

IMPACT OF PELVIC PAIN AND VARIOUS DISCOMFORTS ON MENTAL HEALTH IN WOMEN DURING THE LAST TRIMESTER OF PREGNANCY: A COMPREHENSIVE ANALYSIS

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Abstract

Pelvic discomfort during the third trimester of pregnancy is a common occurrence that has a substantial impact on the quality of life of numerous women. This research examines the relationship between pelvic pain and mental health, with a particular emphasis on the psychological challenges of anxiety, depression, and other conditions that are encountered during this critical period. Data were acquired through detailed surveys that evaluated both physical discomforts and psychological conditions, utilizing a sample of 120 pregnant women. The analysis demonstrated a substantial positive correlation between the prevalence of mental health issues and the intensity of pelvic discomfort. Women who experienced elevated levels of pelvic pain reported heightened emotional distress, depression, and anxiety. The results emphasize the importance of concurrently addressing both physical and mental health in order to enhance the overall well-being of expectant women. The study underscores the necessity of comprehensive healthcare strategies that combine physical pain management with mental health support. Osteopathic manipulative treatment and yoga are effective interventions that have demonstrated potential for enhancing mental health outcomes and reducing pelvic discomfort. Regular mental health evaluations and personalized care plans are essential for the early identification and resolution of psychological issues.

Keywords; Pelvic Pain, Mental Health, Third Trimester, Pregnancy, Anxiety, Depression, Prenatal Care, Osteopathic Manipulative Treatment, Yoga

Introduction:

Many pregnant women deal with the debilitating yet often-ignored problem of pelvic discomfort, which is especially bad in the third trimester. Increased pelvic discomfort and pain are common symptoms of the dramatic physical changes that occur during the third trimester as the body gets ready to give birth. Anxiety and depression are only two of the many ways in which a woman's general health can be negatively affected by this physical discomfort. Anxiety and sadness during pregnancy may be worsened by back and joint pain, according to previous research. However, there has not been enough research into the specific connection between third-trimester pelvic pain and mental health.

More and more people are starting to realize how important it is to take care of their mental health while pregnant. Due to the significant physiological and emotional changes that happen during pregnancy, women are more prone to mental health difficulties, especially during the third trimester. Many women experience anxiety, depression, and other mental health concerns during pregnancy. These issues can have long-lasting impacts on their postpartum mental health and overall quality of life. Further intricate web of relationships between physical pain (such pelvic pain) and mental health symptoms is required in order to fully understand the correlation between the two.

Although there is a growing body of research on physical and mental health during pregnancy, very few studies have focused on the third trimester and the link between pelvic pain and mental health. Without specifically mentioning pelvic pain, the current literature tends to focus on broader physical discomfort or mental health concerns. To fill this gap, our study will investigate the relationship between third-trimester pregnancy pelvic pain and mental health in great detail. Its ultimate goal is to help healthcare providers better understand the interplay between these two crucial factors so they may provide better care to pregnant women.

Objectives:

1. To determine the prevalence of pelvic pain and other physical problems in the third trimester.
2. To assess the psychological problems faced by women in the third trimester.
3. To analyze the correlation between pelvic pain and mental health issues during the third trimester.

Review of Literature

An extensive study was carried out by Guerroumi et al. (2024) on the correlation between mental status, sleep disturbances, and restless legs syndrome (RLS) in pregnant Moroccan women during the third trimester. In a study including RLS and related sleep problems, researchers found that anxiety and stress levels were substantially higher. This research highlighted the importance of holistic care that takes into account both physical and mental health concerns. It also highlighted the significant mental health issues that were linked to physical discomforts during this time.

Researchers Correia et al. (2023) looked at pregnant women who had back and pelvic discomfort in the third trimester and how osteopathic manipulative treatment (OMT) helped. According to their findings, OMT significantly reduced the intensity of these pains, leading to a marked improvement in the individuals' general well-being. Less physical discomfort was associated with better mental health outcomes, since less stress and anxiety resulted from less pain. Findings from this study support the idea that OMT may be useful in alleviating pelvic discomfort and enhancing maternal mental health.

Researchers NabipourHosseini et al. (2023) looked at third-trimester anxiety and depression in high-risk pregnant women and how family support affected them. The research included interventions such as going for walks and spending time with loved ones. The individuals' much lower anxiety and sadness ratings demonstrate the crucial significance of social support in preventing mental health concerns. This study highlights the need of involving family members in care to improve pregnant women's emotional health.

In their study, Sukamti et al. (2022) found that pain-relieving yoga poses helped pregnant women experience less pelvic girdle pain in the third trimester. The physical benefits of yoga, such as increased flexibility and decreased pain, were the primary focus of the study. The alleviation of physical discomfort has a favorable effect on mental health as well, reducing a major source of tension; this highlights the fact that yoga is beneficial for both physical and mental health.

Research by Ainun (2022) examined the efficacy of acupressure treatment for reducing lower back pain during the third trimester of pregnancy. Low back pain is frequent and can cause a lot of discomfort during pregnancy, but acupressure helped a lot, according to the study. The pain was lessened with acupressure therapy, which improved mental wellness by lowering stress and anxiety levels.

Using an exploratory mediation analysis, Vignato et al. (2021) investigated the relationships between physical discomfort and quality of life in relation to mental health in the third trimester of pregnancy. Findings from the study indicate that anxiety levels rise and quality of life declines due to the disruption of everyday activities caused by pelvic discomfort. Anxiety and stress levels were higher in women whose pelvic pain interfered with their everyday lives, suggesting that pain interference moderated the association between pelvic pain and mental health. As this study highlights, it is critical to handle the psychological and physiological aspects of pain management simultaneously if one wants to improve pregnant women's quality of life.

Feng et al. (2021) studied the third trimester mental health status of pregnant women and the factors that affect it. Their findings revealed that those with more education and affluence had lower rates of loneliness, depression, and anxiety. Women who are financially well-off are better able to cope with the emotional challenges they may face in the third trimester of pregnancy, according to this study, which highlights the importance of socioeconomic determinants on maternal mental health.

Researchers Dargahi et al. (2021) looked at pregnant women who had low back pain in the third trimester and how coronavirus disease affected their sleep disturbances. Both mental and physical health issues were worsened by the epidemic, according to the findings. Pregnant women suffering from low back pain reported heightened anxiety and insomnia as a result of the stress and unpredictability brought on by the pandemic. According to these studies, physical pain and other stresses have a multiplicative effect on pregnant women's mental health.

Researchers Vignato et al. (2020) found that higher scores on the Edinburgh Postnatal Depression Scale (EPDS) were associated with more severe pain during the third trimester of pregnancy, specifically in the pelvis and back. The fact that physical pain worsens depressive symptoms implies a causal relationship between pelvic discomfort and psychological well-being. In order to improve mental health outcomes during pregnancy, the study highlights the importance of adequate pain management measures.

Researchers Uemura et al. (2018) found strong favorable associations between pregnant women's mental health and LBPP. Midway during a pregnancy, their research indicated that LBPP might lead to mental health issues. Furthermore, it was stressed that pelvic discomfort during pregnancy can impact both physical and mental well-being. Three months after giving birth, there was an association between the severity of pelvic pain and psychological health outcomes, which may indicate that physical pain has a lasting effect on mental health.

Research Gap;

There has been a lot of study on the correlation between physical pain and mental health in pregnant women, but very little on how pelvic discomfort during the third trimester affects mental health. To fill this gap, this study aims to investigate the "correlation between pelvic pain and mental health in the third trimester" in depth, with the hope of informing more thorough and specific treatments.

Research Significance:

The findings of this study will shed light on the interdependence of mental and physical health concerns experienced by pregnant women throughout the third trimester. The study emphasizes the importance of holistic healthcare approaches that take into account both physical and mental health by describing the frequency and association of pelvic discomfort with mental health issues. The results will help healthcare practitioners and politicians understand the unique difficulties pregnant women encounter, which will allow for the creation of more effective treatments and support networks. The overarching goal of this study is to help pregnant women have a better experience and have better maternal health outcomes.

Methodology:

This investigation will involve administering comprehensive questionnaires to 120 pregnant women in the Udaipur division who are in their third trimester. The questionnaires will measure physical ailments such as back discomfort, joint pain, and abdominal pain, as well as mental health concerns including anxiety, depression, and sleep disruptions. Descriptive statistics will be utilized to determine the prevalence and severity of these problems. Correlation analysis will be employed to examine the relationship between pelvic pain and mental health. Finally, the One-Sample Kolmogorov-Smirnov Test will be used to test the hypothesis that significant differences exist in the issues that concern the participants.

Data Analysis

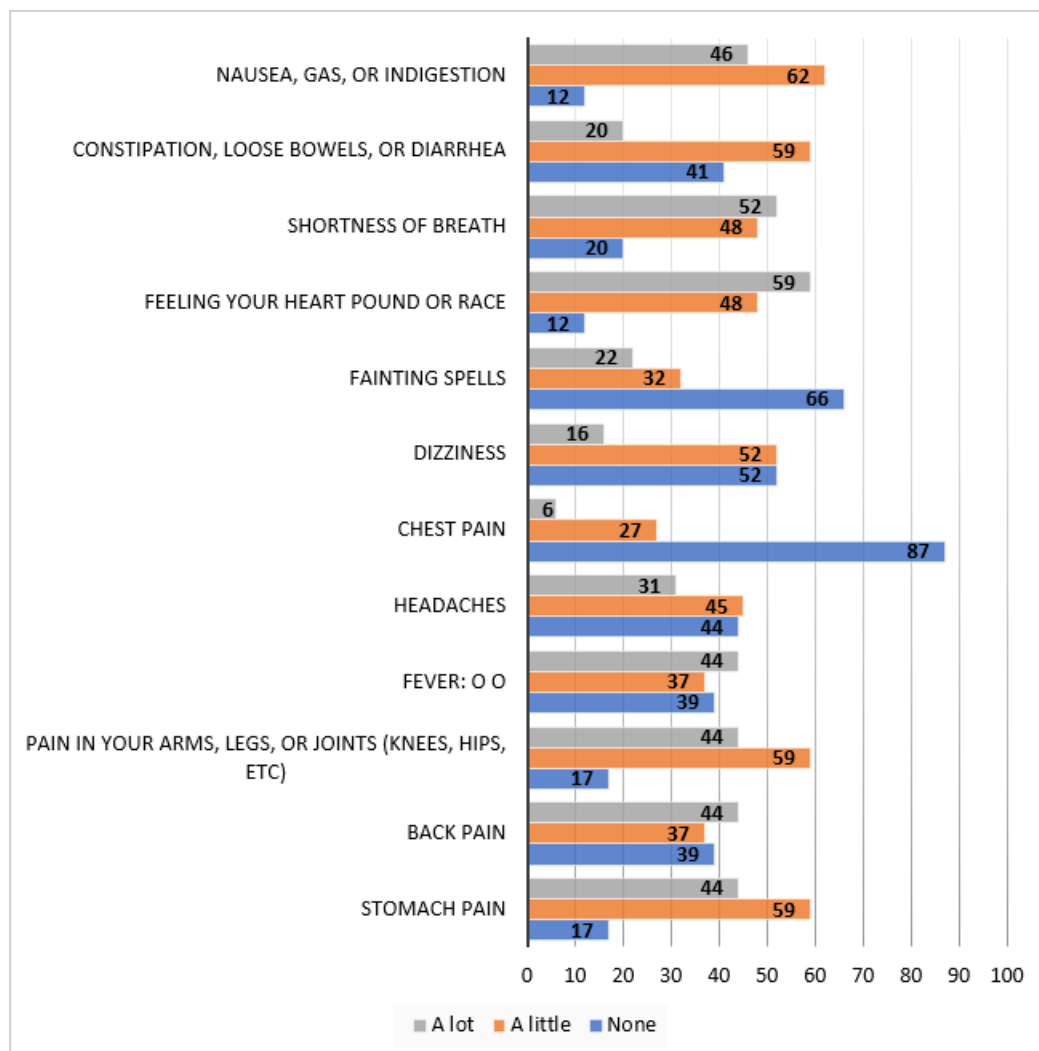
PROBLEMS FACED IN THE THIRD TRIMESTER

Table 1.1: Frequency table of problems in the third trimester

Problem	None	A little	A lot	Total
Stomach pain	17	59	44	120
Back pain	39	37	44	120
"Pain in your arms, legs, or joints (knees, hips, etc.)"	17	59	44	120

Fever	39	37	44	120
Headaches	44	45	31	120
Chest pain	87	27	6	120
Dizziness	52	52	16	120
Fainting spells	66	32	22	120
Feeling your heart pound or race	12	48	59	119
Shortness of breath	20	48	52	120
Constipation, loose bowels, or diarrhea	41	59	20	120
Nausea, gas, or indigestion	12	62	46	120

Graph 1.1: Frequency graph of problems in the third trimester



When respondents were asked about the extent of physical problems the respondents faced during their third trimester, the responses collected are shown above. From the data it can be seen that the problems that have increased in the third trimester are “Stomach pain, Back pain, Pain in your arms, legs, or joints (knees, hips, etc), Feeling your heart pound or race, Shortness of breath and Nausea, gas, or indigestion”. Also, the problems that have decreased are recorded as Fever, Headaches, Chest pain and Dizziness. Thus, it can be noted that pain in

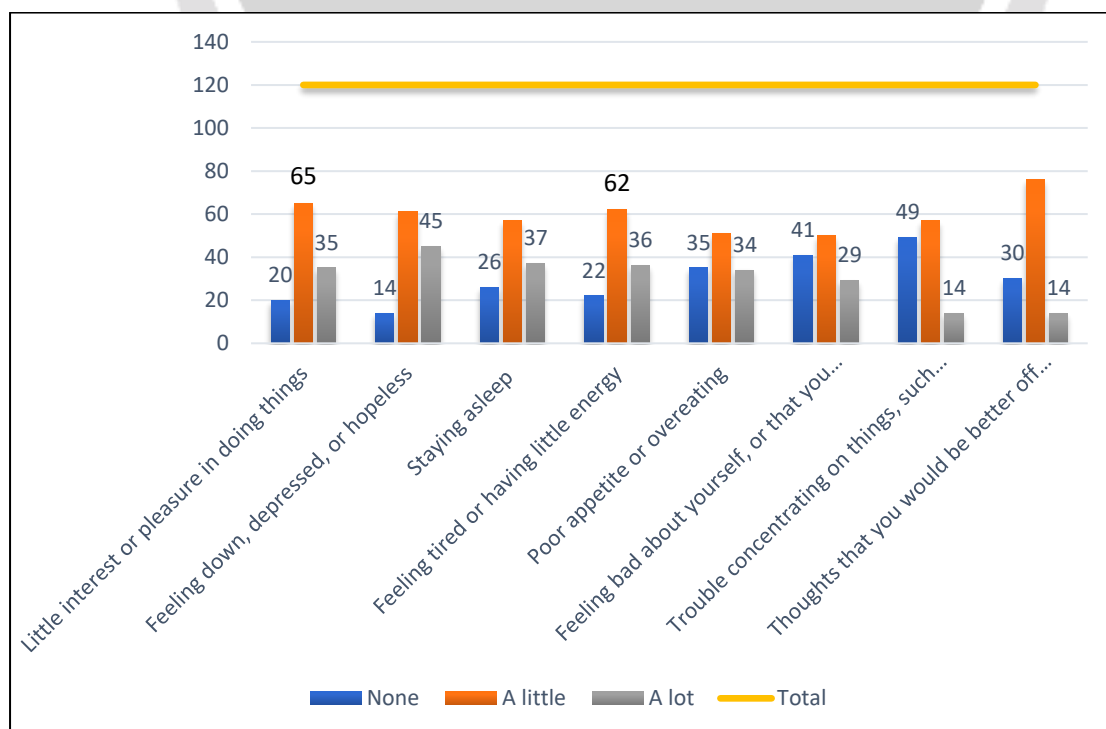
stomach, back and joints have increased and thus pelvic pain in the last trimester also increases. Last trimester is supposed to have greater impact on physical and mental wellbeing of a pregnant women and therefore problems during the last trimester have been found to be increased.

BOTHERED INT HIR DTRIMESTER

Table 1.2: Frequency table of bothered in the third trimester

Problem	None	A little	A lot	Total
Little interest or pleasure in doing things	20	65	35	120
Feeling down, depressed, or hopeless	14	61	45	120
Staying asleep	26	57	37	120
Feeling tired or having little energy	22	62	36	120
Poor appetite or overeating	35	51	34	120
Feeling bad about yourself, or that you are a failure, or have let yourself or your family down	41	50	29	120
Trouble concentrating on things, such as reading the newspaper or watching television	49	57	14	120
Thoughts that you would be better off dead or of hurting yourself in some way	30	76	14	120

Graph 1.2: Frequency graph of bothered in the third trimester



Further, when the respondents were asked about the extent to which the respondents have been bothered by various psychological problem. It can be seen form the results here that the problems that have shown increase in their intensity are “Little interest or pleasure in doing things, Feeling down, depressed, or hopeless, Staying asleep, Feeling tired or having little energy and Poor appetite or overeating”. The psychological problem that have been found decreased is “Feeling bad about yourself, or that you are a failure, or have let yourself or your family down, Trouble concentrating on things, such as reading the newspaper or watching television and Thoughts that you would be better off dead or of hurting yourself in some way”. Thus, the pregnant women become more emotionally vulnerable in their third trimester.

MAJOR CONCERNS IN THIRD TRIMESTER

Table 1.3: Frequency table of problems faced in trimester

S. No.	Parameters	Ranks
1	Money problems	3
2	My Job	4
3	Pregnancy problems	1
4	My partner’s drinking or drug use	10
5	Dealing with my parents	6
6	Caring for this baby	12
7	My relationship with my partner	7
8	My partner didn’t want this pregnancy	11
9	Labor and delivery	2
10	My partner’s job or unemployment	8
11	Dealing with my in-laws	5
12	Caring for my other children	9
13	Other	13

Further in the above table ranking of major issues that bothered pregnant women in third trimester are given. From the data it can be seen that 1st rank has been given to problem Caring for my other children, 2nd rank to Dealing with my in-laws and 3rd rank has been given to pregnancy problems. Thus, most of the women are found worried about how to care about their other children in their third trimester.

Further to find out the **significant difference in the opinion of pregnant women about the major concerns in their tri semester following hypothesis is framed;**

H₀₁ “There is no significant difference in the opinion of pregnant women about the major concerns in their tri semester”.

Table 1.4: Descriptive Statistics Table of major concerns in tri semester

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Money problems	120	2.23	.679	1	3
My job	120	2.04	.834	1	3
Pregnancy problems	120	2.23	.679	1	3
My partner’s drinking or drug use	120	2.04	.834	1	3

Dealing with my parents	120	1.89	.786	1	3
Caring for this baby	120	1.33	.568	1	3
My relationship with my partner	120	1.70	.693	1	3
My partner didn't want this pregnancy	120	1.63	.777	1	3
Labor and delivery	120	2.39	.665	1	3
My partner's job or unemployment	120	2.27	.730	1	3
Dealing with my in-laws	120	1.83	.694	1	3
Caring for my other children	120	2.28	.638	1	3
Other	120	2.13	.668	1	3

Descriptive statistics of the problems faced by women in tri semester are tabulated above. Mean and standard deviation for the problems is shown here. Highest mean is recorded for problem labor and delivery.

Table 1.5: One-Sample Kolmogorov-Smirnov Test Table of major concerns in tri semester



	N	Normal Parameters ^{a,b}		Most Extreme Differences			Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
		Mean	Std. Deviation	Absolute	Positive	Negative		
Money problems	120	2.23	0.679	0.263	0.263	-0.24	2.882	0
My job	120	2.04	0.834	0.241	0.219	-0.241	2.644	0
Pregnancy problems	120	2.23	0.679	0.263	0.263	-0.24	2.882	0
My partner's drinking or drug use	120	2.04	0.834	0.241	0.219	-0.241	2.644	0
Dealing with my parents	120	1.89	0.786	0.238	0.238	-0.188	2.61	0
Caring for this baby	120	1.33	0.568	0.442	0.442	-0.283	4.837	0
My relationship with my partner	120	1.7	0.693	0.277	0.277	-0.234	3.034	0
My partner didn't want this pregnancy	120	1.63	0.777	0.342	0.342	-0.208	3.751	0
Labor and delivery	120	2.39	0.665	0.312	0.23	-0.312	3.413	0
My partner's job or unemployment	120	2.27	0.73	0.276	0.209	-0.276	3.02	0
Dealing with my in-laws	120	1.83	0.694	0.258	0.234	-0.258	2.825	0
Caring for my other children	120	2.28	0.638	0.288	0.288	-0.253	3.158	0
Other	120	2.13	0.668	0.283	0.283	-0.259	3.095	0

Above table shows the One-Sample Kolmogorov-Smirnov Test of major concerns in tri semester. The results here shows that sig value for all the concerns is less than .05 and therefore it can be stated and that hypothesis is proved "There is a significant difference in the opinion of pregnant women about the major concerns in their tri semester".

This can also be interpreted as all pregnant women faces different problems at different trimesters like few faces pelvic pain related issues due to their greater BMI, few have BP issues, few of the women faces induced diabetes due to pregnancy etc.

Conclusion

Results from this study show that third-trimester pregnant women who experience pelvic pain and other discomforts also tend to have mental health difficulties. The results underscore the correlation between elevated anxiety, depression, and other mental health challenges and heightened pelvic discomfort. The quality of life can be substantially impacted by the cycle of pain and psychological distress that can be created by these mental health issues, which can exacerbate the physical discomfort experienced. This study emphasizes the necessity of concurrently addressing both physical and mental health during pregnancy by acknowledging their interconnectedness.

Addressing these issues is crucial for improving the overall well-being of pregnant women. Effective management of pelvic pain not only alleviates physical discomfort but also reduces the psychological burden associated with it. Interventions that provide relief from pain can subsequently decrease levels of anxiety and depression, fostering a healthier pregnancy experience. This comprehensive approach to prenatal care ensures that both the physical and emotional needs of pregnant women are met, promoting better health outcomes for both the mother and the baby.

Suggestions

1. **Integrated Care Models:** Healthcare providers should adopt integrated care models that address both physical and mental health needs of pregnant women, particularly focusing on those experiencing pelvic pain. This includes regular collaboration between obstetricians, physical therapists, and mental health professionals to provide comprehensive care.
2. **Safe Physical Activities:** Encourage pregnant women to engage in safe physical activities like yoga, pelvic exercises, and swimming. These activities can help alleviate pelvic pain, improve flexibility, and reduce stress, contributing to better mental health.
3. **Mindfulness and Breathing Exercises:** Incorporate mindfulness practices and breathing exercises into prenatal care routines. These techniques can help manage pain, reduce anxiety, and promote a sense of calm, which strengthens pelvic muscles and supports mental well-being.
4. **Regular Mental Health Screening:** Implement regular mental health screenings during prenatal visits to identify and address anxiety, depression, and other psychological issues early. Early detection and intervention can significantly improve mental health outcomes for pregnant women.
5. **Support Groups:** Establish support groups for pregnant women where they can share their experiences, concerns, and coping strategies. Social support can play a crucial role in reducing feelings of isolation and promoting emotional well-being.
6. **Pain Management Programs:** Develop personalized pain management programs that include non-pharmacological interventions such as acupuncture, massage therapy, and osteopathic manipulative treatment (OMT). These methods can effectively reduce pelvic pain and associated mental health issues.
7. **Education and Counseling:** Provide education and counseling sessions for pregnant women and their families about the importance of mental health during pregnancy. This can include information on recognizing symptoms of depression and anxiety, and strategies for managing stress.
8. **Holistic Approaches:** Promote holistic approaches that combine physical, emotional, and spiritual care. Techniques such as aromatherapy, music therapy, and guided imagery can enhance relaxation and improve overall well-being.
9. **Nutritional Support:** Ensure that pregnant women receive proper nutritional support. A balanced diet rich in essential nutrients can improve physical health and contribute to better mental health.
10. **Access to Mental Health Resources:** Improve access to mental health resources, including counseling and psychiatric services, for pregnant women. Providing these resources within prenatal care settings can facilitate timely and effective support.

11. **Postpartum Follow-Up:** Implement postpartum follow-up programs to monitor and support women's physical and mental health after childbirth. This ensures that any persisting or new issues are promptly addressed, promoting long-term health and well-being.
12. **Training for Healthcare Providers:** Train healthcare providers on the importance of addressing both physical and mental health issues in pregnant women. This includes recognizing symptoms of mental distress and providing appropriate referrals and support.

By adopting these suggestions, healthcare systems can better address the complex needs of pregnant women, ensuring a healthier and more positive pregnancy experience.

Limitations

1. The whole population may not have been well represented in the study due to the limited sample size, which could restrict the findings' applicability.
2. Longitudinal studies are needed to draw stronger results because the study was cross-sectional, which makes it impossible to demonstrate a causal relationship between pelvic discomfort and mental health disorders.

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