



Abortion and post-traumatic stress disorder

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Abstract

The relationship between abortion and post-traumatic disorder is explored through a literature review. Abortion is one of the most performed medical procedures in the world, with most of the reasons for performing the procedure being socioeconomic and childbearing limitations. Elective abortion generally shows a satisfactory psychological result. However, miscarriages show a higher tendency to develop depression and post-traumatic disorder. Many studies support the correlation between post-traumatic disorder as a consequence of abortion. A factor of consideration for this study is women’s prior mental health, which largely impacted their mental health after the abortion procedure. The study is limited by scarce results or various methodologies, making it hard to compare. From the findings, it is suggested that there is a correlation between abortion and post-traumatic stress disorder.

Keywords: Abortion, post-traumatic stress disorder, psychological health

Introduction

Abortion has been one of the most performed medical procedure in the world with 73 million procedure performed worldwide each year [1]. There are variety of reasons into why a woman chose to undergo abortion: postpone/space childbearing, wants no (more) children, socioeconomic concerns, partner-related, women immaturity, maternal health risk, fetal health risk and others [2]. Out of the study in 14 countries, the most frequently stated reasons are socioeconomic concerns and child bearing limitation [3, 4]. In the last three decades, the claims about abortion causing post-traumatic stress disorder (PTSD) resulted in legislations and many actions pursued to dissuade women from having an abortion [5, 6]. However, in evidence-formed studies which examined the causal relationship between abortion and the consequent PTSD has proved that there is no evidence to support the claim of abortion influencing PTSD when the situation is permissive, secure and legitimate, although, studies also accounted the requirement for a more thorough studies that consider

other factors that may causes PTSD such as preceding psychological conditions and lifetime encounter of abuse [7, 8]. This review aims to explore the relationship between abortion and post-traumatic stress disorder (PTSD) and other relevant psychological impacts.

Abortion

According to statistics, 20% of pregnant women has an abortion which is a significant number [5, 9]. Furthermore, the risk of abortion is higher in emergent nations that in industrialised nations [10, 11]. Miscarriages may traumatised the mother as it is abrupt and unforeseen [12]. Therapeutic induced abortion is the procedure that is conducted for medical reasons [13, 14]. While in an elective abortion, the pregnant woman volitionally requests a medical termination of pregnancy (MTP) [15]. In both situations, time may be given to the woman for her psychological preparation for this procedure [16]. Abortion is a frequent life situation for women with an approximation of 20% of women undergone

1 abortion in their lifetime [5, 17]. Lately, issues have been addressed about the consequence of abortion on women's psychological risks such as anxiety. Several researchers have concluded a connection between pregnancy outcome and anxiety [18]. In comparison to men, women have higher percentage of anxiety with an estimation of 43% of females will endure at least one anxiety disorder in their lifetime, therefore, it is common for some women who have had an abortion to have an anxiety symptoms [11, 19, 20]. The questions conveyed are do women who had undergone abortion procedure have higher chances of anxiety than others, and if so, how might the relationship between abortion and anxiety be interpreted [20, 21]. To answer the questions above is complicated due to abortion intertwined with several life situations that are linked to negative psychological effects, especially in unplanned pregnancy [22]. Approximately 92% of the pregnancies with the outcome being an abortion are unplanned as opposed to 31% of all births [23]. The contrast between women who undergo an abortion and other category of women, therefore, must take this factor into consideration [24]. One of the ways to discuss the connection between pregnancy outcome and pregnancy purpose is to inspect the pregnancy outcome in the groups of women who had unplanned pregnancy. Alternately, one could control for experiences relating to anxiety, unplanned pregnancy, or abortion [25, 26].

According to statistics gathered in Ghana and Mozambique on the prevalence of pregnancy termination, the results shows that abortion occurred more frequent in richest wealth status, living in the urban area, employed and separated from their spouse [27]. However, it also contrasts with the data that women with primary/no education have higher frequency of abortion [27].

Abortion and subsequent mental health

There were studies which prove abortion to be a health risk to successive psychological illness in comparison to childbirth; evidences even display that when analysed with other two feasible results: miscarriage or birth of an unintended child, the possibility is more likely or alike [9]. Consequent psychological illness is linked to its possible hazard being miscarriage, even though indications for this hazard have not been examined so extensively and

appear less than that of abortion [28]. Several results can be concluded [29]. Firstly, the loss of a fetus is distressing. It is a component in causing psychological illnesses – in regarding to miscarriage and abortion – and its influence to woman's livelihood can be mistakenly overlooked [13]. The majority of research analysed shown the fact of abortion has a larger influence on women's psychological wellbeing than childbearing; while the rest of the researches prove a comparable mental effect and only one has noted an aggravated result for childbearing. Indeed the birth of an unplanned child is often distressing, however, abortion seems to be doubly traumatic or alike in terms of mental outcomes; this need to be consider when counseling women who is agitated by an unwanted pregnancy [15]. Women should be well-informed when making their decisions. It is a fact that physical wellbeing is more than mental wellbeing; but psychological issues and the possibility of it after an abortion procedure cannot be ignore, in counselling women [10, 11].

The figure convey that the higher engagement from the national health system in clinical follow up of women who had a fetal loss proves to be prudent: miscarriage and elective abortion can have an unfavourable psychological outcome and this should be taken into consideration, to follow up with women who have had a fetal loss [30]. Especially since elective abortion is one of the most performed medical procedure in the world: 1.29 million cases were undergone in the USA in 2008 [31]. Therefore, it is vital to observe women who experienced abortion to prevent unfavourable psychological outcomes even though the discourse in this area is restricted to ethical and morality concerns [16, 19]. In addition, it was highlighted that there is also a concerning public health issue [17]. The discourse in this topic does not currently cross the moral boundaries; thus, it is necessary to research the hypothesis of abortion being an independent risk factor for psychological issue and conduct further studies [32, 33].

Only a scarce amount of the retrieved research has an expected result; removed the extraneous determinant for the data interpretation; or used authenticated assessment tools [34]. On the other hand, majority of the researches used data retrieval from a large database on female health, and this is the weakness in these researches, due to the fact that confounding

variables cannot be removed as health evaluation is conducted at various times from the event, and due to abortion causes are not examined [14, 35]. The main limitation to the potentiality of reaching the conclusion about negative psychological effects from abortion, is the insufficiency and the diverseness of the researches [36]. Distinct effects are examined (depression, anxiety disorders and substance abuse disorders as well as several psychological symptoms), a variety of scales and surveys have been used to collect the data, and dissimilar age groups have been studied, causing the process of comparing and concluding the information to be difficult. However, a correlation between abortion and consequent potential chance of mental risks appear to be rational [37, 38]. Additional study is necessary for this area and it requires large longitudinal, prospective research which examines the many contextual variables and potential extraneous determinant related to undergoing elective abortion and psychological health state [39]. Succeeding study is required to clear up the system which connects abortion to variety of illness and to interpret the attributes of women most at risk of developing a specific psychological disorder [40].

Abortions and psychological health

Researchers from six different groups: the National National Collaboration Centre for Mental Health (NCCMH), the Academy of Medical Royal Colleges, and the American Psychologist Association, have analysed on psychological effects from induced abortion to women's mental health and have concluded that these effects are adverse [11]. The findings of all but one review indicate no distinct psychological consequences following an induced abortion [38]. Instead, it concluded that the best determinant for the women's psychological health following an abortion is her mental state prior to abortion [41]. Subsequently, most women who undergo an abortion report a positive response such as relief and liberated [41]. Although these reviews also recognised that some women may experience severe mental pain after an abortion and is ambiguous whether these symptoms are causally related to the abortion [41]. Furthermore, the publications on psychological health matters about induced abortion frequently suffer from methodological limitations, as noted by all reviews [14]. The following are some of the most common

methodological flaws that have been revealed in research findings that deal with the mental health of patients after having an abortion [42]:

1. Non-modifiable factor for the pre-abortion mental wellbeing of participants (such as in cross-sectional post-abortion studies)
2. Insufficient control for other risk factors concerning psychological issues
3. The use of apparatus that has not been validated
4. Undisclosed reproductive history of participants
5. Sampling bias (as participants self-described for being harmed by induced abortion)

Moreover, selecting a suitable comparison group is of the utmost importance in cross-sectional studies of post-abortion outcomes [28]. For example, contrasts between nulligravida, women with intended pregnancies, nullipara, and women who gave birth to unintended baby may not apply for the question of whether abortion is correlated with psychological wellbeing issues [28]. Several available studies may be subject to contrasting analyses based on scientific information due to improper methodology and poor study designs [15, 28]. Reverse causality may be at play in cross-sectional epidemiological studies, i.e., poor psychological wellbeing and substantial abuse may intensify the risk of unintended pregnancy and abortion [9].

The information available regarding the risk of post-traumatic disorder after an induced abortion is limited [43]. However, mental stability, drug abuse, child maltreatment, and measures of severe psychological illness have also been assessed [44]. As previously mentioned, the causal relationship regarding to pregnancy termination and the increased risk for depression and anxiety among post-abortive women for the five-year follow-up of the study is weak [18]. A small longitudinal study from Norway revealed a further significant evasion and shame but also immense comfort and identicalness in depression scores between post-abortive and spontaneous abortion-experienced women [44]. On the other hand, a register-based Danish study found that women with the experienced of an induced abortion to have a greater risk of psychological illness preceding and

succeeding the abortion than primipara [18]. Lastly, even though Kero and colleagues have not explicitly report on psychological issues, their longitudinal study about Swedish women revealed that only 3.4% of 58 women reported experiencing agonizing feelings a year following their pregnancy termination [44].

Political, ethical, and social perspectives have had and continue to significantly impact the scientific side of mental health with respect to induced abortion over the years [45, 46]. Unsurprisingly, the United States is where the scientific debate is the most heated [45]. Researchers continue to argue, from varying perspectives, that induced abortions may be detrimental to women's mental health [46]. Midway through the 1980s, Speck-Hard and Rue introduced the phrase "post-abortion syndrome" under this perspective [46]. Based on their beliefs, "post-abortion syndrome" is defined as a form of PTSD characterised by reminiscence and refusal, depression, regret, sorrow, shame, anger, and substance abuse [46]. Although, neither the American Psychological nor the American Psychiatric Associations recognise "post-abortion syndrome" as a valid diagnosis [8]. Nonetheless, numerous syndromes, such as "abortion trauma syndrome" and "post-abortion depression and psychosis syndrome," have been coined over time [7]. In 2009, Robinson explicitly examined the data utilized by these researchers and, like various reviews, concluded that there was no evidence of this syndrome [7]. In 2011, Priscilla Coleman reported a meta-analysis on abortion and mental health regardless of reviews by the NCCMH, the Academy of Medical Royal Colleges, and the American Psychological Association 2008 to 2011 [47]. In contrast to previous studies, she finalised that there is an 81% increased risk for psychological issues in women who undergone pregnancy termination, and abortion was responsible for nearly 10% of mental health problems [48]. The review resulted in ten critical commentaries published in the British Journal of Psychiatry, and Steinberg and colleagues heavily criticised the statistical methods of the meta-analysis [44]. Therefore, any participation in this scientific field must be of the highest quality to prevent misinterpretation of results [25]. Despite the paucity of research on the connection of induced abortion to PTSD, some results were declared [49]. The only

longitudinal study to date, which features 442 women experiencing a first-trimester abortion, stated only 1% common occurrence for PTSD 2 years following the abortion [50]. Women with induced abortion had increased scores for the Impact of Event Scale (IES), widely used to assess PTSD, for PTSD symptom avoidance than women who had experienced a miscarriage [50]. Rue and colleagues conducted a cross-sectional post-abortion study with 217 American women (recruited from 2 outpatient clinics) and 331 Russian women (recruited from a national women's health hospital) [20, 21]. A medical practitioner interviewed the Russian participants, likewise, the American participants answered the same questionnaire regarding their abortion experiences [51]. According to the research, 14.3% of American women and 0.9% of Russian women met the criteria for PTSD [51]. In addition, using data from the National Co-morbidity Study, one of the most well-known psychiatric epidemiology studies in the United States, and disregarding the possibility of reverse causality, Coleman (see above) and colleagues found that women who had an abortion were more likely to have PTSD than women who had never had an abortion, 19.8% vs 10%, respectively [51]. Finally, in a sample of women recruited from US-based crisis pregnancy centres and a few (unmentioned) other organizations, Coleman assessed post-traumatic stress symptoms in women who had early or late abortions, i.e., 13 or more weeks of gestation (up to 30 weeks of pregnancy) [51]. She reported that women who had late abortions had higher scores on the PTSD Checklist-Civilian Version's Intrusion subscale (PCL-C) [51]. These women were also more likely to report disturbing dreams in which they relived the abortion and had difficulty falling asleep than women who had had an abortion earlier [52].

Abortion increases the risk of post-traumatic stress in women

Women who obtain abortions are not at greater risk to experience PTSS than women who are denied abortions and must carry their unwanted pregnancies to term [5, 23]. The research contributes to the publications on abortion and mental health by contrasting the mental effects of two categories of abortion-seeking women: those who obtained an abortion and those who were denied one [8, 39]. By following these women for four years, we could

determine whether women who obtain abortions are more likely than those denied one to develop PTSS [53]. In their own words, this study allowed women to express the nature of the events they believed caused their PTSS; women themselves identified whether abortion or pregnancy experiences or other events in their lives led to adverse psychological outcomes [54]. Given the demographic similarity between our sample and the population of women obtaining abortions in the United States, we believe our findings apply to settings where abortion is legal and safe [25]. As these women were excluded from this study, these results should not be generalized to contexts where abortion is illegal or unsafe or to women seeking an abortion due to fetal anomalies [55]. Women cited various traumatic life experiences as the cause of their symptoms [56]. This study confirmed the conclusion of previous research that exposure to sexual and physical assaultive violence increases the likelihood of developing PTSD in the future [14]. One in five women has experienced sexual assault or rape [14]. Almost one-third of PTSS cases were attributable to childhood and adult experiences of sexual and physical violence and abuse [38]. Several other studies have also demonstrated that exposure to sexual and physical violence is strongly associated with PTSS and PTSD following an abortion, as do these findings [57, 58].

Conclusion

Abortion was found to be correlated with post-traumatic stress reactions. Consistent with the prior studies, the present information indicates that abortion can induce stress and reduce coping abilities, especially in women with a history of detrimental childhood events and prior traumas. The psychological effects due to abortion have been largely disregarded. The findings were restricted due to several obstacles. However, diverse forms of mental side effects undergone by the study requires a more thorough observation by the reason of the chronic nature of mental illnesses as well as the influence of women's health on the health of their families and communities.

References

- [1] A. Henkel and K. A. Shaw, "First trimester abortion care in low-and middle-income countries," *Clinical Obstetrics and Gynecology*, vol. 64, no. 3, pp. 449-459, 2021.
- [2] R. Rashidpouraie et al., "Complications of illegal abortion in the suburbs of Tehran: A 9-year cross-sectional study," *Journal of Research in Medical Sciences: The Official Journal of Isfahan University of Medical Sciences*, vol. 26, 2021.
- [3] S. Chae, S. Desai, M. Crowell, and G. Sedgh, "Reasons why women have induced abortions: a synthesis of findings from 14 countries," *Contraception*, vol. 96, no. 4, pp. 233-241, 2017.
- [4] A. Popinchalk, C. Beavin, and J. Bearak, "The state of global abortion data: an overview and call to action," *BMJ Sexual & Reproductive Health*, vol. 48, no. 1, pp. 3-6, 2022.
- [5] S. V. Bowles et al., "Acute and post-traumatic stress disorder after spontaneous abortion," *American family physician*, vol. 61, no. 6, pp. 1689-1696, 2000.
- [6] D. Ertan, C. Hingray, E. Burlacu, A. Sterlé, and W. El-Hage, "Post-traumatic stress disorder following childbirth," *BMC psychiatry*, vol. 21, no. 1, pp. 1-9, 2021.
- [7] S. Martínez-Vazquez, J. Rodríguez-Almagro, A. Hernández-Martínez, M. Delgado-Rodríguez, and J. M. Martínez-Galiano, "Long-term high risk of postpartum post-traumatic stress disorder (PTSD) and associated factors," *Journal of clinical medicine*, vol. 10, no. 3, p. 488, 2021.
- [8] Y. Chen et al., "Prevalence of post-traumatic stress disorder following caesarean section: a systematic review and meta-analysis," *Journal of Women's Health*, vol. 29, no. 2, pp. 200-209, 2020.
- [9] D. C. Reardon, "The abortion and mental health controversy: A comprehensive literature review of common ground agreements, disagreements, actionable recommendations, and research opportunities," *SAGE open medicine*, vol. 6, p. 2050312118807624, 2018.
- [10] M. A. Biggs, B. Rowland, C. E. McCulloch, and D. G. Foster, "Does abortion increase women's risk for post-traumatic stress? Findings from a prospective longitudinal cohort study," *BMJ open*, vol. 6, no. 2, p. e009698, 2016.
- [11] R. Lyon and K. Botha, "The experience of and coping with an induced abortion: A rapid review," *Health SA Gesondheid (Online)*, vol. 26, pp. 1-10, 2021.

- [12] K. Coleman-Minahan, A. J. Stevenson, E. Obront, and S. Hays, "Young women's experiences obtaining judicial bypass for abortion in Texas," *Journal of Adolescent Health*, vol. 64, no. 1, pp. 20-25, 2019.
- [13] L. Jacob, K. Kostev, C. Gerhard, and M. Kalder, "Relationship between induced abortion and the incidence of depression, anxiety disorder, adjustment disorder, and somatoform disorder in Germany," *Journal of psychiatric research*, vol. 114, pp. 75-79, 2019.
- [14] P. K. Coleman, "Negative abortion experiences: Predictors and development of the post-abortion psychological and relational adjustment scale," *Issues L. & Med.*, vol. 33, p. 133, 2018.
- [15] K. Zareba, V. L. La Rosa, M. Ciebiera, M. Makara-Studzińska, E. Commodari, and J. Gierus, "Psychological effects of abortion. An updated narrative review," *Eastern Journal Of Medicine*, vol. 25, no. 3, pp. 477-483, 2020.
- [16] M. Smorti, L. Ponti, L. Bonassi, E. Cattaneo, and C. Ionio, "Centrality of Pregnancy and Prenatal Attachment in Pregnant Nulliparous After Recent Elective or Therapeutic Abortion," *Frontiers in Psychology*, vol. 11, p. 607879, 2020.
- [17] B. Huss, "Well-being before and after pregnancy termination: the consequences of abortion and miscarriage on satisfaction with various domains of life," *Journal of Happiness Studies*, vol. 22, no. 6, pp. 2803-2828, 2021.
- [18] T. Musik, J. Grimm, I. Juhasz-Böss, and E. Böz, "Treatment Options After a Diagnosis of Early Miscarriage: Expectant, Medical, and Surgical," *Deutsches Ärzteblatt International*, vol. 118, no. 46, p. 789, 2021.
- [19] E. Fernández-Ordoñez, M. González-Cano-Caballero, C. Guerra-Marmolejo, E. Fernández-Fernández, and M. García-Gámez, "Perinatal grief and post-traumatic stress disorder in pregnancy after perinatal loss: a longitudinal study protocol," *International Journal of Environmental Research and Public Health*, vol. 18, no. 6, p. 2874, 2021.
- [20] G. Martina, M. Gary, T. Mark, and A. Áine, "Factors Affecting the Emotional Wellbeing of Women and Men Who Experience Miscarriage in Hospital Settings: A Scoping Review," 2021.
- [21] M. Galeotti, G. Mitchell, M. Tomlinson, and Á. Aventin, "Factors affecting the emotional wellbeing of women and men who experience miscarriage in hospital settings: a scoping review," *BMC Pregnancy and Childbirth*, vol. 22, no. 1, pp. 1-24, 2022.
- [22] M. Pack, "Women's grief in induced abortion (IA) and later loss of pregnancy: Themes from a narrative literature review with implications for counselling," *New Zealand Journal of Counselling*, vol. 40, no. 2, 2020.
- [23] J. Farren et al., "Differences in post-traumatic stress, anxiety and depression following miscarriage or ectopic pregnancy between women and their partners: multicenter prospective cohort study," *Ultrasound in Obstetrics & Gynecology*, vol. 57, no. 1, pp. 141-148, 2021.
- [24] S. Quenby et al., "Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss," *The Lancet*, vol. 397, no. 10285, pp. 1658-1667, 2021.
- [25] K. Białek and M. Malmur, "Risk of post-traumatic stress disorder in women after miscarriage," *Medical Studies/Studia Medyczne*, vol. 36, no. 2, pp. 134-141, 2020.
- [26] J. Fairchild and M. I. Arrington, "Narrating and Navigating through Miscarriage, Stigma, and Identity Changes," *Journal of Loss and Trauma*, pp. 1-15, 2022.
- [27] K. S. Dickson, K. S. Adde, and B. O. Ahinkorah, "Socio-economic determinants of abortion among women in Mozambique and Ghana: evidence from demographic and health survey," *Archives of Public Health*, vol. 76, no. 1, pp. 1-10, 2018.
- [28] S. Alipanahpour, M. Zarshenas, F. Ghodrati, and M. Akbarzadeh, "The severity of post-abortion stress in spontaneous, induced and forensic medical center permitted abortion in Shiraz, Iran, in 2018," *Iranian journal of nursing and midwifery research*, vol. 25, no. 1, p. 84, 2020.
- [29] Y. Zia et al., "Psychosocial experiences of adolescent girls and young women subsequent to an abortion in sub-Saharan Africa and globally: A systematic review," *Frontiers in Reproductive Health*, vol. 3, p. 638013, 2021.

- [30] S. Alipanahpour, N. Tayebi, M. Zarshenas, and M. Akbarzadeh, "Short-term physical and psychological health consequences of induced and spontaneous abortion: A cross-sectional study," *Shiraz E-Medical Journal*, vol. 22, no. 12, 2021.
- [31] M. D. Damota, "Prevalence and Associated Psychological Effects of Induced Unsafe Abortion," *J Health Sci Stud*, vol. 1, no. 1, p. 103, 2019.
- [32] E. H. Sabit and S. N. Fadhil, "Assessment of stress level among women with spontaneous abortion."
- [33] S. Alipanahpour, M. Zarshenas, M. Taheri, and M. Akbarzadeh, "A Cross-sectional Study of Psychosocial Problems Following Therapeutic Abortion With the Mother's Spiritual Experiences," *Int J Women's Health Reprod Sci*, 2021.
- [34] L. Gong, J. Han, W. Yan, and Y. Qin, "The effect of post-abortion care (PAC) on anxiety in women with spontaneous abortion based on MicroRNA-21 expression, cortisol level, and Fordyce happiness pattern," *Cellular and Molecular Biology*, vol. 67, no. 4, pp. 181-188, 2021.
- [35] S. H. Muhaisin, A. M. A. Hasan, and N. K. K. Hindi, "Psychological aspects among women with miscarriage associated viral infection."
- [36] H. M. A. Shereda, A. B. A. A. Rashed, and E. Shokr, "Effect of psychological intervention on post-traumatic stress symptoms and pregnancy outcomes among women with previous recurrent abortion," *Journal of Nursing Education and Practice*, vol. 8, no. 12, 2018.
- [37] R. L. Moran, "A Women's Health Issue?: Framing Post-Abortion Syndrome in the 1980s," *Gender & History*, vol. 33, no. 3, pp. 790-804, 2021.
- [38] M. Das, "Psychosocial Correlates of Abortion: A Community Based Study," 2021.
- [39] J. Farren et al., "Post-traumatic stress, anxiety and depression following miscarriage or ectopic pregnancy: a prospective cohort study," *BMJ open*, vol. 6, no. 11, p. e011864, 2016.
- [40] J. Farren et al., "Differences in post-traumatic stress, anxiety and depression following miscarriage and ectopic pregnancy between women and their partners: a multicenter prospective cohort study," *Ultrasound in Obstetrics & Gynecology: the Official Journal of the International Society of Ultrasound in Obstetrics and Gynecology*, 2020.
- [41] F. Raphi, S. Bani, M. Farvareshi, S. Hasanpour, and M. Mirghafourvand, "Effect of hope therapy on psychological well-being of women after abortion: a randomized controlled trial," *BMC psychiatry*, vol. 21, no. 1, pp. 1-10, 2021.
- [42] J. Kerns, M. Cheeks, A. Cassidy, G. Pearlson, and B. Mengesha, "Abortion Stigma and Its Relationship with Grief, Post-traumatic Stress, and Mental Health-Related Quality of Life After Abortion for Fetal Anomalies," *Women's Health Reports*, vol. 3, no. 1, pp. 385-394, 2022.
- [43] C. G. Holzhauer, A. Kroll-Desrosiers, R. L. Kinney, L. A. Copeland, L. A. Bastian, and K. M. Mattocks, "Prenatal Stress Exposure and Post-traumatic Stress Disorder Associated With Risk of Postpartum Alcohol Misuse Among Women Veterans," *Women's Health Issues*, vol. 31, no. 6, pp. 596-602, 2021.
- [44] M. Tajik, M. Emamhadi, S. A. A. Akbari, M. A. Doulabi, and P. R. NejadAsl, "The Relationship Between Post-Traumatic Stress Disorder After Childbirth and Social Support and Marital Satisfaction," *International Journal of Medical Toxicology and Forensic Medicine*, vol. 12, no. 1, p. 35741, 2022.
- [45] F. Iqbal and H. Jami, "Posttraumatic Growth and Perceived Social Support among Women Who Experienced Miscarriage."
- [46] E. F. Ordóñez, C. R. Díaz, I. M. M. Gil, and M. T. L. Manzanares, "Post-traumatic stress disorder after subsequent birth to a gestational loss: An observational study," *Salud mental*, vol. 43, no. 3, pp. 129-136, 2020.
- [47] G. Shin, H. J. Kim, and S. H. Kim, "Experience of internal growth of women with recurrent miscarriage: based on the posttraumatic growth theory," 2022.
- [48] M. Kukulskienė and N. Žemaitienė, "Postnatal Depression and Post-Traumatic Stress Risk Following Miscarriage," *International Journal of Environmental Research and Public Health*, vol. 19, no. 11, p. 6515, 2022.
- [49] E. F. Ordóñez, C. R. Díaz, I. M. M. Gil, and M. T. L. Manzanares, "Post-traumatic stress and

related symptoms in a gestation after a gestational loss: narrative review," *Salud mental*, vol. 41, no. 5, pp. 237-243, 2018.

[50] A. Malik, A. Shafi, I. Umair, S. M. A. Bajwa, A. Butt, and F. Bukharie, "Frequency of Depressive Disorders among Women after Miscarriage," *Journal of the College of Physicians and Surgeons Pakistan*, vol. 30, no. 2, pp. 192-196, 2020.

[51] M. Kicia, A. Skurzak, M. Korzyńska-Piętas, A. Palus, and G. J. Iwanowicz-Palus, "Assessment of the relationship between socio-demographic factors and intensity of perceived stress in a group of women hospitalized due to miscarriage," *Medycyna Ogólna i Nauki o Zdrowiu*, vol. 27, no. 3, p. 285, 2021.

[52] S. S. Abu-Raisi et al., "Temporomandibular disorder among women who experienced posttraumatic stress disorder after a miscarriage," *Journal of International Society of Preventive & Community Dentistry*, vol. 9, no. 5, p. 445, 2019.

[53] L. Sampson et al., "Trauma, Post-Traumatic Stress Disorder, and Treatment Among Middle-Aged and Older Women in the Nurses' Health Study II," *The American Journal of Geriatric Psychiatry*, vol. 30, no. 5, pp. 588-602, 2022.

[54] D. Horesh, M. Nukrian, and Y. Bialik, "To lose an unborn child: Post-traumatic stress disorder and major depressive disorder following pregnancy loss among Israeli women," *General Hospital Psychiatry*, vol. 53, pp. 95-100, 2018.

[55] J. Katz, "Supporting Women Coping with Emotional Distress after Abortion," *Professional Counselor*, vol. 9, no. 2, pp. 100-108, 2019.

[56] J. Park and N. Shin, "A study on patients' nursing needs on integrated supportive service programs for the abortion women-focused on abortion experienced woman," *Journal of the Korean Society of Maternal and Child Health*, vol. 23, no. 2, pp. 101-108, 2019.

[57] T. C. Carleton and J. L. Snodgrass, *Moral Injury After Abortion: Exploring the Psychospiritual Impact on Catholic Women*. Taylor & Francis, 2022.

[58] J. B. Gould, "Culpable ignorance, professional counselling, and selective abortion of intellectual disability," *Journal of Bioethical Inquiry*, vol. 17, no. 3, pp. 369-381, 2020.