 32 studies, focus groups in eight studies, unstructured interviews in five studies and writing narratives in five studies, structured interviews in one study, and in one study, the authors used a combination of focus groups and semi-structured interviews. The duration of interviews was described by 25 studies; 18 using semi-structured interviews, four using focus groups, two using unstructured interviews, and one using focus groups and semi-structured interviews. The minimum length of the interviews time was 10 min and the maximum time was 150 min.

Among the studies, 22 utilized qualitative data analysis (QDA) softwares. Ten used ATLAS.ti, eight studies used Nvivo, one used Ethnograph, one used NUD*IST, one the online platform WebQDA and one an open code software. The method of data analysis was described by 50 of studies. Thematic analysis was used in 24 studies, grounded theory in ten, interpretative phenomenological analysis (IPA) in five, content analysis in seven, narrative analysis in two, Colaizzi's method in one, and framework analysis in one.

The main contributions of 52 included articles are presented in Table 1.

Endometriosis was the theme of 23 studies, including a total of 638 participants. The main contributions of qualitative studies on endometriosis were related to the

Fig. 1 PRISMA flow chart for the study design

impact of the disease on women's lives, coping strategies, perceptions related to the treatment, characterization of women's comprehension about the disease, identification of the reason for the delay in diagnosis and the importance of family and social support.

Chronic pelvic pain of multiple causes was studied in eight articles, including 173 participants. The contributions were related to health professional and women with the disease. In four studies on health professionals' perspectives, models of management, attitudes, and training results were evaluated. In four studies on patients' perspectives, understanding meanings of the pain, attitudes of the patients, and the identification of strategies to improve the treatment were described.

Dysmenorrhea was the theme of eight studies, including 892 participants. The main findings were related to the effects of the pain on women's life, coping, self-management, reasons to not seek medical care, and understanding of treatment efficacy.

Dyspareunia was the theme of four studies, including 48 participants. The main findings described the consequences of the pain in women's life, including sexual response and sexual behavior.

Vulvodynia was the theme of four studies, including 81 participants. The main findings described the impact of the condition on women's relationships and the challenges of the treatment.

Interstitial cystitis was the theme of two studies, including 106 participants, vaginismus of two studies with 21 participants, and pelvic inflammatory disease (PID) of one study with 23 participants. The main contributions of these studies were to describe the impact of the conditions and their treatment on women's lives.

Table 1 Main contribution of qualitative studies in chronic pelvic pain field

Theme	Number of studies	Number of participants	Summary of results	References
Chronic pelvic pain	8	173	Understanding models, attitudes, and training for the professional management of CPP	[23–26]
			Understanding the meanings of CPP and patients attitudes facing the condition	[27, 28]
			Identifying strategies to improve the management of CPP	[29, 30]
Dysmenorrhea	8	892	Characterization of perceptions of women with dysmenorrhea, including effects of the pain on women's life, coping, self-management, reasons to not seek medical care and understanding of treatment efficacy	[31–38]
Dyspareunia	4	48	Description of the consequences of dyspareunia in women's life, including sexual response and sexual behavior	[39–42]
Endometriosis	23	638	Characterization of several impacts of endometriosis on women's lives	[43–49]
			Description of coping strategies used by women with endometriosis	[50–54]
			Identification of women's perceptions related to the treatment of endometriosis	[55, 56]
			Characterization of women's comprehension of endometriosis and identification of reasons for the delay in diagnosis	[57–62]
			Characterization of the importance of support and relationships for women facing endometriosis	[63–65]
Interstitial cystitis	2	106	Description of the impact of interstitial cystitis on women's life	[66, 67]
Pelvic inflammatory disease (PID)	1	23	Description of the impact of PID on women's life	[68]
Vaginismus	2	21	Characterization of the impact of vaginismus and its treatment on women's life	[69, 70]
Vulvodynia	4	81	Description of vulvodynia impact on women's relationships	[71, 72]
			Understanding the challenges in the management of vulvodynia	[73, 74]

Discussion

We found a few articles using qualitative research in CPP field. There were only 52 articles in a universe of more than 6500 records.

No reviewed article fully complied with transparent guidelines for qualitative research reporting. There were several missing information on study methods (e.g., theoretical framework was described in only one in two published articles). The difficulties in replicating the findings may limit their use in clinical practice. The use of checklists for qualitative research report is controversial. However, the accurate description of any study increases the acceptability of the findings.

The most common study design was phenomenology, although more than one-third of the included articles did not describe the study design. Among the articles with missing study design, most appear to be phenomenological studies. Phenomenology is a useful method for describing and ordering experience [11]. A better understanding of women experience can help to improve the multidisciplinary management of CPP.

Participants' descriptions were variable among studies. All studies reported the number and the gender of participants. Age was not reported in five studies, and an

extra three presented incomplete information. Although generalization is not an aim of qualitative research, well-described demographics is essential to ensure the validity of research findings.

Semi-structured interviews were used in 32 of included articles. Semi-structured interviews consist of open-ended questions that define an area to be explored. From the initial question, the interviewer or interviewee may diverge to pursue an idea in more detail [12]. The duration of the interviews was described in only half of the published studies. The detailed description of the interviews would allow understanding of how "deep" is the subject was investigated. It would also help the readers to plan their studies.

Less than half of the published studies used computer-assisted qualitative data analysis software (QDAS). QDAS are valuable tools for qualitative data analysis. However, there are also some disadvantages. The main concerns are the learning time [13], and the risk of disengagement of the data because of distractors associated with the software [14, 15]. A variety of methods for data analysis was reported. Thematic analysis was the most common method for data analysis; probably it is because of its flexibility. Thematic analysis can be applied under several theoretical paradigms [16].

Endometriosis was the theme of the study for 23 (44%) of qualitative articles in pelvic pain. This finding agrees with the prevalence of endometriosis associated with pelvic pain. More than 30% of women with pelvic pain submitted to laparoscopy are diagnosed with endometriosis [17].

Endometriosis affects all aspects of patients' life: emotional, psychological, and social. Endometriosis increases the risk of psychological diseases. Apparently psychological diseases and pain associated with endometriosis form a vicious cycle which represents an additional challenge for the management of both conditions [18]. Quality of life of patients and their partners [19]. Endometriosis is, therefore, a condition with multiple and complex clinical and psychological symptoms [20]. Other diseases, like interstitial cystitis, present symptoms that overlap with the symptoms of endometriosis [21] and vulvodynia [22]. Data from qualitative studies have the potential to improve the quality of care for women with CPP associated with several gynecological diseases.

In conclusion, our review shows qualitative research is underused in CPP. The heterogeneity of the description of the methods limits the reliability of the findings. We believe qualitative research can contribute to the improvement of CPP management. However, to achieve its full potential, the studies have to be reported comprehensively and transparently.

Author contributions BHM protocol development, data collection, data analysis, and manuscript editing. TLP protocol development and data collection. OBPN, JCRS, and AAN manuscript editing. FJCR protocol development, data collection, data analysis, and manuscript writing.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest related to the contents of this article.

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