

ORIGINAL RESEARCH:
EMPIRICAL RESEARCH - QUALITATIVE

Application of Caring Life-Course Theory to explore care needs in women with pregnancy-related pelvic girdle pain

Dragana Cernja^{1,2}  | Michael Lawless³ | Pranee Liamputtong⁴ | Amitabh Gupta^{1,2} | Lucy Chipchase³

¹School of Health Sciences, Western Sydney University, Sydney, New South Wales, Australia

²Physiotherapy Department, Westmead Hospital, Sydney, New South Wales, Australia

³Caring Futures Institute, College of Nursing and Health Sciences, Flinders University, Adelaide, South Australia, Australia

⁴College of Health Sciences, VinUniversity, Hanoi, Vietnam

Correspondence

Dragana Cernja, Physiotherapy department, Westmead Hospital, PO Box 533, Wentworthville, NSW, Australia 2145.
Email: d.cernja@westernsydney.edu.au

Abstract

Aims: To describe the care needs of women with pregnancy-related pelvic girdle pain based on the Caring Life-Course Theory.

Design: A descriptive qualitative research design.

Methods: Data were collected between November 2019 and February 2021 from 20 purposively selected pregnant women with pelvic girdle pain aged between 22 and 39 years in antenatal care at a tertiary hospital in Australia. Individual semi-structured interviews were recorded via a digital audio recorder and transcribed verbatim. Qualitative content analysis method was used to analyse the data.

Findings: Five broad themes were identified: pain is an added burden to pregnancy; knowledge is power to own what happens to me; engaging in self-help; care from others is useful; and pain deserves more attention from healthcare professionals.

Conclusion: Caring Life-Course Theory presented a useful and applicable scaffold for describing care needs of pregnant women with pelvic girdle pain. The study revealed experiencing pelvic girdle pain led to additional care needs during pregnancy, highlighting the importance of self-management strategies and an appreciation of care from others to assist women in limiting the effects of the pain. Participants identified the need for more information and attention from healthcare professionals to be able to better manage their condition.

Impact: This study presents a comprehensive picture of the change in care needs triggered by experiencing pelvic girdle pain during pregnancy. The findings have the potential to facilitate better care provision by considering novel methods of delivery, such as information and communication technology, whilst acknowledging the value placed on credible and trusted sources. Knowledge acquired through this study may be used by nurses and midwives, along with other healthcare professionals, to enhance the provision of comprehensive care that is acceptable to women with pelvic girdle pain during pregnancy.

KEYWORDS

care, inter-disciplinary, midwifery, nursing, pregnancy, pregnancy-related pelvic girdle pain, qualitative, self-care

1 | INTRODUCTION

Pregnancy is a time in women's lives when they seek healthcare more frequently and often for the first time (Department of Health, 2020). Pregnancy may necessitate care from a range of healthcare professionals, including midwives, nurses, obstetricians, general practitioners and allied health professionals (RANZCOG, 2017). Discomforts, such as morning sickness and fatigue, are reported commonly by women during pregnancy and may require assistance from healthcare services (Department of Health, 2020). More serious pregnancy-related complications, such as gestational diabetes, pre-eclampsia and musculoskeletal pain, often involve a greater level of support and management (RANZCOG, 2017). As such, pregnancy is a time in women's lives that triggers a change in healthcare needs.

Pregnancy-related pelvic girdle pain (PPGP) is a common musculoskeletal condition experienced during pregnancy. Prevalence rates globally have been reported to be as high as 84%, although a prevalence of 44% was reported recently in Australia (Cepnija et al., 2021). Women with PPGP report a significant impact on their daily life, with difficulty standing, walking and sleeping (Cepnija et al., 2022; Mackenzie et al., 2018). Furthermore, there is a higher risk of experiencing depression and anxiety for women with PPGP when compared with pregnant women without PPGP (Mackenzie et al., 2018). Therefore, it is unsurprising that women adopt a range of coping strategies when experiencing PPGP (Cepnija et al., 2022).

Qualitative studies report that women with PPGP cope by receiving social support including assistance from family members to perform household duties (Cepnija et al., 2022; Mackenzie et al., 2018). Women value education and services provided by healthcare professionals, and report caring for themselves to reduce the impact of PPGP (Cepnija et al., 2022; Mackenzie et al., 2018). However, there is a need to further examine care provision for this population. It is plausible that women with PPGP may not be receiving the care they need to manage this condition and greater knowledge of their care needs is required to ensure adequate care provision.

Recently, the Caring Life-Course Theory (CLCT) was developed as a unifying theoretical approach to caring and self-care for health professionals and informal carers (Kitson et al., 2021). In this paper, we use the CLCT to examine the care needs of women with PPGP to theoretically underpin our propositions for care for these women.

2 | THE CARING LIFE-COURSE THEORY

The concept of caring is considered the ontological and epistemological basis for the nursing and midwifery professions (Brilowski & Wendler, 2005; Watson, 2015). As a professional group, nursing is underpinned by theoretical foundations housed in paradigms of interrelationships among people, health, the environment, nursing practice, life processes of unitary human beings and human care (Parse, 1992; Rogers, 1994; Watson, 2015). However, there is also increasing emphasis placed on the provision of high-quality care in medical and allied health professions with a patient-centred

TABLE 1 Caring Life-Course Theory constructs

1. Fundamental care
2. Life course
3. Care network
4. Care need (CN)
5. Care provision (CP)
6. Self-care (S-C)
7. Care-from-others (C-Fm-O)
8. Care-for-others (C-Fr-O)
9. Care Provision Package
10. Capability
11. Capacity
12. Care transition
13. Care trajectory
14. Care biography

Adapted from Kitson et al. (2021).

approach to healthcare. Therefore, the CLCT provides a promising framework for interdisciplinary collaboration by conceptualizing and articulating a common language of care (Kitson et al., 2021).

Caring has a variety of meanings and, despite many theories and methodologies, the concept of caring remains ambiguous (Brilowski & Wendler, 2005). Leininger, known as the founder of transcultural nursing, defined the broad term of caring as '...those assistive, supportive, or facilitative acts towards or for another individual or group with evident or anticipated needs to ameliorate or improve a human condition or lifeway...' (Leininger, 1985, p. 900). Leininger went further to separate the generic sense of caring, such as that afforded by family and friends, from professional caring. Viewing caring from these two lenses provides insight that care can be formal and informal and may occur in the home and community as well as healthcare settings.

The CLCT proposes 14 constructs, with the fundamentals of care framework as the starting point for the first construct (Table 1) (Kitson et al., 2021). The *care network* describes the relationships and support mechanisms surrounding an individual, whilst a *care need* (CN) may be physical, psychosocial and/or relational and met by oneself or others. *Care provision* (CP) describes how a person's CNs are met, including *self-care* (S-C) and *care-from-others* (C-Fm-O) comprised of formal, informal and professional carers. The *capability* and *capacity* constructs refer to the ability to care for oneself and the amount of care available, respectively. Together, the CLCT constructs can be used to develop an individualized plan of care, identify how care may be delivered, when, where and by whom. However, these constructs remain largely theoretical with further empirical research needed to verify their utility to understand a person's CNs and improve subsequent care provision.

Of particular interest to this study is the construct of S-C. *Self-care* has been defined as a process of maintaining health through treatment adherence and health-promoting practices (self-care maintenance), behaviour and condition monitoring (self-care monitoring) and managing signs and symptoms when they occur

(self-management) (Riegel et al., 2012). There is burgeoning interest in the investigation of S-C practices to develop effective strategies and promote implementation of S-C approaches in response to changing needs in society (Lawless et al., 2021). The focus on patient-centred care globally, together with the constraints on resources faced by healthcare services, provides a unique opportunity to explore and understand how S-C may be harnessed to help meet the CNs of individuals, groups and communities.

The *care transition* construct refers to an event associated with a life stage that triggers a change in a person's CNs (Kitson et al., 2021). For example, pregnancy is a unique life stage for women of childbearing years which imposes a greater need for healthcare. Exploring the potential impacts a life event, such as pregnancy, might have on a person's ability to undertake S-C or receive C-Fm-O comes under the *care trajectory* construct. Whilst *care transition* describes how the CNs may be altered, *care trajectory* consider the impact on *capability* and *capacity*. Jointly, these constructs help to inform the level of involvement required of healthcare professionals to support women during pregnancy.

The CLCT encompasses a broader focus than previous theories by providing insights into how nurses, midwives, health professionals, formal and informal carers, and people themselves, can explore the care required, and understand where and how care should be delivered, and by whom (Kitson et al., 2021). Whilst this novel interdisciplinary approach has the potential to combine perspectives to facilitate a more integrated understanding of care needs, testing and application of the CLCT is required to add to the evidence base and build knowledge across different contexts and populations.

3 | THE STUDY

3.1 | Study aims

The aims of this study were to apply the CLCT to (1) explore how PPGP triggers a change in CNs; and (2) to describe the CNs of women with PPGP to inform practice around CP.

3.2 | Design

This paper is based on a larger project examining the experiences of women with PPGP conducted at Westmead Hospital in Sydney, Australia, a large tertiary referral government funded hospital in an urban centre with over 5200 births recorded annually (Western Sydney Local Health District, 2020). Although this study was conducted during the COVID-19 pandemic from November 2019 to February 2021, there was no impact to the conduct of the study.

A qualitative approach was used to obtain information directly from women with lived experiences of PPGP (Bradshaw et al., 2017; Liamputtong, 2020). As this study aimed to obtain rich data to examine the care needs of women living with PPGP, a qualitative descriptive design was relevant (Sandelowski, 2000). This methodology

allowed us to stay close to the data and present findings in a way that has meaning and makes sense to the reader, including reporting direct participant quotations (Sandelowski, 2000).

In the following subsections, a brief description of the sampling and data collection methods used in the original study are provided (Cepnija et al., 2022), along with the data analysis procedures that were used in this study.

3.3 | Sample

Women were included if they were over 18 years of age, between 14 and 38 weeks' gestation, classified with PPGP, with sufficient proficiency in English to be able to provide written and informed consent and complete the interview. All participants were classified as having PPGP according to recommended guidelines, which included a physical examination (Cepnija et al., 2021). Participants were excluded if they self-reported any medical or obstetric complication(s) that may have affected pregnancy including pre-eclampsia, eclampsia, serious intellectual or psychiatric impairment, systemic disease(s) or recent spinal fracture, trauma or surgery.

Stratified purposive sampling was used to ensure that the sample was representative of women with PPGP who attended Westmead Hospital guaranteeing perspectives from a broad sample of women (Liamputtong, 2020). The final sample included 20 women with PPGP as determined when saturation of themes was achieved to develop a richly textured understanding of the lived experience of women with PPGP for the original study (Liamputtong, 2020).

3.4 | Data collection

The first author (DC) contacted each participant by telephone to offer a face-to-face interview. On attendance, each participant completed a written questionnaire to determine anthropomorphic characteristics (age, height, body mass), information about their current pregnancy (gestation, parity, pregnancy type, current pain level) and demographics (country of birth, self-identified ethnicity, marital status, education level, work status).

An interview guide consisting of open-ended questions was used with a flexible and responsive approach to ensure that the same range of topics were discussed with each participant, including the lived experiences, coping strategies and needs of participants. The interviews were digitally recorded, and all participants were assigned a coded number. The interviews ranged between 45 and 60 min in duration.

3.5 | Ethical considerations

Ethics approval was granted by the Westmead Hospital (2019/ETH02528) and Western Sydney University (H12532) human research ethics committees.

3.6 | Data analysis

Participant characteristics and demographic data are presented descriptively using means and standard deviations (SD). Qualitative content analysis was adopted to investigate care in women with PPGP and was guided by selected CLCT constructs to explore meaning from the content of the text. Of the original 14 CLCT constructs, seven were carefully chosen for this study as they were deemed closely related to the CNs of women with PPGP. Essentially, this approach prompted an examination of data regarding three overarching questions:

1. How does PPGP trigger a change in CNs?
2. What are the CNs?
3. How are the CNs met?

Qualitative content analysis was considered appropriate for this study because we were interested in systematically describing the topics of interest indicated by the research questions to test the CLCT, and not in obtaining a holistic overview of the entire dataset (Elo & Kyngäs, 2008; Erlingsson & Brysiewicz, 2017).

The data analysis was conducted with the use of NVivo 20 for Windows (QSR International Pty Ltd, Victoria, Australia). In the first stage, the interview transcripts were read thoroughly several times to extract the sections of text in which the participants discussed the constructs of interest. These sections of text constituted the unit of analysis for this study. In the second stage, the extracted sections were divided into meaning units, which were subsequently condensed, abstracted and labelled with codes. In the third stage, the codes were compared for similarities and differences, and clustered into several categories. Broader themes were then constructed from the categories. The authors discussed themes, moving back and forth between text and categories to enrich data credibility, until the final themes were established.

3.7 | Rigour

Rigour refers to the quality and trustworthiness of the qualitative enquiry (Liamputtong, 2020). The rigour of this study was ensured through methodology including maintaining an audit trail, member checking and including several team members with significant experience in undertaking qualitative research (Liamputtong, 2020). Clean, un-coded transcripts from the primary study were used and the researchers purposefully read the clean transcripts with new perspective for this qualitative analysis (Moran & Russo-Netzer, 2016). All transcripts contained text in which the participants discussed most, if not all, constructs of interest, supporting the extent to which thematic findings could be identified. A peer review process was adopted, whereby decisions were made to ensure a thorough and consistent analysis, and any disagreements were discussed by the researchers until a consensus was reached (Liamputtong, 2020).

4 | FINDINGS

Twenty women in the second or third pregnancy trimester and with a mean (SD) age of 31(4.3) years participated in this study. All women were married or in a de-facto relationship, all had completed high school level of education, with approximately two-thirds (65%) completing tertiary qualifications, and three-quarters were in paid employment. The largest ethnic group represented was Australian (40%) (Table 2).

The reported findings include participants' lived experiences of PPGP in relation to care needs according to the relevant CLCT constructs (Table 3). Five broad themes were identified including that: pain is an added burden to pregnancy; knowledge is power to own what happens to me; engaging in self-help; care from others is useful; and pain deserves more attention from healthcare professionals. Verbatim quotes from the interviews, using assigned code numbers to maintain confidentiality, have been included to support themes.

4.1 | Pain is an added burden to pregnancy

Whilst women recognized pregnancy as not without its challenges, experiencing PPGP made it harder and introduced unexpected CNs. The pain caused physical limitations, such as impaired mobility, and reduced the ability to complete daily tasks, such as housework and grocery shopping. Women discussed that having pain affected the roles they perceived as being that of a woman, causing a change to their care trajectory.

In the day it is hard to do the things I need to do – cooking, cleaning, looking after my daughter... shopping, driving – like oh my everything. You think of what you need to do every day as a mother, as a wife, more like as a woman, and then you can see it is challenging for everything [P9].

Lamenting that they could not do things the same way, women reported an emotional response and experienced a mixture of anger, depression and sadness. For some women, the effects on their psychological health added to the anxiety they were already experiencing during pregnancy. Many women acknowledged pregnancy as an inherently stressful time, and reported that PPGP added another dimension or layer, triggering the need for additional support from informal and formal carers, including partners, family members, work colleagues and healthcare professionals.

Like it is another stress for me at this point. There is plenty to worry about just being pregnant and this pain adds another layer, another thing to have to consider [P15].

TABLE 2 Participant characteristics

Participant	Age (years)	Gestation (weeks)	Parity ^a	Self-identified ethnicity	Marital status	Highest education level	Employment ^b (yes/no)
1	31	22	1	Australian	Married	University	Yes
2	26	37	1	Australian	Married	High school	No
3	22	31	0	Australian	De facto	High school	Yes
4	33	28	0	Australian	Married	University	Yes
5	34	34	1	Croatian	Married	University	Yes
6	25	35	0	Australian	Married	University	Yes
7	32	37	1	Indian	Married	University	No
8	30	38	0	Indian	Married	High school	No
9	29	33	1	Pakistani	Married	University	No
10	32	32	2	Lebanese	Married	University	Yes
11	25	32	0	Indian	Married	High school	No
12	30	30	0	Indian	Married	University	Yes
13	36	28	0	Australian	Married	High school	Yes
14	33	29	2	Chinese	Married	University	Yes
15	39	24	0	English	De facto	University	Yes
16	27	35	0	Australian	Married	University	Yes
17	34	31	0	Vietnamese	De facto	High school	Yes
18	35	28	0	Chinese	Married	University	Yes
19	37	32	2	Australian	Married	University	Yes
20	30	38	2	Egyptian	Married	High school	Yes

^aParity is defined as previous pregnancies >24/40 gestation.

^bEmployment is defined as paid employment.

4.2 | Knowledge is power to own what happens to me

Common to all narratives was the strong message that information was crucial to help prepare women for the opportunity of pain during pregnancy. Women placed emphasis on the need for information about PPGP, particularly early in pregnancy, to assist with understanding of the condition to improve their capability for S-C. Practical tips about activity modifications that may help and what postures or positions to avoid were valued by women.

I would have liked information. I think it could have been helpful for me. I think if I had information then I would have felt more prepared. Maybe then I would have had some suggestions about things I could try that help [P13].

Women spoke of the importance of having all options for treatment outlined to allow them to participate in decision making about their care.

I think if you knew about it and were told here are the options, this is where you can go, then that would help you get onto it in time and maybe save yourself from getting worse [P16]

Women who were not aware of treatment options felt disempowered, whereas women who had knowledge about PPGP were more confident in seeking and advocating for care that met their needs.

4.3 | Engaging in self-help

Women adopted S-C to limit the effects of pain, including use of strategies such as heat application and exercise. They reported making changes to daily activities, including spending less time in standing, reducing the distances walked, and performing less bending. Women spoke of trying new things, such as using pillows between the knees at night to help them sleep, or using cushions under the hips to help make sitting more comfortable. They rested more and took frequent breaks to avoid making the pain worse at all costs.

I would say I am kind to myself and don't really push myself when I can't. I take breaks. You know, little things like that to just help keep the pain down. [P20].

Many women adopted an optimistic outlook to keep things in perspective, whilst others used distraction techniques to keep their mind off the pain. Women made healthy lifestyle choices, such as eating well, being physically active and practicing meditation to stay physically

TABLE 3 Categories and themes related to Caring Life-Course Theory constructs

Caring life-course theory constructs investigated	Files with references to constructs	Categories	Themes
Care needs Care transition Care trajectory	18	Pain makes the pregnancy harder Cannot do things like normal Emotional changes associated with pain Physical changes associated with pain	Pain is an added burden to pregnancy
Capability Capacity	13	Information is helpful There is a need to be prepared Having choices about treatment options Allows you to advocate and have ownership of what happens to you	Knowledge is power to own what happens to me
Self-care	19	Self-management strategies Do not push yourself Have a positive attitude and keep things in perspective Prevention is better than cure Making changes and doing things differently	Engaging in self-help
Care-from-others	19	Support from partner/husband and family Care from healthcare professionals Appreciation of help received	Care from others is useful
Care-from-others	19	More needs to be offered by healthcare professionals Appropriate referrals Individual assessment and opportunity to ask questions Need for recognition Want the same care for everyone	Pain deserves more attention from healthcare professionals

strong and mentally positive. Commonly, women used a combination of strategies to increase their capacity for S-C.

I do a few different things to try and help. I distract myself to try and get my mind off the pain. You know if I can keep occupied then I won't focus on the pain as much. I try not to worry about it too much, you know try and think positive thoughts that I can do this, I can get through this, and it will not last forever. I take Panadol as I need to help with the pain. I do some gentle exercise and stretches to help as well [P15].

4.4 | Care from others is useful

Receiving C-Fm-O was greatly appreciated, with women feeling less pressure on themselves when there was assistance provided by others. Women received emotional sustenance from their partners and recognized partners as their biggest support. Partners and family, when nearby, helped with household chores, child care activities and grocery shopping to reduce the burden of pain. Some reported their partners provided massages to help ease the pain, whilst others spoke of partners assisting them to turn in bed at night so they could get some rest.

For sure my husband has been very supportive. He is helping me with things around the house, he is helping me with grocery shopping, dinners and meals. He is my biggest support [P12].

Healthcare professionals were helpful in answering questions about PPGP, offering information and providing reassurance. Having a good relationship with their midwife was important for women to feel that someone was listening to them and, most often, it was midwives who organized referrals to other services, such as physiotherapy, for treatment. Women found physiotherapy care, including hands-on manual therapy, provision of pelvic belts and prescription of exercises, to be helpful in reducing symptoms associated with PPGP.

I've had physiotherapy and this has been helpful. They have shown me stretches and I do them. I use a belt which helps the pain so I can stand and walk a little easier. The physio(therapist) gave me some information in a brochure which was good [P19].

4.5 | Pain deserves more attention from healthcare professionals

Women wanted to be asked about their pain, reporting a strong need to be heard by healthcare professionals who, in turn, could provide appropriate support. Unfortunately, many women spoke of being brushed off by healthcare professionals and not receiving any follow up to ensure their CNs were met. Recognition of the pain by healthcare professionals was an important first step to ensure appropriate attention was directed towards care planning and provision.

I know I have said it now on repeat, but I really think it would have been good to have someone recognise

the pain and give me the attention it deserves, because when the pain is bad it is really hard. I know there are many pregnant women out there who get pain, but when you have it, it can feel like you are the only person in the world who is going through this, so that sense of having support is important. I mean I know my husband is supportive and my family, but I think it would also have been nice to have that same level of support and care from the hospital staff [P16].

Many women spoke of the need to have access to expert care to be able to undergo individual assessment and receive personalized care. They desired the opportunity to ask questions of and above all, be reassured by someone experienced at managing PPGP. Physiotherapists were commonly seen as having the appropriate knowledge and skills to manage PPGP and women sought timely referrals to physiotherapy services. A few women reported that there were unnecessary delays being referred to physiotherapy.

Would have been good to get the referral to physiotherapy without having to beg three times.... I had to chase it three times [P4].

Information from credible sources was also a prominent CN expressed by women. Women preferred to receive information from healthcare professionals and placed a strong emphasis on having trusted sources. The use of technology, such as smart phone applications and online resources, was discussed by women as a potential strategy to assist with access to reliable and credible information.

The other thing I think would have been good is if there was a pregnancy app, something from the hospital or health department that is official that you could download. Something with details that you can trust. In this day and age there is so much information out there, but having credible information is important [P17].

Finally, women expressed the need for a consistent approach to care delivery. They spoke of wishing that all healthcare professionals, including midwives and medical officers, provided the same advice, information and treatment options to reduce confusion and variations in care. Furthermore, women wanted an equitable approach to health services to ensure they were all afforded the same level of care.

5 | DISCUSSION

This study explored the CNs for women with PPGP based on the CLCT to inform the provision of healthcare. The findings demonstrated that the experience of PPGP necessitated support from nurses and midwives, along with other healthcare professionals not traditionally but a part of maternity services, to help women manage

this disabling condition. The current study provides support that the CLCT constructs can be used to provide a valuable theoretical basis for qualitative investigations into the experiences of care provision.

The high prevalence of PPGP reported worldwide, coupled with the reported gaps in healthcare services offered to these women, signify a condition that requires improved caring solutions (Cepnija et al., 2022; Fishburn & Cooper, 2015). Indeed, recent evidence reveals a significant proportion of women with PPGP may develop persistent pain which leads to a long-term burden of disease if not managed effectively during pregnancy (Bergström et al., 2017). This highlights the importance of providing timely care for women with PPGP and is an important consideration for nurses and midwives who are the key healthcare providers of maternity care in most countries worldwide (Bahri Khomami et al., 2021).

The current emphasis on patient-centred care in health contexts reinforces the importance of establishing trusting relationships between care providers and patients, whilst ensuring the locus of informed control rests with the individual (Kitson et al., 2013; Kitson et al., 2021). Consistent with this approach, this study demonstrates that women with PPGP want to be in control of the care they receive, with their narratives providing a road map of care that can be used by nurses, midwives and other healthcare professionals to meet identified needs.

There was a strong emphasis on women's S-C with a combination of problem and emotion-focused coping strategies being used (cf. Lazarus & Folkman, 1984). Problem-focused coping, broadly defined as taking action to address the problem, was evident with women performing exercise and self-massage to limit the effects of pain. Although the level of capability or skills enabling S-C varied between women, most recognized that prevention was better than cure, and took it on themselves to change their behaviours to 'save' themselves from pain and 'avoid' making the pain worse at all costs. Emotion-focused coping, defined as efforts to change or reduce the negative emotions associated with the problem, involved regulating feelings and emotional responses towards PPGP, such as maintaining a positive outlook and distracting oneself from the pain. With S-C increasingly recognized as an essential element of care in pregnancy, promoting a blend of interventions to women with PPGP through education delivered by nurses and midwives in partnership with other professionals where available may be useful to increase the capability, or number of skills available to women, and improve the amount, or capacity, for S-C in this condition (World Health Organization, 2007).

Information and communication technologies (ICT) including applications and websites, were described by women in this study as resources that might be able to promote S-C. Women's experiences with ICT during pregnancy are generally positive, with many reporting frequent use to search for information and provision of support for healthy behaviours (van den Heuvel et al., 2018). Women spoke of a need for information from trusted and credible sources to make informed choices about their care—a recurring theme in studies of women with PPGP (Cepnija et al., 2022; Mackenzie et al., 2018). Whilst this information may be provided by healthcare professionals at in-person appointments, increased use of ICT by nurses and

midwives may be a feasible method to assist with S-C solutions for women with PPGP.

Whilst it was clear that women were not entirely dependent or reliant on C-Fm-O, the finding that women valued the care extended to them by partners, family, colleagues and healthcare professionals is in agreement with previous research (Cepnija et al., 2022; Mackenzie et al., 2018). Specifically, women in the current study identified their partner to be their main support. To enhance the care provided to women with PPGP, a targeted approach, including the use of training and ICT, might be needed to further develop the skills of informal carers, such as partners and family, to better support women in the home and community.

In line with previous findings, women sought acknowledgement of their symptoms from healthcare professionals, with many reporting their expectations for emotional validation were not being met (Cepnija et al., 2022; Mackenzie et al., 2018). Women expressed a desire to be treated with empathy as they struggled to cope with PPGP. This may provide an opportunity for nurse or midwife led peer support groups, which have been shown to be effective in pregnancy, to assist women to deal with PPGP (Craswell et al., 2016). In addition, women wanted timely referrals to services, such as physiotherapy, and identified a need for streamlined processes to reduce delays in care provision.

5.1 | Clinical application of the Caring Life-Course Theory

The CLCT provided a useful lens by which to explore the CNs of women with PPGP, however, there may be constraints to the clinical application of the CLCT framework to this group. Foremost, the overarching nature of the CLCT, which is intended to be used to theorize CP over a person's life course, may overgeneralize CNs when applied at a particular time-point, such as pregnancy. Although the CLCT offers a high-level framework of analysis aimed at encompassing a range of situations, in its present form it does not identify the specific factors that may impact on care, including the influence of cultural diversity on CNs in pregnancy, or the socio-economic status and geographic location which can potentially impact access to expert maternity care providers.

The delineation between some of the constructs in the CLCT was less distinct in the analysis of women's CNs. Specifically, there was overlap between C-Fm-O, *capability*, *capacity* and S-C, indicating that further testing and refinement of the theory is needed, including a comparison of different cases and contexts of care. Nevertheless, from a methodological perspective, the current study adds support to the CLCT being a useful interdisciplinary theory in qualitative research evaluating caring and S-C. Further, relevant constructs may be selected from the CLCT for investigation as they relate to the aims of the research and data collected. As such, a model that represents the CNs of women with PPGP using the relevant CLCT constructs is presented (Figure 1).

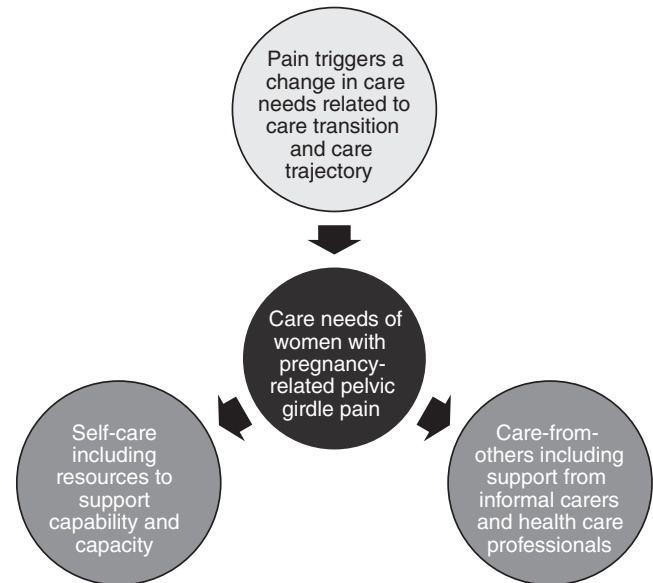


FIGURE 1 Model of the care needs of women with pregnancy-related pelvic girdle pain using relevant Caring Life-Course Theory constructs

5.2 | Limitations

A limitation of the current study was that the findings may not be generalizable to other groups of pregnant women because it was conducted in an urban Australian hospital and may not be representative of other clinical settings. All the participants were married or in de-facto relationships, hence the findings may not have been the same as the CNs of single women who may report different levels of C-Fm-O. The original study had a focus on experiences of women with PPGP, meaning further elaboration of important themes, refinement of topic guides and member checking relating to the aims of this study to explore CNs could not occur. However, further analysis of qualitative data is increasingly recognized as an effective method to add value to original research by bringing new theoretical insights, maximizing learning from existing data, and adding knowledge about vulnerable patient groups, all of which may be otherwise hard to achieve in research (Liamputtong, 2020).

6 | CONCLUSION

By testing the theoretical framework of CLCT, the impact of PPGP on women's lives and their CNs can be appreciated. Exploring ways to enhance S-C, in particular, appears to be the most relevant construct for women with PPGP. With nurses and midwives arguably the best placed professionals to provide advice in pregnancy, this study provides support for the delivery of early information using novel ICT and locally developed resources which are tailored to women with PPGP. The CLCT recognizes care from informal carers outside traditional health settings, especially relevant at a time of

increasing demands and constrained resources in healthcare, and adds support for an interdisciplinary approach to care provision. Despite overlap between some of the constructs, the CLCT allows for a systematic approach to the provision of more comprehensive patient-centred care. This novel perspective legitimizes CNs and informs the support required in the community and wider healthcare contexts to assist women with PPGP at this crucial time in their lives.

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CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and meet at least one of the following criteria (recommended by the ICMJE*):

1. substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
2. drafting the article or revising it critically for important intellectual content.

* <http://www.icmje.org/recommendations/>

PEER REVIEW

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ORCID

Dragana Cernja  <https://orcid.org/0000-0002-1955-9096>

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