Original paper

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Prevalence and factors associated with antenatal depression, anxiety, and ways of coping with mental health problems among pregnant mothers, and feasibility assessment of an intervention to improve antenatal mental well-being in the Colombo Regional Director of Health Services area

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Abstract

Background

Pregnancy is a period of profound psychological and emotional change, during which many women experience heightened vulnerability to mental health challenges. While global research has explored the prevalence of antenatal depression and anxiety, little is known about how pregnant mothers in Sri Lanka cope with these challenges.

This study aimed to explore the coping strategies employed by pregnant women in the Colombo Regional Director of Health Services (RDHS) area to manage stress and mental health problems during pregnancy.

Methods

A qualitative study was conducted using in-depth interviews and key informant interviews. Twenty-five pregnant mothers across all trimesters were purposively selected along with six key informants including public health midwives (PHMs), nursing sisters, and medical officers.

Thematic analysis, following Braun and Clarke's framework, was used to analyze data, ensuring triangulation and investigator validation to enhance rigor.

Results

Thematic analysis revealed a diverse range of coping strategies, including both adaptive and maladaptive patterns. Many mothers relied on passive coping, such as avoidance of stressors, silent endurance, or religious and spiritual practices. Positive reframing and seeking social support were used by some mothers but were less common. Key informants reported a dominant pattern of avoidance and highlighted the low mental health literacy among mothers and their families.

Stigma, limited awareness of mental health services, and underutilization of active problem-solving approaches emerged as critical barriers.

Conclusion

Pregnant mothers in Colombo employ a mix of adaptive and maladaptive coping strategies, with a strong reliance on passive mechanisms that may increase emotional distress over time. There is an urgent need to strengthen maternal mental health education, promote active coping skills, and integrate culturally sensitive interventions with routine antenatal care.

Keywords: coping strategies, pregnant mothers, qualitative study, Sri Lanka, maternal mental health

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Introduction

Pregnancy is one of the most transformative and emotionally charged periods in a woman's life, marked by profound physiological, psychological, and social changes. While pregnancy is often portrayed as a time of joy and anticipation, for many women it is also a period of heightened vulnerability to mental health challenges. Antenatal depression and anxiety rank among the most common mental health concerns during pregnancy, with prevalence estimates globally ranging from 10% to over 40% depending on the population and setting (1,2). These mental health issues, if left unaddressed, not only compromise maternal wellbeing but also pose risks to fetal development, neonatal outcomes, and long-term child health.

In Sri Lanka, maternal mental health concerns mirror global trends. Studies report antenatal depression rates ranging from 16% to as high as 42% depending on region and study design (8,9). Antenatal anxiety has been reported between 37%-46% in urban hospital-based populations (9). Despite Sri Lanka's notable progress in maternal and child health, antenatal mental health remains a relatively underexplored area, with limited integration of mental health screening and interventions into routine care.

Coping strategies are critical in shaping maternal mental health. Lazarus and Folkman (1984) describe coping as the cognitive and behavioral efforts to manage demands perceived as exceeding resources. These include problem-focused coping, emotion-focused coping, and maladaptive or avoidant coping. Studies globally reveal cultural variations – for example, religious coping is common in South Asia, while avoidance-based coping is associated with higher distress in Europe and North America (2,10). Sri Lankan evidence is scarce, but studies suggest reliance on religious rituals and avoidance, alongside limited problem-solving (8,9) has been widely used as coping mechanisms by women.

Methods

Study design

A qualitative exploratory design was adopted to understand how pregnant mothers in the Colombo Regional Director of Health Services (RDHS) area cope with psychological stress and pregnancy-related challenges. This approach allowed for in-depth exploration of participants' lived experiences, attitudes, and cultural meanings attached to coping behaviors. Data were collected through in-depth interviews, and key-informant interviews. The study followed Braun and Clarke's (2006) six-phase framework for thematic analysis.

Study setting and participants

The study was conducted within the maternal and child health (MCH) clinics of the Colombo RDHS division, which serves a mixed urban-semi-urban population. Participants included pregnant mothers across all three trimesters attending routine antenatal sessions.

Purposive sampling was used to ensure diversity in parity, age, education, and obstetric history. In total, 25 pregnant mothers were recruited for individual interviews and six maternal-health service providers (public-health midwives [PHMs], a senior PHM, a public-health nursing sister [PHNS], and an assistant medical officer of health [AMOH]) participated in key-informant interviews.

Eligibility criteria were:

Currently pregnant and residing within the RDHS-Colombo area.

Able to converse in Sinhala; and willing to provide informed consent. Mothers with diagnosed psychiatric illness or serious obstetric complications requiring admission were excluded.

Data-collection procedures

1. In-Depth Interviews

Semi-structured interviews were conducted using an interviewer guide developed after reviewing relevant literature and consulting MCH experts. The guide explored perceptions of stress, coping behaviors, and perceived supports and barriers.

Interviews were conducted in Sinhala by the principal investigator and trained assistants in a private setting within antenatal clinics. Each interview lasted 30-45 minutes and was audio-recorded with permission. Field notes were taken to capture non-verbal cues.

2. Key-Informant Interviews

Six key-informant interviews were conducted with frontline maternal-health service providers to triangulate mothers' perspectives and identify system-level barriers to mental-health support. These interviews focused on healthcare workers' observations of coping behaviors, help-seeking patterns, and the availability of psycho-social resources.

Data management and analysis

All interviews and discussions were transcribed verbatim in Sinhala, then translated into English for analysis. Transcripts were anonymized and imported into NVivo 12 for coding and organization.

Thematic analysis followed Braun and Clarke's six steps:

1. Familiarization with data through repeated reading.
2. Initial coding to capture meaningful units.
3. Searching for themes by clustering similar codes.
4. Reviewing themes for internal coherence and distinctiveness.
5. Defining and naming themes; and
6. Producing the analytic narrative integrating quotes and interpretation.

Two researchers independently coded the data, and discrepancies were discussed until consensus was reached. Investigator triangulation, member checking with several participants, and use of verbatim quotations enhanced credibility and confirmability. Data saturation was achieved when no new codes or concepts emerged.

Ethical considerations

Ethical approval was obtained from the Ethics Review Committee of the Faculty of Medicine, University of Colombo. Permission to conduct the study was granted by the Regional Director of Health Services Colombo (RDHS). Written informed consent was obtained from all participants prior to interviews. Confidentiality was strictly maintained by using pseudonyms and secure data storage. Participants were informed that they could withdraw at any stage without repercussions. Psychological support information was provided to any participant expressing distress.

Results

Socio-demographic profile

Twenty-five pregnant mothers participated in the in-depth interviews (mean age: 32 years, SD ±1.3). Most participants were Sinhalese (96%) and married. Education levels varied from grade 8 to graduate, and both primiparous and multiparous women were included. The majority reported no complications, although a few experienced gestational diabetes, anemia, or hypertension. Table 1 summarizes participant characteristics.

Table 1. Basic characteristics of the pregnant mothers who participated in the in-depth interviews

Interview no	Age (Years)	Marital status	Ethnicity	Education level	Parity	POA/ (Weeks)	Pregnancy related complications
1	42	Married	Sinhalese	A/L passed	P4C2	18	Previous miscarriages Diabetes
2	37	Married	Sinhalese	A/L passed	P2	7	No complications reported so far
3	35	Married	Sinhalese	A/L passed	P2	12	No complications reported so far
4	35	Married	Sinhalese	A/L passed	P3	28	No complications reported so far
5	33	Married	Sinhalese	A/L passed	P2	27	No complications reported so far
6	32	Married	Sinhalese	O/L passed	Primi	34	No complications reported so far
7	32	Married	Sinhalese	A/L passed	P2	36	Hypertension
8	29	Married	Sinhalese	A/L passed	P2	32	No complications reported so far
9	37	Married	Sinhalese	A/L passed	P3	31	History of Intra Uterine Death

(Continued)

Interview no	Age (Years)	Marital status	Ethnicity	Education level	Parity	POA/ (Weeks)	Pregnancy related complications
10	39	Married	Sinhalese	Graduate	Primi	23	Elderly Primi
11	41	Married	Sinhalese	O/L passed	P2	20	No complications reported so far
12	25	Married	Sinhalese	Grade eight	P2	14	No complications reported so far
13	22	Married	Sinhalese	Up to grade 11	Primi	15	No complications reported so far
14	39	Married	Sinhalese	A/L passed	P5	18	Anemia GDM
15	26	Married	Sinhalese	A/L passed	P2	15	No complications reported so far
16	29	Married	Sinhalese	Graduate	P2	26	No complications reported so far
17	20	Married	Sinhalese	A/L passed	Primi	19	No complications reported so far
18	39	Married	Sinhalese	A/L passed	P2	9	No complications reported so far
19	33	Married	Sinhalese	A/L passed	P2	11	No complications reported so far
20	18	Married	Muslim	Up to grade 10	Primi	12	No complications reported so far
21	34	Married	Sinhalese	O/L passed	Primi	15	No complications reported so far
22	23	Married	Sinhalese	A/L passed	Primi	27	PIH
23	33	Married	Sinhalese	A/L passed	P3	29	No complications reported so far
24	31	Married	Sinhalese	A/L passed	P2	31	No complications reported so far
25	25	Married	Muslim	A/L passed	Primi	33	Gestational Diabetes

Themes from In-depth Interviews

Thematic analysis revealed multiple coping strategies, broadly categorized as emotion-focused, problem-focused, and dysfunctional. Avoidance was the most common approach, including ignoring medical advice or stressful realities. Emotional expression, often through anger toward spouses or children, was also prevalent. Religious and spiritual practices such as prayer and lighting oil lamps were widespread. A minority adopted positive reframing and optimism, while some engaged in maladaptive strategies such as impulsive spending. Representative quotes are given below.

Theme 1: Emotion-focused and passive coping

Avoidance and withdrawal

Avoidance emerged as the most common strategy. Many mothers preferred not to confront stressors or medical concerns, describing avoidance as a means of temporary relief but also of guilt and helplessness.

"I do not want to check my blood sugar levels thinking it would be high. I run away from it… I cannot bear it." (40-year-old, second pregnancy).

"I got married in my late thirties, so I wanted to have children quickly. I am a diabetic patient. But I do not want to check my blood sugar levels thinking it would be high. I cannot accept it, but doctor has asked me to check monthly. But I avoid it as I cannot face the reality. I am afraid of facing it and I cannot bear it. I run away from it. I try to avoid as much as possible, sometimes I even get scolded by my husband and my mother as well. They cannot understand me; I am the one who knows my feelings well."
(Pregnant mother,40 years, P2C1, POA-15wks).

This pattern reflected fear of negative outcomes and a desire to maintain emotional stability. Key informants confirmed that avoidance was pervasive and often hindered adherence to medical advice.

Emotional expression and displacement

Several mothers reported releasing frustration through anger toward spouses or children. Such behavior served as an emotional outlet but often intensified guilt and distress.

"When I am stressed, I get angry with my husband for no reason… later I feel bad."
(32-year-old, first pregnancy)

"I hit my daughter when I'm too tired; afterward I feel more stressed because of guilt."
(Multiparous mother, 27 weeks)

Acceptance and endurance

A recurrent notion of bearing it – accepting hardship as inevitable – was noted. Mothers rationalized distress as karmic or transient:

"Whatever the gods offer, we must accept without expecting more."

Religious and spiritual reliance

Religious coping was deeply embedded across participants. Daily prayer, lighting oil lamps, and temple visits were described as emotionally soothing and socially acceptable means of coping.

"*I light an oil lamp every evening and pray to calm my mind."*
(31-year-old, third trimester)

Theme 2: Problem-focused and adaptive coping

Although less frequent, some mothers engaged in active strategies such as reframing stress positively, seeking advice, and using relaxation techniques.

Positive reframing and optimism

Mothers with higher education or previous pregnancies described intentional optimism – viewing pregnancy difficulties as temporary challenges that would lead to joy.

"I always believe everything will be fine; this thinking keeps me calm."

Seeking social support and humor

Social interaction with empathetic friends, relatives, or other pregnant women served as a buffer against isolation. Humor and peer companionship during antenatal clinics promoted relief.

"While waiting at clinic, we joke and laugh with other pregnant mothers; it helps me forget worries."

Engagement in relaxation or recreational activities

Some participants read books, listened to music, or joined light exercise classes to divert attention from stress.

"I joined an exercise class to get my mind off stress… walking makes me feel lighter."

Theme 3: Barriers to effective coping and mental-health help-seeking

Low mental-health literacy

Most participants equated mental well-being with the absence of disease. Awareness of psychological self-care was limited.

"We think mental health means to live without illness. We don't know what it really is."
(30-year-old graduate, second trimester)

Stigma and fear of judgment

Mothers feared being labeled as "mentally ill," preferring silence to disclosure. This stigma discouraged help-seeking.

Limited awareness and perceived inefficacy of support services

Although aware of hospital counseling services, participants doubted their usefulness and were unaware of free telephone hotlines. Some believed that counselors could not fully empathize with their situation.

"Only another pregnant mother can understand my feelings."

Flexibility and multiple coping modes

Many women reported adapting strategies to context, mixing avoidance, prayer, and distraction depending on the situation.

"I avoid people who stress me, pray to stay calm, and then watch TV to relax."

Desire for positive change

Encouragingly, several expressed willingness to improve coping with proper guidance.

"Frequent reminders on positive thinking would help us handle stress better."

Further they revealed humor, relaxation activities (reading, music, exercise), and peer support as important coping resources. However, staying silence, feeling of stigma, and lack of mental health knowledge were common. Scolding or shouting at children emerged as a means of releasing stress.

Key informant interviews

Maternal healthcare providers, including PHMs, SPHMs, PHNSs, and AMOH, described the frequent use of avoidance, inadequate family support, and stigma. They noted the limited knowledge of available mental health services and requested more training to support mothers effectively.

According to the identifications of the PHMS, it was revealed that one of the main strategies adopted by mothers during pregnancy is the avoidance strategy.

Point of view of a PHM is stated below.

"When I go on domiciliary field visits, I noticed that for mothers who already have relationship problems, the situation has aggravated during pregnancy. I personally know a mother who was very tactful in handling problems before pregnancy but now totally different and try to avoid facing scenarios of distressful nature. Understanding the reality of their own problems is very little among pregnant mothers in my area. Most of those who suffer from chronic illnesses find it exceedingly difficult to control themselves".

(PHM -1)

These interviews thematic analysis revealed a range of coping strategies employed by pregnant mothers. Passive coping strategies dominated, including avoidance of stressors, silent endurance, and spiritual practices such as prayer. Emotional expression, often in the form of anger or guilt, was common. Some women engaged in positive reframing and sought support from family and friends, though stigma limited open communication. Active problem-solving was rarely used.

Further these interviews highlighted the importance of social support, humor, relaxation activities, and distraction. However, a lack of awareness of mental health services and fear of stigma constrained help-seeking behaviors. Key informants confirmed that avoidance was a predominant strategy and emphasized low mental health literacy among mothers and families.

The basic characteristics of the key informant interviews participants are depicted in Table 2.

Table 2. Distribution of the socio demographic characteristics of the participants of the key informants

Interview	Category	Age	Service period in this maternal and child health
1	PHM	29 yrs	2 years
2	PHM	32 yrs	2 years
3	PHM	45 yrs	14 yrs
4	SPHM	52 yrs	18 yrs
5	PHN	48 yrs	4 yrs
6	AMOH	37 yrs	2 yrs

Discussion

This study highlights that Sri Lankan pregnant mothers predominantly rely on passive coping strategies, consistent with findings from other South Asian contexts (4,5). Religious coping was a major source of comfort, as reported in studies from Bangladesh and Pakistan (6,7). However, overreliance on avoidance and silence risks compounding psychological distress. Active coping strategies, such as problem-solving and positive reframing, were underutilized but associated with better emotional resilience. The lack of family support, stigma, and limited-service awareness emerged as systemic barriers.

Global literature underscores similar challenges. A systematic review by Guardino and Schetter (2014) noted that pregnant women often underutilize adaptive coping strategies, particularly in low-resource settings. Interventions promoting problem-solving, resilience, and social support have shown promise elsewhere (10,16). Culturally adapted interventions in Sri Lanka are urgently needed, particularly involving husbands and extended family, and equipping healthcare workers with skills to support maternal mental health.

Limitations

This study has several limitations. First, the qualitative findings are based on a purposive sample from a single district, which may limit generalizability to all pregnant mothers in Sri Lanka. Second, responses may have been influenced by social desirability bias, as participants could have been reluctant to disclose sensitive experiences related to mental health. Despite these limitations, the study provides important insights into coping strategies.

Conclusion

Pregnant mothers in Sri Lanka employ a mix of adaptive and maladaptive coping strategies, with a predominant reliance on passive coping such as avoidance and religious practices. These strategies, while offering temporary relief, may increase emotional distress over time. There is an urgent need to integrate maternal mental health education into routine antenatal care, promote active coping skills, and address stigma. Interventions should be culturally sensitive, family-inclusive, and supported by trained healthcare providers.

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Conflicts of Interest

The authors declare that they have no conflicts of interest related to this study.

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