

Psychophysical Stress and Depression in Pregnant Women

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Abstract

The main purpose of present research was to find out the difference on psychophysical stress and depression in pregnant and non-pregnant women. The total sample was consisted at 80 pregnant and non-pregnant women (40 pregnant & 40 non pregnant women). The psychophysical stress scale was used for measure psychophysical stress. The scale was developed by Shanu Maheshwari (2002) and translate to Gujarati by Somaiya S. Back Depression scale was used for measure Depression. To find out the results various statistical methods were applied which included 't' test and correlation. The results indicate that there is significant difference at psycho physical stress and Depression among pregnant and non-pregnant women. There was positive correlation between Psychophysical stress and Depression.

Introduction

Pregnancy is a long-time journey accompanied with physical, psychological and emotional changes which can lead to positive and negative effects on women life and their families. It is often a period of happiness and expectations; however, it may be a period of uncertainty women have issues regarding what happened with their face and body.

Stress is a non-specific and complex response of a human body submitted to a stressor, which responds to an adaptive function

Psychological stress is a popular term denoting processes believed to contribute to the onset and maintenance of a variety of mental and physical conditions. Despite widespread interest in psychological stress and its consequences for health and well-being, debate remains about how to best define the term. While physiological stress activates a motoric fight-or-flight reaction, during psychosocial stress attention is shifted towards emotion regulation and goal-directed behaviour, and reward processing is reduced Depression is described as a common and serious mood disorder that results in per silence feelings of sadness and hopelessness, as well as a loss of interest in activities that one once enjoyed (American Psychiatric Association (APA), 2013). Additional symptoms of depression include weight changes, difficulty sleeping, loss of energy. difficulty thinking or concentrating, feelings of worthlessness or excessive guilt, and suicidal (APA, 2013). While depression results from a complex interaction of psychological, social, and biological factors (World Health Organisation, 2018), studies have shown that increased stress caused by college can be a significant contributor to student depression (Dyson and Renk, 2006).

During pregnancy, women can experience a wide range of psychological effects, including mood swings, anxiety, and depression, often stemming from hormonal changes, physical discomfort, and the emotional weight of preparing for parenthood.

Some Common Psychological Experiences in pregnancy

- Mood Swings Fluctuating hormones can lead to rapid shifts in mood, ranging from heightened emotions to periods of sadness or irritability.
- Pregnancy can trigger or exacerbate anxiety, with common worries including the baby's health, labor and delivery, and the challenges of parenthood.
- While some mild sadness is normal, persistent feelings of sadness, loss of interest, and difficulty concentrating can indicate depression, which requires professional attention.
- Physical changes during pregnancy can affect a woman's body image and self-esteem, leading to feelings of discomfort or insecurity.
- Nausea, frequent urination, and physical discomfort can disrupt sleep patterns, contributing to fatigue and irritability.
- The hormonal and emotional changes of pregnancy can sometimes lead to difficulty focusing or making decisions.
- Pregnant women may become more emotionally sensitive and easily overwhelmed by situations or events.
- Pregnancy can strain relationships, especially if there's a lack of support from a partner or family, or if there are disagreements about parenting decisions.
- Some women may experience intense anxiety or fear related to the childbirth experience, which can be a significant psychological challenge.
- Some women may struggle to bond with their baby, which can be a source of guilt and anxiety.

Many more things can affect during pregnancy like Fluctuations in oestrogen and progesterone can significantly impact mood and emotions. Pregnancy symptoms like nausea, fatigue, and back pain can contribute to stress and anxiety. Dealing with financial difficulties, job loss, or relationship problems can exacerbate psychological distress during pregnancy. Feeling isolated or unsupported can worsen mental health challenges during pregnancy. Women with a history of mental illness are at higher risk of experiencing challenges during pregnancy. Traumatic experiences, such as previous pregnancy loss or abuse, can influence a woman's psychological state during pregnancy. Concerns related to the COVID-19 pandemic and its impact on pregnancy and childbirth have been linked to increased stress and anxiety.

Review of Literature

Pregnancy, while a significant life event, often brings about various psychological and physical changes. Among these, psychophysical stress and depression are prevalent concerns that can adversely affect both maternal and fetal health. This review synthesizes recent studies to understand the interplay between stress, depression, and pregnancy outcomes.

Psychophysical Stress During Pregnancy

Psychophysical stress encompasses both physiological responses and psychological perceptions of stress. During pregnancy, women experience unique stressors, including hormonal changes, physical discomfort, and societal pressures. A study by Sandesh et al. (2023) highlighted that psychosocial stress during pregnancy is associated with adverse fetal outcomes such as low birth weight and intrauterine growth restriction.

Furthermore, a meta-analysis by Dunkel Schetter (2011) found that psychosocial stress during pregnancy is linked to various negative perinatal outcomes, including preterm birth and low birth weight.

Depression in Pregnant Women

Depression during pregnancy, also known as antenatal depression, is a significant concern. According to a systematic review by Yonkers et al. (2001), the prevalence of depression during pregnancy ranges from 7% to 20%, with higher rates observed in certain populations.

The effects of antenatal depression are profound, influencing not only maternal health but also fetal development. The study by Yonkers et al. (2001) suggests that untreated depression during pregnancy can lead to complications such as preterm birth and low birth weight.

Interplay Between Stress and Depression

The relationship between stress and depression during pregnancy is complex and bidirectional. A study by Dunkel Schetter (2011) posits that stress can lead to depression, and conversely, depression can exacerbate the perception of stress.

Moreover, the study by Sandesh et al. (2023) indicates that women experiencing higher levels of stress are more likely to encounter depressive symptoms, which can further complicate pregnancy outcomes.

Role of Social Support

Social support plays a critical role in mitigating the effects of stress and depression during pregnancy. A study by Bahrami-Samani (2023) found that social support mediates the relationship between pregnancy distress and self-care behaviors, suggesting that strong social networks can buffer against the adverse effects of stress.

Significance of the Study

Depression during pregnancy including postpartum depression is a significant concern impacting maternal and fetal well-being. Research highlights the importance of understanding the psycho physiological aspects of depression in pregnancy. As it can influence both maternal health and fetal development.

Objectives

1. To measure psycho-physical stress in pregnant and non-pregnant women
2. To measure depression in pregnant women and non-pregnant women
3. To check the correlation between psycho-physical stress and Depression

Null hypothesis

1. There will be no significant difference in psycho-physical stress in pregnant and non-pregnant women
2. There will be no significant difference in Depression in pregnant and non- pregnant women
3. There will be no correlation will be found between psycho-physical stress and Depression

METHOD

Research Tools:

- Psychophysical stress Scale (Shanu Maheshvari, 2002): 25 items and 2-point Scale.
- Depression Inventory (Beck, 1961): 21 items and 4-point Scale.

Sample:

80 participants (40 Pregnant women, 40 non-pregnant women) From Rajkot city and Bhavnagar city.

Procedure:

Procedure of data collection:

According to purpose of present study investigator explained the purpose of the study of the subjects. The whole procedure of filling the inventory was explained to them fully and clearly. the instruction given on the questionnaire were explained to them. It was also made clear to them that scores would be kept secret. It was checked that none of the subject left any questions unanswered or that no subject encircled both the answers given against question.

Research Design:

t- test and correlation analyses to explore Psychophysical stress and Depression in the sample.

Result and Discussion:

The main purpose of present study was to psycho-physical stress and Depression in pregnant and non-pregnant women result is as under:

Table-1
Showing the mean, SD and t-value of psycho-physical stress

| Variables | N | Mean | SD | t |
|---------------------|----|-------|------|--------|
| Pregnant women | 40 | 13.08 | 5.06 | 2.72** |
| Non- pregnant women | 40 | 9.94 | 3.31 | |

Sig. level 0.05= 1.99*

0.01=2.64**

The pregnant women received high mean score (13.08) compared non pregnant women (9.94) The standard deviation score of pregnant women was 5.06 and non-pregnant women was 3.31. The t-value was 2.72 which was significant at 0.01 level. So, we can say that first hypothesis was not accepted Psychophysical stress in pregnant women can stem from a combination of biological, psychological, and social factors. Here are the most common and evidence-supported reasons:

1. Hormonal Changes

- **Description:** Pregnancy induces significant fluctuations in hormones such as estrogen, progesterone, and cortisol.
- **Impact:** These hormonal shifts can affect mood regulation and increase emotional sensitivity, making pregnant women more vulnerable to stress and depression. (Glover, V. 2014)

2. Physical Discomfort and Health Concerns

- **Description:** Common pregnancy-related symptoms such as fatigue, nausea, back pain, and sleep disturbances can increase stress levels.
- **Impact:** Constant physical discomfort can reduce overall well-being and increase psychological stress. (DiPietro, J. A. 2010)

3. Fear of Childbirth and Parenting

- **Description:** Anxiety about labor pain, delivery complications, or fears of being an inadequate parent.
- **Impact:** These fears can elevate stress hormones and contribute to both antenatal anxiety and depression. (Räisänen, S., et al. 2014)

4. Relationship and Marital Issues

- **Description:** Strain in the partner relationship or lack of emotional support can significantly heighten stress.
- **Impact:** Poor communication or emotional distance from a partner increases perceived stress levels and risk of depression. (Stapleton, L. R. T., et al. 2012)

5. Socioeconomic Pressures

- **Description:** Financial instability, lack of access to healthcare, housing insecurity, or job-related stress.
- **Impact:** These stressors are linked to chronic stress responses and adverse pregnancy outcomes. (Hobel, C., & Culhane, J. 2003)

6. History of Mental Health Issues

- **Description:** Women with prior histories of depression, anxiety, or trauma are more susceptible to psychophysical stress during pregnancy.
- **Impact:** Pre-existing conditions can be reactivated or intensified due to the physical and emotional demands of pregnancy. (Bennett, H. A., et al. 2004)

7. Lack of Social Support

- **Description:** Isolation or minimal emotional and practical support from family, friends, or community.
- **Impact:** Social support is a strong protective factor; its absence can lead to elevated cortisol levels and emotional distress. (Collins, N. L., Dunkel-Schetter, C., Lobel, M., & Scrimshaw, S. C. 1993)

Table-2
Showing the mean, SD and t-value of depression

| Variables | N | Mean | SD | t |
|---------------------|----|-------|------|--------|
| Pregnant women | 40 | 14.11 | 3.84 | 3.72** |
| Non- pregnant women | 40 | 10.20 | 2.99 | |

Sig. level 0.05=1.99
0.01=2.64

The pregnant women received high mean score (14.11) as compared non pregnant women (10.20) standard deviation score of pregnant women received 3.84 and non-pregnant women received 2.99. The t-value was 3.72 significant at 0.01 level. So, we say that second hypothesis was not accepted.

Possible Reason for Pregnant women can feel a high level of depression due to a combination of biological, psychological, and social factors. Here's a breakdown of the key reasons:

1. Hormonal Changes

- During pregnancy, there are major shifts in hormones like estrogen and progesterone.
- These hormones can affect brain chemicals (like serotonin) that regulate mood, leading to increased vulnerability to depression.

2. Psychological Stress

- Worry about the baby's health, the birth process, or becoming a parent can cause anxiety and depression.
- If a woman has a history of depression or anxiety, pregnancy can trigger or worsen these conditions.

3. Physical Discomfort and Fatigue

- Nausea, fatigue, sleep problems, and body changes can lead to chronic stress and low mood.
- Lack of sleep in particular is closely tied to depression symptoms.

4. Social and Relationship Pressures

- Lack of support from a partner, family, or friends can increase feelings of loneliness or isolation.
- Relationship conflicts or being a single parent can also heighten emotional strain.

5. Unplanned or High-Risk Pregnancy

- If the pregnancy is unplanned, high-risk, or involves financial instability, it can cause emotional distress.
- These pressures can make women feel trapped or overwhelmed.

6. Past Trauma or Abuse

- Women with a history of abuse, trauma, or miscarriage may experience re-emerging mental health issues during pregnancy.

7. Body Image Issues

- Physical changes can affect how a woman sees herself, leading to low self-esteem or body dissatisfaction, which can contribute to depression.

8. When to Seek Help

Depression during pregnancy, known as antenatal depression, is common but serious. Signs include:

- Persistent sadness or hopelessness
- Trouble sleeping (not due to physical discomfort)
- Loss of interest in usual activities
- Excessive worry or panic
- Thoughts of self-harm

Table -3
Showing the correlation between psycho-physical stress and Depression

| Variables | N | Mean | r |
|------------------------|----|-------|------|
| Psycho-physical stress | 80 | 11.51 | 0.81 |
| Depression | 80 | 12.15 | |

According to table-3 the result obtained positive correlation between psycho- physical stress and Depression 0.81 positive correlation was seen. It means psycho- physical stress increases so Depression was increased and psycho-physical stress Decreases depression decreases. The positive correlation

between psychophysical stress and depression exists because both conditions share common psychological pathways. Here's some detailed explanation:

1. Shared Brain Chemistry

- Both stress and depression involve dysregulation of neurotransmitters such as:
 - Cortisol (the stress hormone)
 - Serotonin, dopamine, and norepinephrine (mood-regulating chemicals)
- Chronic stress leads to prolonged elevation of cortisol, which can reduce serotonin levels — a key player in depression.

2. Behavioural Effects of Stress

- Under stress, people may:
 - Withdraw socially
 - Sleep poorly
 - Eat unhealthily
 - Avoid physical activity
- These behaviors also increase the risk or severity of depression.

3. Cognitive Patterns

- Stress often leads to negative thinking, such as:
 - Catastrophizing
 - Feeling helpless or hopeless
- These thought patterns are core features of depression.

Suggestion:

Suggestion for how to improve mental health during pregnancy:

- To improve mental health during pregnancy, prioritise self-care through exercise, healthy eating, sufficient sleep, and relaxation techniques like meditation or yoga. Connect with others, attend antenatal classes, and seek professional help if needed.
- Engage in regular physical activity, such as walking, swimming, or prenatal yoga, as it can improve mood and reduce stress.
- Focus on a balanced and nutritious diet, ensuring you get enough vitamins and minerals.
- Aim for adequate sleep, as fatigue can worsen mental health symptoms.
- Practice mindfulness, deep breathing exercises, or meditation to manage stress and anxiety.
- Share your feelings and concerns with your partner, family, friends, or a healthcare professional.
- Attend Antenatal Classes These classes can help you prepare for labor and parenting, reducing feelings of uncertainty and fear.
- Connect with other pregnant women or new mothers for emotional support and shared experiences.
- Maintain social connections and spend time with people who make you feel good.
- Talk to your doctor or midwife about any concerns you may have.
- Break down tasks into smaller, manageable steps.
- Reduce exposure to negative news or social media if needed.
- Focus on the present moment and accept your feelings without judgment.
- If you are struggling with your mental health, reach out to a therapist, counsellor, or psychiatrist.

- Consider psychotherapy, which can be a safe and effective way to address depression and anxiety during pregnancy.
- If medication is necessary, discuss the risks and benefits with your doctor, as some medications may not be safe during pregnancy.

Conclusion:

There was significant difference in psycho-physical stress in pregnant and non-pregnant women. There was significant difference in depression in pregnant and non-pregnant women. The correlation between psycho-physical stress and depression is 0.81 which is positive correlation. It means psycho-physical stress increases depression increases.

Limitations:

Limitations include the small sample size and focus only on pregnant and non-pregnant women. Future studies should include larger, more diverse samples and employ varied data collection methods.

Suggestion for future Research:

Future research should expand sample diversity, include other population and utilize diverse data collection methods to enhance study reliability.

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