ORIGINAL ARTICLE

The mediating role of hope between perceived social support, basic psychological needs, and psychological adaptability in postpartum women with depression: a cross-sectional study

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ABSTRACT

Postpartum depression (PPD) is a significant public health concern among women globally. This study examines the mediating role of hope in the relationship between perceived social support (PSS), basic psychological needs (BPNS), and psychological adjustment (PA) through a cross-sectional design. A minimum sample size of 403 was determined using G-power. The study employed purposive sampling to recruit 501 participants from three hospitals in China, after excluding ineligible cases. The inclusion criteria required participants to have a Beck Depression Inventory score above 13, be at least 18 years old, possess a middle school diploma, be within 0 to 8 weeks postpartum, and have no postpartum illnesses or complications. The exclusion criteria included multiple deliveries. The instruments were the Psychological Adaptability Scale, Multidimensional Scale of Perceived Social Support, Basic Psychological Needs Scale,and Herth Hope Index,measuring PA, PSS, BPNS, and hope, respectively. Subsequently, three models were developed with BPNS and PSS as exogenous variables, hope as a mediator, and PA as the outcome. The findings revealed a significant positive correlation ($p<0.01$) among all variables in model 3. Hope partially mediated the connection between PSS and PA as well as between BPNS and PA. Moreover, alternative models 4 and 5 were created using BPNS, PSS, and PA as mediating variables to reinforce the credibility and validity of the model. Based on the Akaike Information Criterion (AIC) and Expected Cross-Validation Index (ECVI), model 3 was deemed the most statistically robust. These findings highlight the critical role of hope in enhancing PA among women with PPD. Healthcare providers and family members should focus on interventions that foster hope, alongside addressing social support and basic psychological needs, to improve psychological outcomes for women experiencing postpartum depression.

INTRODUCTION

Pregnancy and childbirth are momentous occasions in a woman's life. While it is commonly believed that risks decrease after parturition, various factors such as changes in female identity, stress related to childcare, inadequate social support, postnatal complications, and financial difficulties can lead to a crisis, resulting in postpartum depression (PPD). A study has indicated that 7% of postpartum mothers have experienced suicidal thoughts within the first eight months, with 62% to 70% encountering a depressive episode.[1] The prevalence of PPD varies from 8.6% to 21.4% in countries like the United States, Japan, and China, with the highest rates observed in Japan and China.[2] Alarmingly, PPD can affect 10-25% of women within the first year and beyond, with many cases remaining undiagnosed and unnoticed.[3] Consequently, the global population of potentially depressed postpartum women may be significant, necessitating intervention from psychologists and healthcare professionals.

The uncertainties of life often disrupt the daily routine and emotions of postpartum mothers. The concept introduced in the study of psychological adaptability (PA) refers to a dynamic process through which individuals gradually adapt to and accept change by assessing and managing their cognitive and emotional responses to illness symptoms amidst external pressures or threats. This process involves individuals achieving mastery, self-affirmation, and a deeper understanding of the issue.[4, 5] This concept has been extended to non-patient groups, demonstrating adaptability as a crucial psychological asset.

Research supports the positive impact of PA on individuals. Some studies have shown that adaptability contributes to positive outcomes when individuals face constraints in social and physical environments.[6] Additionally, PA is closely linked to mental health, with enhancements in PA promoting mental well-being.[7] These findings suggest that PA, or adaptability, is essential to psychological well-being. Further research has found that adaptability plays a very crucial role in depression as well. It helps to reduce the impact of stressful events and alleviate depressive symptoms.[8,9] In the PPD population, good adaptability significantly reduced the prevalence and extent of depressive symptoms.[10,11] These findings underscore promoting adaptability as a key strategy for preventing or alleviating PPD. Hence, cultivating good PA can lead to more positive outcomes for postpartum-depressed mothers. This study aims to investigate the mechanisms of PA production to alleviate PPD.

The proposal of PA has drawn inspiration from the Transactional Model of Stress and Coping and the Cognitive Theory of Adaptation, indicating that PA is associated with factors like cognition, coping strategies, environment, and social support.[12,13] The study has incorporated variables related to these aspects such as perceived social support (PSS), basic psychological needs (BPNS), and hope to explore their relationships with PA. Existing studies have extensively discussed the positive correlation of BPNs, PSS, and hope with mental health outcomes like well-being and resilience.[14-19] While all these variables are linked to mental health, their connection with PA necessitates further investigation.

Hope stands out as a unique variable among these factors and may serve as a crucial mediator. Hope is defined as a cognitive set characterized by positive motivational states and cognitive orientations. It involves the interaction of pathways (goal-oriented plans) and agency (goal-oriented motivation) towards achieving success.[20] This suggests that an individual's goals, mediated by hope, can influence their behavior and outcomes,

aiding in moderating emotions, boosting motivation, facilitating goal-oriented actions, and increasing perseverance, all of which are crucial in overcoming emotional challenges associated with PPD at a theoretical level. Hope may mediate various psychological and behavioral developments at a practical level, with some evidence supporting its mediating capacity in complex challenges and stressors.[21, 22] Therefore, hope may act as a significant mediating factor.

In essence, this study seeks to make a novel contribution to the existing literature and practices by exploring hope's mediating role in the relationship between PSS, BPNS, and PA. By highlighting hope as a potential key mediator, this study aims to enhance the understanding of the associations between these variables, ultimately promoting improved PA and reducing PPD.

Based on the above, this study poses the following research questions:

(i) What are the individual effects of PSS, BPNS, and hope on PA?

(ii) To what extent does hope act as a mediator between PSS and PA in postpartum-depressed women?

(iii) To what extent does hope serve as a mediator between BPNS and PA in postpartum-depressed women?

This study further proposes the following hypotheses:

H1: PSS positively predicts PA.

H2: BPNS positively predicts PA.

H3: Hope positively predicts PA.

H4: Hope partially mediates the relationship between PSS and PA.

H5: Hope partially mediates the relationship between BPNS and PA.

METHOD

Design

This study used a cross-sectional quantitative design to investigate the relationships between PSS, BPNS, PA, and the mediating role of hope. Structural Equation Modelling (SEM) was applied to analyze these connections. SEM integrates the benefits of factor analysis and multiple regression to study intricate causal pathways.

The researchers collected data from three hospitals in China, where postpartum women must meet the inclusion and exclusion criteria. Subsequently, these participants completed the Psychological Adaptability Scale, the Multidimensional Scale of Perceived Social Support, the Basic Psychological Needs Scale, and the Herth Hope Index within a 30-minute timeframe. Finally, the study confirmed the measurement and structural models based on the scale data, determining path coefficients to examine correlations and mediating effects.

Participants and sampling

Between October 2023 and March 2024, researchers conducted a data survey among postpartum depressed women in three hospitals in China, with approval from the ethics committee. All participants' personal information was anonymized to ensure confidentiality.

Purposive sampling was used in this study. The data collection process was divided into screening and formal tests. The inclusion criteria for participants were as follows: a) Scoring above 13 on the Beck Depression Inventory (Second Edition).[23] b) Understanding the purpose and process of the entire survey and giving informed consent. c) Being at least 18 years old with a middle school education. d) Being within 0-8 weeks postpartum, as the prevalence of depression is higher during this period.[24] Additionally, many postpartum women need to visit the hospital for check-ups and rehabilitation during this time, facilitating data collection. e) A good health assessment by physicians means they don't

have other serious postpartum illnesses and complications. The exclusion criteria for participants included having several deliveries, as women with more childbirth experiences may adapt better to the role of motherhood. Participants who meet these criteria are eligible to join the study.

Based on Wolf et al.'s study, an SEM sample size greater than 200 to 300 is a reasonable range for a four-factor structural model.[25] It would be better to have more. This suggests that research samples larger than this are reliable. To determine the sample size more precisely, this study utilized G-Power for the F-test in linear multiple regression (fixed model, R^2 deviation from zero). Assuming a significance level of 0.05 (α), a desired power of 0.80 (1-β), and a small effect size ($f^2 = 0.03$), this approach satisfies the parameter requirements for SEM. It is more rigorous than the sample size calculations used in many studies [26,27]. Although using a small effect size, rather than a medium effect size ($f^2 = 0.15$), requires a larger sample, it reduces the risk of failing to detect a medium effect between variables. As a result, the minimum sample size under rigorous conditions is 403. The sample size exceeding this number is acceptable. The study obtained 570 samples from three hospitals through the medical record system with the assistance of healthcare personnel. This relatively large sample size ensured that the minimum required number was still met after data cleaning. In the end, 501 samples remained after excluding missing or ineligible data. The recall rate was 87.89%. The sample size and quality met the conditions for subsequent analyses.

Instrument

The study utilized four instruments to quantify the intensity of PA, PSS, BPNS, and hope. The Psychological Adaptability Scale, developed by American scholar Biesecker, evaluates the psychological adaptability of individuals with chronic illnesses and their caregivers. It comprises four dimensions: Coping Efficacy (CE), Self-Esteem (SE), Social Integration (SI), and Spiritual Meaning (SM). This scale comprises 20 items that assess the participants' performance in each dimension using a 5-point Likert scale.[28] Higher scores indicate better psychological adaptation. The scale has demonstrated strong reliability, with a Cronbach's alpha of 0.852 and a retest reliability of 0.804.[29]

The Multidimensional Scale of Perceived Social Support, developed by Zimet et al., measures three dimensions of support: Family Support (FS), Friend Support (DS), and Significant Other Support (SO). This scale consists of 12 items rated on a 7-point scale, with higher scores indicating greater perceived social support.[30] Studies conducted with Chinese populations have shown good reliability, with a Cronbach's alpha of 0.95.[31]

The Basic Psychological Needs Scale, developed by Ryan and Sapp, assesses autonomy needs (AN), competence needs (CN), and relatedness needs (RN).[32,33] It comprises 21 questions rated on a 7-point Likert scale, with higher scores denoting greater satisfaction with basic psychological needs. The scale has displayed good reliability in the Chinese population, with a Cronbach's alpha value of 0.75.[34]

The Herth Hope Index, widely used in the health field,[35] evaluates three dimensions: Positive Readiness and Expectancy (RE), Temporality and Future Orientation (TF), and Interconnectedness with Self and Others (IC), representing positive attitudes, behaviors, and relationships.[36] This scale comprises 12 questions rated on a 4-point scale, with higher scores reflecting higher levels of hopefulness. The scale has a Cronbach's alpha of 0.97 and a retest reliability of 0.91.[37]

Data analysis

Descriptive statistics were analyzed using IBM SPSS 27, with AMOS 23 being

used to investigate the mediating role of hope and the relationships among all variables. Initially, measurement models were constructed for each variable to validate if the available indicators accurately described each latent variable. Following satisfactory results from the measurement model, the study proceeded to test the structural model using the maximum likelihood (ML) method. An effect was considered significant if the bias-corrected bootstrap confidence intervals from 5,000 iterations did not include zero.

Several indices were employed to evaluate the model fit: CMIN/DF, CFI, GFI, TLI, SRMR, and RMSEA. Typically, a good model fit is indicated by CMIN/DF < 3, CFI and GFI > 0.9, TLI > 0.9, SRMR < 0.08, and RMSEA < 0.08.[38,39] The CMIN/DF value is influenced by the model's complexity, with more complex models resulting in larger values. CFI, GFI, TLI, and RMSEA reflect the relationship between the study model and the baseline model or covariance, demonstrating the quality of the model fit. SRMR indicates the average difference between the observed and predicted correlations, with a lower value suggesting a better match between the study data and the model. These indicators are essential for evaluating the quality of the SEM. Additionally, the study presents the values of AIC and ECVI, highlighting the model's simplicity and generalizability across different environments. Typically, when other indicators meet the criteria, a smaller value indicates a better-fitting model. They can assist in selecting the most suitable model among these variables to reduce errors related to cross-sectional data. This aspect is a strength of the current study compared to other research.

Ethical Approval

The Ethical Committee of the Guiyang Maternal and Child Health Hospital, China, granted approval for this study on 22 July 2023 (Ref. No. HREC/MC20230027). This study used unique serial numbers instead of participant names, and only the data collector had the right to see full participant personal information. The researcher also did not investigate any sensitive or private information, only general demographic data.

RESULTS

Characteristics of sample

The female participants' ages in the study varied from 18 to 34 years, with an average age of 25.64 ± 3.31. Table 1 presents detailed demographic data. The majority of the participants had an undergraduate or lower educational level (90.02%). A significant portion of the participants were of Han ethnicity (77.05%). Nearly all of the participants had their first childbirth experience with a single child (92.22%), while a smaller percentage had two children or other conditions. In terms of delivery method, vaginal births were more common than caesarean sections (57.47% vs. 42.53%). The majority of the participants resided in nuclear families, comprising 62.87% of the total. Economically, most participants fell into the moderate category (57.09%). These findings offer a substantial background for comparison with other studies and participant samples.

Table 1. Basic information of the participants

Factor	Frequency (N,%)	Cumulative percentage (%)
Educational background		
Middle school	129(25.75)	25.75
High school	157(31.34)	57.09
Undergraduate	165(32.93)	90.02
Postgraduate	50(9.98)	100.00
Ethnicity		
Han	386(77.05)	77.05
Ethnic minority	115(22.95)	100.00
Number of babies (first birth)		
0 (miscarriage or infant death within 28 weeks)	25(4.99)	4.99
1	462(92.22)	97.21
2 or more	14(2.79)	100.00
Mode of delivery		
Normal birth	288(57.47)	57.47
Caesarean birth	213(42.53)	100.00
Family living style		
Self, partner, and children	315(62.87)	62.87
Owners and children/only living on their own	31(6.19)	69.06
Self, partner, children, and parents	155(30.94)	100.00
Economic condition		
Well off	151(30.14)	30.14
Moderate	286(57.09)	87.23
Difficult	64(12.77)	100.00

Descriptive statistics of variables

The study's descriptive statistics and correlations are presented in Table 2. PSS, BPNS, Hope, and PA exhibited moderate positive correlations with each other, as evidenced by correlation coefficients ranging from 0.406 to 0.518. This suggests a strong relationship between the variables, supporting the predictability of the model pathway based on them. Importantly, the correlation coefficients were lower than the square root of the average variance extracted (AVE), indicating good discriminant validity among these variables, thus enabling their clear differentiation.

Table 2. Descriptive statistics of variables

Variables	Correlations/discriminant validity				Descriptive statistics		
	PSS	BPNS	Hope	PA	Sample size	Mean	Deviation
PSS	**0.789**	-	-	-	501	5.3	0.897
BPNS	.429**	**0.778**	-	-	501	4.746	0.99
Hope	.518**	.445**	**0.754**	-	501	3.11	0.476
PA	.469**	.406**	.475**	**0.746**	501	3.379	0.733

**p* < 0.01

Note: Bold values in black are AVE open square roots; the rest are correlation coefficients.

Abbreviations:(PSS) Perceived Social Support; (BPNS) Basic Psychological Needs; (PA) Psychological Adaptability.

Measurement models

The study incorporated four latent variables (PA, PSS, Hope, and BPNS) along with 13 observational variables. The measurement model was assessed for each variable to confirm that the available observed variables effectively depicted each latent variable. The findings indicate that the data fit indices for the four latent variables aligned with the stipulated standards for CMIN/DF, CFI, GFI, TLI, SRMR, and RMSEA. Consequently, the construction of the structural model can be progressed.

Structural models

(i) Model one: Hope was tested as a mediator between PSS and PA. The data indicated an acceptable level of fit: CMIN/DF = 1.736; CFI = 0.985; GFI = 0.978; TLI = 0.979; SRMR = 0.030; RMSEA = 0.038; ACI = 101.56; and ECVI = 0.203. This suggests that Model 1 was acceptable.

(ii) Model two: Hope was tested as a mediator of BPNS and PA. The data showed an acceptable level of fit: CMIN/DF = 1.700; CFI = 0.986; GFI = 0.979; TLI = 0.980; SRMR = 0.031; RMSEA = 0.037; ACI = 100.394; and ECVI = 0.201. This suggests that Model 2 was acceptable.

(iii) Model three: Model 1 and Model 2 are combined to create Model 3. Model 3 showed a good fit: CMIN/DF = 1.487; CFI = 0.987; GFI = 0.974; TLI = 0.983; SRMR = 0.031; RMSEA = 0.031; ACI = 151.706; and ECVI = 0.303. Therefore, Model 3 is acceptable. The path coefficients estimated by the ML method are shown in Figure 1 and Table 4. The standardized coefficients of the variables are positive and the p-value is less than 0.001, indicating a significant positive correlation between PSS, PA, BPNS, and Hope.
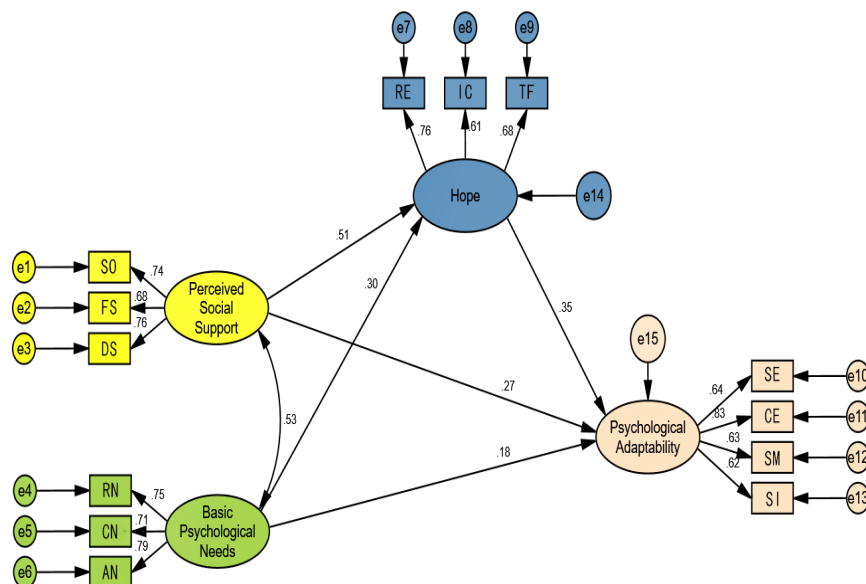

Figure 1. Standardized coefficients for the Model 3; N = 501; (RN) relatedness need; (CN) competence need; (AN) autonomy need; (FS) family support; (DS) friend support; (SO) significant other; (RE) positive readiness and expectancy; (TF) temporality and future orientation; (IC) interconnectedness with self and others; (CE) coping efficacy; (SE) self-esteem; (SI) social integration; (SM) spiritual meaning

Table 4. Path coefficients

Model pathways	Standardised	Non-standardised	SE	CR	p
PSS → Hope	0.511	0.3	0.041	7.298	***
BPNS → Hope	0.297	0.151	0.033	4.596	***
PSS → PA	0.269	0.196	0.057	3.413	***
BPNS → PA	0.184	0.116	0.041	2.852	0.004
Hope → PA	0.346	0.428	0.107	4.012	***

***$p < 0.001$

Bootstrapping

The bootstrap method was employed to examine the mediating role of hope in the relationship between Perceived Stress Scale (PSS), Basic Psychological Needs Satisfaction (BPNS), and Positive Affect (PA) in Model 3. Table 5 presents the direct and indirect effects among the latent variables, with the bias-corrected confidence levels set at 95%.

(i) Hope as a mediator between PSS and PA: Significant total and direct effects were observed between PSS and PA (CIs exclude 0). The indirect effect of PSS on PA through hope was found to be 0.177. The bias-corrected interval (95% CI = 0.052, 0.387) and percentile interval (95% CI = 0.049, 0.381) did not include 0,

indicating a significant mediating role of hope between PSS and PA.

(ii) Hope as a mediator between BPNS and PA: Significant total and direct effects were noted between BPNS and PA (CIs exclude 0). The indirect effect of BPNS on PA through hope was calculated to be 0.103. The bias-corrected interval (95% CI = 0.037, 0.264) and percentile interval (95% CI = 0.028, 0.235) did not contain 0, suggesting a vital mediating role of hope in the relationship between BPNS and PA.

In summary, the findings indicate that PSS and BPNS may influence PA either partially through hope as a mediator or directly impacting PA.

Table 5. Parameters and 95% CIs for Model 3

Model pathways	Estimated (standardized)	Bias-Corrected 95%CI		Percentile 95%CI	
		Lower	Upper	Lower	Upper
Total effect					
PSS→PA	0.446	0.315	0.581	0.319	0.584
BPNS→PA	0.287	0.145	0.432	0.141	0.427
Indirect effect					
PSS→Hope→PA	0.177	0.052	0.387	0.049	0.381
BPNS→Hope→PA	0.103	0.037	0.264	0.028	0.235
Direct effect					
PSS→PA	0.269	0.064	0.459	0.057	0.456
BPNS→PA	0.184	0.037	0.33	0.025	0.323

Alternative models

Utilizing cross-sectional data, the study examined various models to validate the suitability of Model 3. These models differed in the relationships and sequencing of the variables under study. The objective was to establish that no other composition of these variables exhibited a better fit than Model 3.

One alternative model, Model 4, involved hope as an exogenous variable, positive affect (PA) as an outcome variable, and perceived stress (PSS) and basic psychological needs satisfaction (BPNS) as mediating variables. Another alternative model, Model 5, featured hope as an exogenous variable, PA as a mediator variable, and PSS and BPNS as outcome variables. The analysis indicated that the Akaike Information Criterion (AIC) and Expected Cross-validation Index (ECVI) values for Models 4 and 5 were higher than those of Model 3, implying poorer generalizability, goodness of fit, and simplicity (Table 6). Consequently, Model 3 emerged as the favored model among the tested variables. Subsequent discussions will be centered on Model 3.

Table 6. Fit indices among alternative models

Models	CMIN/DF	CFI	GFI	TLI	SRMR	RMSEA	AIC	ECVI
3	1.487	0.987	0.974	0.983	0.031	0.031	151.706	0.303
4	1.64	0.982	0.971	0.977	0.0361	0.036	160.409	0.321
5	2.503	0.957	0.952	0.946	0.059	0.055	213.194	0.426

DISCUSSION

The relationship between PA and PPD is well-established. Activities like chatting and walking have been shown to help with PPD, but important advice was to enhance the mother's adaptability and acceptance of the illness. This approach may gradually alleviate PPD symptoms over time[40]. It is evident that improving PA is crucial to addressing PPD. Combined with the results, this section discusses two aspects: (i) The relationship between PA, PSS, BPNS and Hope. (ii) The mediating role of hope between PSS, BPNS, and PA. These insights clarify the mechanisms for improving PA.

The relationship of variables

Based on Tables 2 and 4, the four latent variables demonstrated moderately strong positive relationships with correlation coefficients ranging from 0.406 to 0.518. Furthermore, each path coefficient, ranging from 0.001 to 0.004, was found to be significant. This indicates a strong interconnectedness among these variables, providing a solid foundation for subsequent analysis.

(i) Perceived social support (PSS) was found to predict positive adaptation positively (PA). Women who have recently given birth often face significant pressure related to family and parenting responsibilities, seeking care and affection. The unfamiliarity and anxiety associated with first-time motherhood can heighten their emotional responses. Low et al. emphasized the significance of emotional support, which has been demonstrated to reduce postpartum depression (PPD) among Asian women.[41] When women experiencing PPD receive support and encouragement, they are more likely to embrace their new role as mothers, leading to improved psychological adjustment. Adaptation can be viewed as a process of achieving balance with one's environment. PSS, as a positive psychological factor, aids postpartum-depressed women in accepting

and responding positively to external stimuli, facilitating a transition from imbalance to balance. This finding supports research hypothesis H1.

(ii) Basic psychological needs satisfaction (BPNS) was shown to predict positive adaptation positively (PA). According to Maslow's mental health theory, mental illness can arise from an inability to recognize and meet one's own needs, resulting in a state of deprivation. Addressing basic needs and fostering personal development can help alleviate or manage mental disorders.[42,43] Women with PPD need to adjust to new roles and surroundings, necessitating autonomy and healthy relationships. Failure to fulfill these needs can impede their psychological growth and diminish adaptability. This outcome validates research hypothesis H2.

(iii) Hope was identified as a positive predictor of positive adaptation (PA). Adaptability is akin to a catalyst for growth, being synonymous with change, development, and progress. Hope and adaptability share a forward-looking orientation and are closely related to mental well-being.[44] Griggs proposed that hope is linked to enhanced coping mechanisms, acting as a buffer against depression and adverse life incidents, and serves as a safeguard against suicidal tendencies, encouraging participation in health-enhancing activities.[45] This finding is in alignment with research hypothesis H3.

Mediating role of hope

(i) Hope plays a partial mediating role between perceived social support (PSS) and positive affect (PA). The findings from Model 3 suggest that PSS has a direct impact on PA, as well as an indirect influence through hope. This indicates that hope and PSS both affect PA among postpartum-depressed women. Individuals with higher levels of PSS are inclined to view their surroundings positively, feeling supported and understood, which nurtures hope. PSS is embedded in the experience of

receiving support and is akin to an emotional bond. According to Snyder's hope theory, hope involves an emotional aspect where emotions regulate one's motivation and thought processes related to achieving hopeful outcomes. Furthermore, hope can serve as a protective factor, shielding individuals against negative influences and further connecting it to PA.[20,46,47] Postpartum-depressed women who perceive support, understanding, and love are likely to have positive expectations (high hope levels), enhancing their ability to cope with stress and adapt in the future. This study supports research hypothesis H4.

(ii) Hope acts as a partial mediator between basic psychological needs satisfaction (BPNS) and positive affect (PA). Model 3 reveals that BPNS can directly influence PA and indirectly impact psychological adaptability through hope. Consequently, both hope and BPNS affect PA among postpartum-depressed women. Hope is a valuable component of psychological well-being. When a person's basic needs are fulfilled, they might recognize their potential to accomplish their goals (the motivational aspect of hope), leading to a rise in hope levels. Numerous studies echo this notion. Deci and Ryan demonstrated the critical role of meeting basic psychological needs in promoting mental health and overall well-being. Autonomous needs and belonging/relatedness needs are sub-dimensions of BPNS strongly linked to lower motivation and performance.[48] This implies that unmet BPNS results in decreased motivation, subsequently manifesting as lower hope levels. An individual struggling to fulfill basic life needs is less likely to hold optimistic expectations for the future. Furthermore, since the understanding of mental health is continuously expanding, this study considers PA as a subset of mental health. Thus, the association with PA reflects the

connection between hope and mental health.

Limitations

The sample for this study was obtained from several maternal and child health centers in a single country, which may restrict the generalizability of the findings. Additionally, the research employed a cross-sectional design, potentially leading to issues with reverse causality among the variables. Nevertheless, to address this concern, the study thoroughly examined various models compared to prior research, and consistently found that Model 3 was the most suitable among the variables. It is recommended that future studies consider utilizing longitudinal designs to overcome this limitation.

RECOMMENDATIONS

The study indicates a strong connection between Positive Affect (PA) and Perceived Social Support (PSS), Basic Psychological Needs Satisfaction (BPNS), and hope, with hope playing a significant role as a mediator. This underscores the importance of enhancing PSS, BPNS, and hope in postpartum women with depression. In particular, strengthening hope can transform these factors into increased adaptability to challenging situations. Therefore, healthcare workers and family members can implement strategies to foster hope. For example, they can encourage women with PPD to set achievable milestones, helping them gradually regain a sense of control and develop positive expectations. Additionally, guiding them to exercise regularly and maintain a routine can support physical recovery after childbirth. Providing information about PPD also reduces feelings of helplessness and fear, boosting confidence in recovery.

Regarding BPNS, family members should allow women to engage in tasks within their capabilities, fostering a sense of accomplishment and autonomy. It's equally important to meet their needs for intimacy and love. For PSS, healthcare workers can offer counseling to address their illness, while family members need to provide emotional support and encourage them to connect with peers, helping to build strong social networks and resilience. In summary, these initiatives can enhance hope, BPNS, and PSS for women with PPD, thereby enhancing PA. Future research should explore a wider range of factors that may further improve PA or reduce postpartum depression.

CONCLUSION

The study underscores hope as a mediator between PSS/BPNS and PA in Chinese women experiencing postpartum depression. The study revealed positive correlations among the four latent variables. Hope emerges as a key factor that can significantly account for the variation in PSS and BPNS affecting PA, moderating the relationship between PSS/BPNS and PA to a certain extent.

ACKNOWLEDGEMENTS

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