



RESEARCH PAPER

The Association between Perceived Social Support, Perceived Stress, Coping Strategies and Quality of Life in Pregnant Females

¹Ayesha Ahmad and ² Dr. Rabia Mushtaq*

1. PhD Scholar, Institute of Clinical Psychology, University of Karachi, Karachi, sindh, Pakistan
2. Assistant Professor, Institute of Clinical Psychology, University of Karachi, Karachi, sindh, Pakistan

Corresponding Author

drrabiamushtaq.icp@gmail.com

ABSTRACT

This study investigated the predictive association of perceived social support, perceived stress, coping with the quality of life of pregnant women in Pakistan. Motherhood is transformative journey of fulfillment, and involves physiological and emotional shifts, impacting QoL. Social support and effective coping helps mother to reduce the detrimental effects of stress and maintain QoL. 200 pregnant females were selected from the Gynecology departments of various hospitals of Karachi, Pakistan by using purposive sampling technique. Semi-structured interview form, Urdu versions of Multidimensional Scale of Perceived Social Support, Perceived Stress Scale, Coping Strategy Questionnaire-Short Form, and Quality of Life Questionnaire for Physiological Pregnancy were administered. Perceived social support, perceived stress and coping strategies have been found as significant predictors of QOL. The development and implementation of health friendly policies and interventions for pregnant ladies can play a significant role throughout pregnancy, and after child birth to maintain the QoL of both the mother and child.

Keywords: Perceived Social Support, Perceived Stress, Coping Strategies, Quality of Life Pregnant Women

Introduction

The journey of pregnancy and motherhood is transformative, offering fulfillment and joy alongside natural concerns. This phase entails both physiological and emotional shifts, impacting quality of life even in uncomplicated pregnancies (Lagadec et al., 2018). Many stressors are linked to it. Women might find themselves preoccupied with the idea of its unbearable situations (Maharlouei, 2016). Social support enhances quality of life by enhancing stress-coping abilities (Bedaso et al., 2021), crucial as prenatal stress can detrimentally affect pregnant women's quality of life (Bedaso et al., 2023).

Furthermore, this metaphor of QoL encompasses aspects that reflect an individual's personal evaluation of life, in positive or negative terms. It involves perceptions of mental wellbeing and physical health which notably influences the overall health status of mothers (Erbas, 2017).

Studies has also proved that QoL in pregnant mothers can be impacted by factors such, as social connections embracing pregnancy adjusting family dynamics redefining the mother's role and readiness, for childbirth being pregnant (Calou et al., 2018). These transitions necessitate that a pregnant woman takes on responsibilities. While the changes experienced during pregnancy are temporary, they can significantly impacts the QOL of a pregnant woman (Lagadec et al., 2018) Pregnant women undergo changes that impact their health and quality of life in ways. Research indicates that expectant mothers who perceive and receive social support tend to have improved psychological wellbeing (Jafaru et al., 2022).

Having a support network during pregnancy can make it easier to handle the physical and emotional difficulties, which can lead to improved quality of life for both the mother and the child (Al-Mutawtah et al., 2023). Social support refers to the help provided to someone, by others through interactions (Dambi et al., 2018). Strong social connections can have an impact, on wellbeing and QOL either by providing direct support or by serving as a shield during times of stress (Battulga et al., 2021). Perceived social support refers to how individuals perceive the accessibility of assistance considering their satisfaction, with the support received and its availability (McLean et al., 2023).

When we face situations that throw off our wellbeing and limit our routines, we feel stressed. This feeling turns into perceived stress when we see the situation, as a threat and handle it through our thoughts (Deo et al., 2020). Mothers' perception of stress is affected by aspects of pregnancy can lead to adverse impacts on the QOL, for both the mother and the child (Kashanian et al., 2021).

Coping strategies for dealing with stress can greatly impact a mothers QOL in areas such as her physical health, mental wellness, social connections, and environmental surroundings (Williamson et al., 2023). Research has shown that the coping mechanisms used to manage stress is having an influence on a woman's physical and psychological QOL. Studies indicate that engaging in activity and maintaining a diet can enhance the physical health of women during pregnancy (Morris et al., 2020). Additionally, how mothers cope with challenges can influence their interactions while they are expecting a baby.

Reaching out to loved ones, like partners, family and friends can strengthen bonds. Offer emotional comfort to expectant mothers. Coping strategies, for dealing with challenges can impact how expectant mothers view and interact with their surroundings. Strategies that involve adjusting to social and physical changes like gathering information and preparing for future can help create a favorable outlook on the world, around them (Amin et al., 2024).

Literature Review

Perceived Stress Stress is a feeling experienced general by almost everyone. It can be a response or an outcome to a specific situation that put demand physical as well as psychological on individual which is called stressors. Social Cognitive Theory (Bandura, 1989; Moosavinasab et al., 2018) and Stress and Coping theory (Lazarus & Folkman, 1984) provides the theoretical framework for this research. The theory proposed that for an event to be counted as stressful, it must be seen as threat, and perceive his/her coping resources unavailable or less than adequate coping which further impact QoL of an individual.

Perceived Social Support has been defined as an individual's perception about his/her resources that may play a buffering role during stressful situations in life (Zimet et al., 1988). PSS has been found as one of the significant means to overcome the harmful effects of stress, as well as improve coping and problem-solving skills (Kim et al., 2014; Waite et al., 2011). Zimet and colleagues (Zimet et al., 1988) measured PSS on three dimensions i.e., family, friends and significant others. Liu et al. (2009), describe PSS as social coping resource in which people help each other to promote each other's' well-being which ultimately enhance one QoL. Parents, siblings, spouses, friends, or significant others may be considered sources of the provision of SS (Adam et al., 2003).

Coping Strategies have been suggested as struggle against internal and external challenges, conflicts and adversities. According to Lazarus and Folkman (1984), coping as ongoing cognitive and behavioral efforts to manage internal as well as external demands that are perceived as taxing the resources of the individual. As per the definition, it's a process not a characteristic rather a functional intervention in times of need by putting the

conscious efforts. Williamson et al. (2023) found that coping in terms of social connectivity, mental and physical health help them improve QoL of mothers by reducing stress.

Quality of Life is considered as a person's perception of their position in life according to the values and culture of their own in relation to their goals, expectations, standards and concerns (WHO, 1995). It has been discussed that perceived QoL of females is vital to prenatal health concept, and includes physical, psychological and social domains that can be influenced by various events both clinical and non-clinical, and remained significant for females during pregnancy (Jomeen & Martin, 2012). Perception of having support networks and adequate coping strategies help pregnant females maintain their QoL during and after pregnancy (Lagadec et al., 2018).

Studies that have been conducted have neglected the significance of certain aspects when investigating social support, the specific stresses that Pakistani women encounter, and the coping techniques that they use. In addition, there is a dearth of research that investigates the ways in which all of these variables combine to influence quality of life during the different phases of pregnancy. As an additional point of interest, an evaluation has been carried out to determine the efficacy of support systems and treatments that have been particularly tailored for Pakistani women. By undertaking quantitative and qualitative research that are methodologically sound in order to address these gaps, significant insights may be discovered that can lead to the creation of improved support and intervention methods that are targeted at improving the quality of life for pregnant women in Pakistan.

The study aimed to find the inter-relationship between perceived social support, perceived stress, and coping strategies on QoL of pregnant women.

Material and Methods

Sample

The sample of the study includes 200 pregnant women with the age from 20 to 40-years ($X=26.62$, $SD=4.58$) selected from maternal health sections of public and private hospitals in Karachi-Pakistan from November 2022 to January 2023. Researchers employed purposive sampling to incorporate a range of sample characteristics. The investigation concentrated on mothers to be, in their first pregnancy and, across all trimesters, to fully grasp their individual experiences throughout this special time. Individuals with existing health issues such as heart conditions and diabetes were not included in the study to focus on the effects of pregnancy on individuals. Additionally, women with known psychiatric disorders or those taking medications were not included to better understand how pregnancy impacts mental wellbeing. By selecting participants from this group, the study aims to uncover the unique experiences of first pregnancies, within this age bracket.

Measures

Semi-Structures Interview Form: In this study, a demographic form was used to take demographic information of the participants (i.e., age, education, socio-economic status, gestation period, planned or unplanned pregnancy, and residential area).

Multidimensional Scale of Perceived Social Support: MSPSS was developed by Zimet et al. (1990) to measure the perception regarding the level of support from family, friends, and significant others. The scale consists of 12-items with 7-point Likert scale ranges from 1= "Strongly Disagree" to 7= "Strongly Agree". The internal consistency of the scale was determined to be .89 for the overall score.

The Perceived Stress Scale: The PSS (Cohen et al., 1983) consists of 10-items developed to measure the perceived level of stress during the past month. When it comes to

scoring, it has 5-point Likert type scale from “never” = 0 to “Very often” = 4. The Perceived Stress Scale-10 has a high level of reliability, as seen by Cronbach's α value of 0.78, while, for the Urdu-version of the scale, internal consistency was found as .83.

The Coping Strategies Inventory Short Form: The SCI-SF (Tobin et al., 1989) consists of 32 items designed to evaluate coping strategies through three categories. The first category, referred to as the Primary Subscale demonstrating a reliability of .70 encompasses aspects such, as problem solving, changing thought patterns, expressing feelings, social interactions, avoiding problems, wishful thinking, self-criticism and withdrawing socially. The Secondary Subscale demonstrates a reliability of .82 combines these elements into problem focused engagement, emotion focused engagement, problem focused disengagement and emotion focused disengagement. Additionally, the Tertiary Subscale with a reliability of .90 further organizes these strategies into engagement and disengagement categories. Participants need to evaluate each item using a 5-point Likert scale ranging from "a lot", to "not all."

Quality of Life Questionnaire for Physiological Pregnancy: For the purpose of determining the quality of life (QoL) of women who are expecting, Vachkova et al. (2013) developed a questionnaire consisting of nine items with 5-point likert scale. In the present investigation, the Urdu version of the QOL-GRAV-U scale (Ishaq et al., 2021) was used. The overall mean score of the questionnaire may be determined by adding up the scores of each individual item and then dividing that amount by the total number of items in the questionnaire. Mean scores that are lower imply a greater quality of life, whilst mean scores that are higher suggest a worse quality of life among the population.

Procedure

The participants were approached after the consent from hospitals authorities. Following that, written consent was gained from each of the participants through signing the consent form for their voluntarily participation. They were also assured about the confidentiality and anonymity of the data and that the data will only be used for the research purpose. A semi-structured interview form was used to take personal information and then they were requested to fill-out a set of questionnaires related to the objective of this study that took approximately 20-25 minutes to get it filled by each participant individually while they were waiting for prenatal care services. Data collection was followed by data analysis that was done by using SPSS, V-25. The Regression analysis was performed to examine the predictive association between the variables that were being investigated in this research.

Results and Discussion

The socio-demographics of the participants in the study included age, education, socio economic status, gestation period, and a question related to planned or unplanned pregnancy.

Table 1
Demographic Characteristics of Sample N=200

Characteristics	F	%
Education		
Middle	07	2.0
Matric	19	9.5
Intermediate	33	16.4
Graduation	31	17.4
Masters	48	23.9
Postmasters	62	30.8
Occupation		
Student	11	5.5
Govt. Employee	4	2.0

Private job	28	14.4
Homemaker	153	76.1
Other	4	2.0
Socioeconomic Status		
Poor	16	8.0
Lower Middle	80	39.8
Middle	82	41.3
Upper Middle	22	10.9
Gestational period		
1 st Trimester	42	20.9
2 nd Trimester	63	31.8
3 rd Trimester	95	47.3
Planning		
Yes	124	62.2
No	76	37.8

Mean Age: 26.64, SD= 4.58

Table 2
Summary of Linear regression analysis with Perceived Social Support as a predictor of QOL of Pregnant women

Predictor	R	R ²	F	Sig
PSS	.180	.032	6.47	8.008

Table 3
Coefficients of Linear Regression with Perceived Social Support as a predictor of QOL of Pregnant women

Variable	Beta	SE	β	T	Sig
Constant	25.15	2.48		10.13	.000
PSS	.097	.038	.180	2.54	.012

Dependent Variable: Quality of Life, *p<.05

Table 4
Summary of Linear regression analysis with Perceived Stress as a predictor of QOL of Pregnant women

Predictor	R	R ²	F	Sig
PS	.148	.022	4.35	8.05

Table 5
Coefficients of Linear Regression with Perceived Stress as a predictor of QOL of Pregnant women

Variable	Beta	SE	β	T	Sig
Constant	28.77	1.33		21.48	.000
PS	-.132	.063	-.148	2.08	.038

Dependent Variable: Quality of Life, *p<.05

Table 6
Summary of Linear regression analysis with Coping Strategies as a predictor of QOL of Pregnant women

Predictor	R	R ²	F	Sig
CS	.11	.000	.024	.877

Table 7
Coefficients of Linear Regression with Coping Strategies as a predictor of QOL of Pregnant women

Variable	Beta	SE	β	T	Sig
Constant	30.95	2.32		13.32	.000
CS	.005	.035	.011	.155	.877

Dependent Variable: Quality of Life,

Conclusion

During pregnancy women experience emotional changes. These transformations, in cases of pregnancies can impact the wellbeing of expectant mothers and have implications, for the health of both mother and baby (Lagadec et al., 2018). In the current research the predictive relationship of perceived social support, perceived stress, coping strategies and QOL of pregnant women was assessed and the results showed that perceived social support positively and significantly predicts QOL. Perceived stress negatively and significantly predicts QOL whereas coping strategies does not significantly predict QOL. Many past studies are consistent with these results as Lagadec et al. (2018) indicated that pregnant women's quality of life was influenced by factors such as perceived social support, partner support and being pregnant for the first time. Research that has been around, for a time indicates that pregnant ladies receive support from their partners and family members can help protect them from experiencing mental effects directly or indirectly (Battulga et al., 2021). The results of this study are also consistent, with the study by a group of researchers who examined how social support immediately affects Health Related Quality of Life (Bedaso et al., 2021). During pregnancy having strong social support boosted women's perception of their experiences. Research has shown that the balance, between challenges and benefits in life is linked to the level of support perceived and received. Those with support tended to have more uplifting moments and better quality of life while those, with limited support faced fewer hassles (Malik et al., 2023)

According to results of the study of (Kayabaşı & Yaman Sözbir, 2022) perceived stress had a continuous negative affect on QOL of pregnant women. Studies has indicated that feelings of distress, during pregnancy can negatively impact the QOL for expecting women (Aarts et al., 2011; Kayabaşı & Yaman Sözbir, 2022; Maroufizadeh et al., 2017).

Bedaso et al. (2023) investigated that perceived stress is negatively correlated with QOL of pregnant women and social support worked as a mediator in the connection between perceived stress and quality of life. Other studies also revealed that low perceived stress was the cause of high QOL in women with pregnancy (Lau & Yin, 2011; Shishehgar et al., 2014; Shishehgar et al., 2013)

In terms of coping strategies, the results are different from the study of (Rastin et al., 2018) and other researchers indicating that employing problem solving coping methods has resulted in reduced anxiety levels and thereby increasing QOL of expectant mothers with a predisposition, to fetal abnormalities. One possible explanation, for why coping methods may not lead to a QOL in pregnant women is the varying effectiveness of different coping techniques. While certain approaches like problem solving and seeking support from others are generally helpful others enhance QOL but coping methods such as avoiding or denying issues may not necessarily enhance QOL or could even contribute to increased stress. A study by Mirabzadeh et al. (2013) indicates that positive coping strategies are associated with good QOL. This diversity indicates that a uniform coping strategy may not be suitable for everyone resulting in inconsistent outcomes in the relationship between coping methods and QOL.

Another factor to consider is the nature of QOL itself which is influenced by factors beyond coping mechanisms. These factors encompass wellbeing, status, access to healthcare services and personal connections. Even if effective coping strategies are employed if these other aspects are unfavorable there may not be an enhancement in QOL. For example, a pregnant woman who utilizes effective coping mechanisms but experiences difficulties or lacks access, to quality healthcare services could still report low QOL. The intricate nature of this situation implies that although coping mechanisms play a role they should be viewed within the context of other factors impacting the quality of life for expectant mothers.

The research inquired into how perceived support, perceived stress coping mechanisms and quality of life (QOL) interrelate, in pregnant mothers. The results suggested that higher social support is linked to increased QOL while increased stress is associated with decreased QOL. Surprisingly coping strategies did not show an impact on QOL. These findings highlight the significance of social support and stress management interventions in boosting the wellbeing and QOL of pregnant women. It indicates the need for exploration into these aspects and other factors influencing QOL during pregnancy, in future studies.

Some of the potential limitations of the study are that a cross sectional study can only gather information at a moment, which can pose challenges, in determining connections, between different research variables. Cultural influences can play a role, in how individuals view and communicate support, stress and coping mechanisms. The results of the research may be relevant to the background of the participants may not necessarily apply to expectant mothers, in diverse cultural environments. The research may not consider the shifts, in perceived support, stress levels coping mechanisms and quality of life throughout pregnancy. It is important to conduct longitudinal studies to explore the evolution of these factors as pregnancy progresses.

Recommendations

To enhance the elevate their QoL of mothers in Pakistan, it is crucial for healthcare professionals to focus on strengthening support systems, integrating mental health evaluations and stress management strategies into prenatal services. Provided training, for healthcare staff and educating families about their responsibilities in offering practical aid is essential. Government officials should advocate for maternal mental health services and financial aid for underprivileged women. Further research should explore cultural influences, conduct long term studies to assess the benefits of targeted interventions in improving the health of expectant mothers and pregnancy outcomes.

References

- Aarts, J. W. M., Van Empel, I. W. H., Boivin, J., Nelen, W. L., Kremer, J. A. M., & Verhaak, C. M. (2011). Relationship between quality of life and distress in infertility: A validation study of the Dutch FertiQoL. *Human Reproduction*, 26(5), 1112-1118 <https://doi.org/10.1093/humrep/der051>
- Adam, A. N., Adams, M. A., & Miltenberger, R. G. (2003). Habit Reversal. In W. O'Donohue, J. E. Fisher, & S. C. Hayes (Eds.), *Cognitive behavior therapy: Applying empirically supported techniques in your practice*. New York: John Wiley & Sons, Inc.
- Al-Mutawtah, M., Campbell, E., Kubis, H. P., & Erjavec, M. (2023). Women's experiences of social support during pregnancy: a qualitative systematic review. *BMC Pregnancy and Childbirth*, 23(1), 782-801 <https://doi.org/10.1186/s12884-023-06089-0>
- Amin, F., Tali, T. A., Shah, S., & Ara, R. (2024). Pregnancy, stress and coping techniques: a review. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 13(3), 784-788 <https://doi.org/10.18203/2320-1770.ijrcog20240500>
- Anjum, W., Munawar, N., Habib, S., Watto, S. A., Alyana, S. I. (2022) Linking Psychological Well-Being to Coping Strategies: The Moderating Role of Perceived Academic Stress Among Undergraduate University Students. *Webology*, 19(1), 8559-8572.
- Bandura, A. (1989). Human Agency in Social Cognitive Theory Albert Bandura Stanford University. *American Psychologist*, 44(9), 1175-1184
- Battulga, B., Benjamin, M. R., Chen, H., & Bat-Enkh, E. (2021). The Impact of Social Support and Pregnancy on Subjective Well-Being: A Systematic Review. *Frontiers in Psychology*, 12, 1-21. <https://doi.org/10.3389/fpsyg.2021.710858>
- Bedaso, A., Adams, J., Peng, W., & Sibbritt, D. (2021). The relationship between social support and mental health problems during pregnancy: a systematic review and meta-analysis. *Reproductive Health*, 18(1), 162. <https://doi.org/10.1186/s12978-021-01209-5>
- Bedaso, A., Adams, J., Peng, W., & Sibbritt, D. (2023). The direct and mediating effect of social support on health-related quality of life during pregnancy among Australian women. *BMC Pregnancy and Childbirth*, 23(1), 372. <https://doi.org/10.1186/s12884-023-05708-0>
- Calou, C. G. P., de Oliveira, M. F., Carvalho, F. H. C., Soares, P. R. A. L., Bezerra, R. A., de Lima, S. K. M., Antezana, F. J., de Souza Aquino, P., Castro, R. C. M. B., & Pinheiro, A. K. B. (2018). Maternal predictors related to quality of life in pregnant women in the Northeast of Brazil. *Health and Quality of Life Outcomes*, 16(1), 109. <https://doi.org/10.1186/s12955-018-0917-8>
- Dambi, J. M., Corten, L., Chiwaridzo, M., Jack, H., Mlambo, T., & Jelsma, J. (2018). A systematic review of the psychometric properties of the cross-cultural translations and adaptations of the Multidimensional Perceived Social Support Scale (MSPSS). *Health and Quality of Life Outcomes*, 16(1), 80. <https://doi.org/10.1186/s12955-018-0912-0>
- Deo, B. K., Sapkota, N., Kumar, R., Shakya, D. R., Thakur, A., & Lama, S. (2020). A Study on Pregnancy, Perceived Stress and Depression. *Journal of BP Koirala Institute of Health Sciences*, 3(1), 79-87. <https://doi.org/10.3126/jbпкиhs.v3i1.30331>
- ERBAS, N. (2017). Determination of Quality of Life and Affecting Factors in Pregnant Women. *International Journal of Nursing Didactics*, 07(09), 8-12.

- Gulzar, M., Alyana, S. I., Razzaq, W & Sher, A (2024) Tolerance for Disagreement, Psychological Distress and Quality of Life among Married Couples. *International Journal of Contemporary Issues in Social Sciences*, 3(2), 913–921
- Imran, H., Alvi, Q., Ahmad, R., Zulfiqar, K & Alyana, S. I., (2023). Perceived Social Support, Coping Strategies and symptoms of Post-Traumatic Stress Disorder among Rescue Workers In Pakistan . *Russian Law Journal*, XI (6), 1238-1252.
- Jafaru, Y., Musa, M. M., & Sani, G. W. (2022). Predictors of perceived social support, quality of life, and resilience in pregnancy. *International Journal of Nursing and Health Services (IJNHS)*, 5(5), 403-411. doi: <https://doi.org/10.35654/ijnhs.v5i5.580>
- Jomeen, J., & Martin, C. (2012). Perinatal quality of life: is it important for childbearing women? *Pract Midwife*, 15(4), 30-34.
- Kashanian, M., Faghankhani, M., Yousefzadeh, Roshan, M., EhsaniPour, M., & Sheikhsari, N. (2021). Woman's perceived stress during pregnancy; stressors and pregnancy adverse outcomes. *Journal of Maternal-Fetal and Neonatal Medicine*, 34(2), 207-215. <https://doi.org/10.1080/14767058.2019.1602600>
- Kayabaşı, Ö., & Yaman Sözbir, Ş. (2022). The relationship between quality of life, perceived stress, marital satisfaction in women conceived through ART. *Journal of Reproductive and Infant Psychology*, 40(2), 108-117.
- Kim, J. M., Stewart, R., Kim, S. W., Kang, H. J., Kim, S. Y., Lee, J. Y., Bae, K. Y., Shin, I. S., & Yoon, J. S. (2014). Interaction between a serotonin transporter gene, life events and social support on suicidal ideation in Korean elders. *J Affect Disord*, 160, 14-20
- Lagadec, N., Steinecker, M., Kapassi, A., Magnier, A. M., Chastang, J., Robert, S., Gaouaou, N., & Ibanez, G. (2018). Factors influencing the quality of life of pregnant women: A systematic review. *BMC Pregnancy and Childbirth*, 18(1), 455. <https://doi.org/10.1186/s12884-018-2087-4>
- Lau, Y., & Yin, L. (2011). Maternal, obstetric variables, perceived stress and health-related quality of life among pregnant women in Macao, China. *Midwifery*, 27(5), 668-673. <https://doi.org/10.1016/j.midw.2010.02.008>
- Lazarus, R. S., & Folkman, S. (1984). Stress, Appraisal, and Coping - Richard S. Lazarus, PhD, Susan Folkman, PhD. *Health Psychology: A Handbook*.
- Liu, Q., Nagata, T., Shono, M., & Kitamura, T. (2009). The effects of adult attachment and life stress on daily depression: A sample of Japanese university students. *Journal of Clinical Psychology*, 65, 639-652.
- Maharlouei, N. (2016). The Importance of Social Support During Pregnancy. *Women's Health Bulletin*, 3(1):e34991. <https://doi.org/10.17795/whb-34991>
- Malik, A., Park, S., Mumtaz, S., Rowther, A., Zulfiqar, S., Perin, J., Zaidi, A., Atif, N., Rahman, A., & Surkan, P. J. (2023). Perceived Social Support and Women's Empowerment and Their Associations with Pregnancy Experiences in Anxious Women: A Study from Urban Pakistan. *Maternal and Child Health Journal*, 27(5), 916-925. <https://doi.org/10.1007/s10995-023-03588-6>
- Maroufizadeh, S., Ghaheri, A., & Omani Samani, R. (2017). Factors associated with poor quality of life among Iranian infertile women undergoing IVF. *Psychology, Health and Medicine*, 22(2), 145-151. <https://doi.org/10.1080/13548506.2016.1153681>

- McLean, L., Gaul, D., & Penco, R. (2023). Perceived Social Support and Stress: a Study of 1st Year Students in Ireland. *International Journal of Mental Health and Addiction*, 1-21. Advance online publication. <https://doi.org/10.1007/s11469-021-00710-z>
- Mirabzadeh, A., Eftekhari, M. B., Forouzan, A. S., Sajadi, H., & Rafiee, H. (2013). Relationship between ways of coping and quality of life in married women: Toward mental health promotion. *Iranian Red Crescent Medical Journal*, 15(8), 743-748. <https://doi.org/10.5812/ircmj.12728>
- Moosavinasab, M. S., Fahami, F., & Kazemi, A. (2018). The Relationship between Cognitive Social Theory and Physical Activity in Pregnant Women. *International Journal of Pediatrics*, 6(11), 8527-8535. <https://doi.org/10.22038/ijp.2018.32649.2879>
- Morris, T., Strömmer, S., Vogel, C., Harvey, N. C., Cooper, C., Inskip, H., Woods-Townsend, K., Baird, J., Barker, M., & Lawrence, W. (2020). Improving pregnant women's diet and physical activity behaviours: The emergent role of health identity. *BMC Pregnancy and Childbirth*, 20(1), 244. <https://doi.org/10.1186/s12884-020-02913-z>
- Rastin, S. J., Khoshnevis, E., & Bafghi, S. M. M. (2018). The effectiveness of problem-focused coping strategies training on Quality of Life in pregnant women with genetic risk of fetal abnormalities. *Journal of Community Health Research*, 7(3), 192-199.
- Shishehgar, S., Dolatian, M., Majd, H. A. lavi, & Bakhtiary, M. (2014). Perceived pregnancy stress and quality of life amongst Iranian women. *Global Journal of Health Science*, 6(4), 270-277. <https://doi.org/10.5539/gjhs.v6n4p270>
- Shishehgar, S., Mahmoodi, A., Dolatian, M., Mahmoodi, Z., Bakhtiary, M., & Majd, H. A. (2013). The relationship of social support and quality of life with the level of stress in pregnant women using the PATH model. *Iranian Red Crescent Medical Journal*, 15(7), 560-565. <https://doi.org/10.5812/ircmj.12174>
- Tobin, D. L., Holroyd, K. A., Reynolds, R. V., & Wigal, J. K. (1989). The hierarchical factor structure of the coping strategies inventory. *Cognitive Therapy and Research*, 13(4), 343-361. <https://doi.org/10.1007/BF01173478>
- Waite, E. B., Shanahan, L., Calkins, S. D., Keane, S. P., & O'Brien, M. (2011). Life events, sibling warmth, and youth's adjustment. *J Marriage & Family*, 73(5), 902-912. doi: 10.1111/j.1741-3737.2011.00857.x
- Whoqol Group. (1995). The World Health Organization Quality of Life assessment (WHOQOL): position paper from the World Health Organization. *Soc Sci Med*, 41(10), 1403-1409. doi:10.1016/0277-9536(95)00112-k
- Williamson, S. P., Moffitt, R. L., Broadbent, J., Neumann, D. L., & Hamblin, P. S. (2023). Coping, wellbeing, and psychopathology during high-risk pregnancy: A systematic review. *Midwifery*, 116, 103556. <https://doi.org/10.1016/j.midw.2022.103556>
- Zimet, G.D., Dahlem, N.W., Zimet, S.G., & Farley, G.K. (1988). The Multidimensional Scale for Perceived Social Support. *Journal of personality assessment*, 52(1), 30-41