

The Impact of Abortion on Women's Mental Health: A Literature Review

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Abstract: Abortion is the termination of pregnancy by the removal of the foetus. The effect abortion plays on the mental health of women seems to be a topic of utmost controversy with a dual nature of positive as well as negative effects. The aim of this review is to find evidence on the fact of whether abortion has a significant impact on the mental health of women. The review also aims to study how these issues manifest in the daily lives and aspirations of women. The papers that are reviewed are from the year 2000-2021 which provides a complete insight into the past as well as recent evidence for our research questions. 3 databases were used for the extensive search of research papers, including PubMed, PMC and Google Scholar. The results found from the review were of mixed nature to provide both negative and positive results in regards to abortion. Despite various efforts for finding evidence of this issue, it has been a real complication. Major problems arise in the measurement and standardization methods. Future studies are required on the topic with more standardized methods and correct scaling techniques to find conclusive proof.

I. INTRODUCTION

The first study on the effects of abortion on women's psychological health was conducted in 1987, but it did not yield any definitive results because the research at the time was insufficient to support any scientific claims. Postpartum depression, or PPD, is a real condition that affects 13% of women globally, especially in cases of unwanted pregnancy. The question of whether there is a connection between unintended pregnancy, abortion, and mental health has been debated by a number of scholars. Because of feelings of guilt, humiliation, low self-esteem, and loss, scientists think that having an abortion can have long-term mental health problems. According to research by Reardon and Coleman, there are numerous problems that may arise after an abortion, including

depression, anxiety, substance misuse, etc. Numerous prior studies have been conducted analyzing the impact of unwanted pregnancies, but they were always methodologically deficient due to improper sampling, a lack of outcome measures, the absence of a control group, and statistical difficulties. Abortion could be a traumatic experience for any woman. It could lead to long-term complications both to the woman as well as the whole family.

II. SIGNIFICANCE

The literature review provides a detailed analysis and evaluation of the empirical literature and studies done on the association between abortion and mental health from the year 2000 to 2021. The review provides various methods and aims to find the limitations in all the literature. The various factors that could play an important role in the consequences of abortions were also studied. The pre-abortion mental health of the women is also studied and reviewed to find a correlation between all the co-variables and thus eliminate bias.

III. REVIEW OF LITERATURE

This part tries to find a correlation between induced abortion and the psychological effects it might lead to. A thorough investigation into the related case studies, empirical studies, meta-analysis, and longitudinal studies will be studied to try to find the relation between the variables. It talks about various studies and theories on this topic, the significance it holds, and how research is happening in this field.

Ester di Giacomo et al (2021) studied the *therapeutic termination of pregnancy and women's mental health, the determinants, and the consequences*. According to this study, cultural and economic factors played an important role in understanding the choice of having

an abortion. The factors that played a role are 1) maternal age: - The rate of abortion was higher in women aged between 20 to 34 years. 2) Marital status: - Higher rate of abortion in divorced and widowed women. 3) Women's level of education. 3) Women's employment 4) Urbanization rates: - The rate of abortion is higher in urban areas as compared to rural areas as the facilities available are greater and stigmatization is lesser. Other factors include Immigration, Women's ethnic group, and religious beliefs. The findings of this research were as follows:-
 Depression and anxiety: - Many women face post-abortion long-term depression and guilt. The most common effects of abortion were depression and anxiety disorders. Almost 10% of the women who have undergone abortions faced the same problem.
 Bipolar/ mania: - A study on a woman with 5 successful pregnancies and 2 abortions showed that each reproductive event ended with an episode of psychotic mania. The post-abortion period posed an increased risk of converting bipolar II disorder into bipolar I. Abortion also sometimes acted as the trigger for manic episodes that had a predisposition to it.
 Psychosis: - There were at least 30 cases reported with women having psychotic episodes after abortion with a previous history of psychotic disorder as well as women who have never faced psychotic disorder. The onset time typically is 2 weeks.

Kornelia Zareba et al (2020) reviewed the psychological effects of abortion. The paper was review of articles by extensive search in the database of PubMed and Google Scholar. The keywords used in their study were: abortion, pregnancy termination, psychology, and PTSS until the month of December 2019. Their study found that any pregnancy may have an emotional crisis on the women's emotional health. Even after healthy pregnancies, many women face postpartum depression or maternity blues. The study mainly focused on two types of disorders women can face after abortion: - 1) PAD (post-abortion disorder) and 2) PAS (post-abortion syndrome). PAD involves post-abortion stress which can appear 3 months after the pregnancy. It involves the experiences of loss or guilt, sleep disorder, and emotional pain. PAS develops a long time after the abortion and it involves insomnia, nightmares, the use of defence mechanisms (repression) chronic anxiety, mood swings, anger issues, sleep, and concentration problems.

Rui Li et al (2018) did a cross-sectional study to find the association between induced abortion and suicidal ideation among unmarried female migrant workers in three metropolitan cities of China. The migrated population faces a lot of health sector-related issues. In China, it was reported that around 15% of single female migrants had an unwanted pregnancy and around 95% of them had a termination of the pregnancy. The study was aimed at finding the association between induced abortion and suicidal ideation.

Methods: - The three metropolitan cities Shanghai, Beijing, and Guangzhou were chosen as a lot of migrants come to these areas. The sample criteria were age > 18, and unmarried females. The recruitment was done between June 2015 to March 2016. A non-response rate of 20% was assumed and 5500 women were recruited. The survey was conducted with self-administered questionnaires. There was also an interview round of 30 minutes per person privately. Out of the 5500 women, only 5332 met the inclusion criteria, and only 5115 completed the survey.

Measure: - The Likert scale was used to understand the behavioural variables (tobacco, alcohol use), self-esteem, loneliness, and attitude towards premarital pregnancy and multiple abortions. The depressive symptoms were measured using a 20-item Likert-type Centre for Epidemiologic Studies Depression Scale (CESD). Reproductive health was measured with simple yes or no questions. Yes= 1 and No= 0.

Results: - The suicidal ideation was twice as the female underwent an induced abortion. There was a great correlation between induced abortion and an increase in smoking, depression, low self-esteem, loneliness, and the increased odds of suicidal ideation.

Jocelyn T. Warren et al (2017) did a study to find out whether severe depression and loss of self-esteem follow abortion. This study focused on adolescents as they are more vulnerable to psychological harm and they have a higher number of unintended pregnancies.

Methods: - The data were collected from the National Longitudinal Study of Adolescent Health. There were 3-time frames or waves in this study: - Wave I (1994-1995), Wave II (1996), and Wave III (2001-2002). CES-D, a four-point scale was used to find the relationship between the variables.

Results: - It was found that approximately 288 females reported one pregnancy in Wave I and Wave II and out

of these 69 had an induced abortion. From the measurement and statistics, it was found that there was no association between depression and induced abortion as well as self-esteem. Even in Wave 3, the same women reported no change in their depressive symptoms or self-esteem.

Sarah Horvath and Courtney A. Schreiber (2017) studied the relationship between unintended pregnancy, induced abortion, and mental health. They did the Turnaway study which intended to minimize all the methodological flaws in the previous studies. They recruited 956 women from 30 abortion clinics from 2008 to 2010. The women enrolled in the study underwent a total of 11 interviews every 6 months after either being denied or after receiving an abortion for 5 years.

For depression and anxiety: - the BSI (Brief Symptom Inventory) was used from the first interview. MMPI (Minnesota Multiphasic Personality Inventory) and PHQ-9 (Patient Health Questionnaire) were also administered. Depression score was higher if the women had depression pre-abortion. There were no signs of mood disorders but an increase in both anxiety and substance use.

For PTSS: - For PTSS, the women were told to answer the PC-PTSD survey which was a 4-question survey. 39% of women had at least 1 symptom of the 4 and 16% had more than 3.

For self-esteem: - The Likert scale was used to rate the feelings of guilt, sadness, satisfaction, happiness, and regret. Almost 95% who had abortions said they did make the right decision but 41% of them expressed regret.

Susil Kulathilaka et al (2016) did research on depressive disorder and grief following spontaneous abortion. The increased risk of depression after spontaneous abortion in Asian populations has not been clearly established. Only a few studies have explored the relationship between grief and depression after abortion.

Materials and methods: - A study was conducted to assess the prevalence and risk factors of depressive disorder and complicated grief among women 6–10 weeks after spontaneous abortion and compare the risk of depression with pregnant women attending an antenatal clinic. The severity of depressive symptoms was assessed using the PHQ-9. Grief was assessed

using the Perinatal Grief Scale (PGS) which was administered to the women who had experienced spontaneous abortion.

Results: -The relative risk of developing a depressive episode after spontaneous abortion was significantly higher than in females with a viable pregnancy.

Inger Wallin Lundell et al (2013) researched the prevalence of posttraumatic stress among women requesting induced abortion. In this study, it was believed that any pre-existing disorder leads to an increased risk of vulnerability to mental health disorders post-abortion.

Material and Methods: - Any woman requesting an abortion before the end of the 12th week of gestation was asked to take part in the study from six hospitals. The only exclusion criteria were not being able to read. A prepared and concealed questionnaire was sent to each participant. The sample size was n=1514. Two types of research instruments were used in this study known as Screen Questionnaire-Posttraumatic Stress Disorder (SQ-PTSD) and the Hospital Anxiety and Depression Scale (HADS).

Results: - It was found that women who requested an abortion had a previous prevalence of PTSD and PTSS and they showed higher rates of anxiety and depression post-abortion.

Carlo V. Bellieni et al (2013) reviewed the effect of abortion on mental health. They performed a search in PubMed and Medscape from the year 1995 to 2011. The keywords used were the following: ‘abortion’, ‘mental disorder’, ‘depression’ ‘anxiety’, ‘illicit drugs’ ‘tobacco’, ‘alcohol’. Inclusion criteria was original studies about mental risks correlated with abortion. They retrieved 36 papers. They excluded seven studies two for the absence of a control group and one because the control group was composed of women’s partners, one because it did not use a validated questionnaire, one because it compared the consequences of medical and surgical abortion, and one because it was an elaboration of a previous paper to investigate the causes of the increase of depression in the abortion group, and one because there was no statistical comparison between abortion and childbirth groups. The studies analysed here show that abortion is a risk factor for many mental health disorders compared to other outcomes.

Priscilla K. Coleman (2011) did a *quantitative synthesis and analysis of research that was published between 1995-2009 on abortion and mental health.*

There has only been a handful of research done on the association between abortion and mental health.

Materials and Methods: - The sample size of 100 participants was taken. The sample contains women who had no abortion, successful pregnancy, unintended pregnancy aborted and unintended pregnancy delivered. The variables for mental health were depression, anxiety, alcohol use, cannabis, and suicidal behaviour.

Results: - After applying the inclusion criteria and rules detailed above, the sample consisted of 22 studies these comprised 36 measures of effect (9 alcohol use/misuse, 5 marijuana, 7 anxiety, 11 depression, 4 suicidal behaviour) and a total of 877181 participants, of whom 163831 had experienced an abortion. There was final 22 studies that were selected and the results from this study suggested that there was a moderate to highly increased risk of mental health problems in the women who had an induced abortion. The women who had an induced abortion had an 81% increased chance to develop a mental health disorder.

Abolghasem Pourreza and Aziz Batebi (2011) studied the *psychological consequences of abortion among post-abortion care-seeking women in Tehran.* There are many factors that influence the abortion effects such as socio-economic, emotional factors, and previous mental health issues. Abortion is also the main cause of mental disorders such as regret, guilt, alcoholism, suicide, and other such problems. The impact of abortion also depends on family life, the number of children, planned or unplanned pregnancies, and beliefs.

Materials and Methods: - The women of age 15-49 from 10 Tehran hospitals were recruited. 261 questionnaires have been completed. In total 278 women responded correctly to all the questions. There were 2 sets of questionnaires, 1 consisted of 32 questions and the other one consisted of 21 questions. The second set consists of the Likert scale. Results: - There were various questions related to smoking, drug abuse, eating disorders, depression, guilt, etc. There was about a 60.5% chance that mental health consequences followed an induced abortion.

Natalie P. Mota et al (2010) did a *nationally representative sample on the association between abortion, mental disorders, and suicidal behaviour.*

One study conducted from 1990 to 1992 in the US found a positive relationship between abortion and DSM-III-R mood, substance abuse, anxiety, etc.

Materials and Methods: -The study took place between 2001-2003. The study consisted of 9282 women. Part 2 of the study consisted of 5692 women who studied any additional mental health disorders. For assessing the mental health disorders, the WMII-CIDI was used. Depression, anxiety, panic, panic attacks, PTSD, social anxiety, attention deficit, etc were assessed through the study The suicidal intentions and violence exposure were also studied. Multiple logistic regression analyses were used for studying the relationship between mental disorders and abortion.

Results: - The results from this study showed that violence was the main factor in abortion status and that violence also led to mental health disorders. Women with a lifetime history of abortion showed a significant mood disorder. There was also a correlation between suicidal ideation and abortion. There was no relation between abortion and eating disorders.

Sharon Cameron (2010) did *research on induced abortion and psychological sequelae.* Sharon Cameron suggested that there was a methodological problem with the research related to mental health and abortion. The sampling methods and the variables were faulty and needed some adjustment. The comparative groups, co-occurrence of risk factors, reproductive history, and outcome measures also had to be assessed. The study revealed that the state of being pregnant with an unwanted pregnancy was itself very stressful rather than the outcomes after abortion. A study of 630 women who reported their reproductive health between the ages of 15-25 years of age found that there were higher rates of depression.

Priscilla K. Coleman (2009) did a *national comorbidity survey on the effects of induced abortion on anxiety, mood, and substance abuse disorders.* There are many theories and studies concerning the association of induced abortion the mental health disorders. This is complicated by a number of characteristics inherent in the variables of interest as

well as external factors surrounding investigative efforts.

Material and methods: - For this survey, the National Comorbidity Survey (NCS) is used as the mental health representative study. The interviews were administered by the Survey Research Centre at the University of Michigan. There was a multi-area sample of individuals 15 to 54 years of age. The response rate was 82.6%. There were 399 women who had one or more than one abortion. The average age of abortion is 21.8. There was a total of 158 interviewers. The interview was based on Composite International Diagnostic Interview (UM-CIDI)

Results: - The abortion variable made a significant independent contribution to more mental health outcomes than a history of rape, sexual abuse in childhood, physical assault in adulthood, and physical abuse in childhood. The results of this study revealed that women who have aborted are at a higher risk for a variety of mental health problems including anxiety (panic attacks, panic disorder, agoraphobia, PTSD), mood (bipolar disorder, major depression with and without hierarchy), and substance abuse disorders.

Joshua R Mann et al (2008) did research for predicting depressive symptoms and grief after pregnancy loss. The research was conducted between 2005 to 2006 on basis of religious beliefs and psychological stressors of mental health illness following an abortion.

Materials and Methods: - There were 2 measures for spirituality and three measures of religiosity. For spirituality, self-rated spirituality and Daily Spiritual Experiences were used. The religious measure was the Duke Religion Index. The Edinburgh Postnatal Depression Scale and the Hospital Anxiety and Depression Scale (HADS) were used to study mental health disorders. The Perinatal Bereavement Grief Scale (PBGS) was used to measure the scores for grief associated with pregnancy loss or abortion.

Results: - In this study, 404 women were enrolled and the success rate of the study was 92.6%. The scales used for depression, grief, religiosity, and spirituality were giving good results and a standardized measure. Women had higher levels of grief even after a follow-up of the study. This study said that with increasing age the resistance toward depression and grief increased.

David M. Fergusson et al (2008) did a 30-year longitudinal study to find evidence on abortion and mental health disorders. For this study the sample size was n=534. From the age of 15 to 30 years, the participant was interviewed about any possible pregnancy and the timing and the outcome of the pregnancy were recorded. At 30, the participants were asked to send a summary of their pregnancy history. From all the combined studies it was found that out of the 534 women reported a total of 686 pregnancies before the age of 30. Poisson regression formula was used to count the number of mental health problems. The result obtained from this study was that any abortion was consistently associated with mental disorders such as depression, anxiety, drug use, etc.

Willy Pedersen (2008) did a population-based longitudinal study on women to find the relation between abortion and depression. The study was focused on finding the relationship between induced abortion and whether it posed a risk factor for depression. This is an 11-year-long study trying to find the depression rates after a woman gives birth versus women undergoing abortions.

Materials and Methods: - The study took place in 4 waves. T1- 1992, T2-1994, T3-1999, T4-2005. The depression rates were found throughout the Kandel and Davies' Depressive Mood Inventory in T2, T3, and T4. It consists of six questions.

Results: - In T3 around 40% had an induced abortion and in T4 around 16% had an abortion. Through this research, it was found that women who had undergone abortion in their twenties had clearly increased rates of depression. It also said that there were factors too that impacted depression after abortion.

Julia Renee Steinberg and Nancy F. Russo (2008) did a study to find the relationship between abortion and anxiety. There have been many concerns regarding the relationship between abortion and how it can be a risk factor for onset anxiety. It was also found that violence in the women's history and having an abortion significantly increased the risk of anxiety

Materials and Methods: - The study included women from the age of 15-to 44 that reported to the National Health Interview Survey. Participants were asked about their first pregnancy, abortion status any prevailing pre-abortion anxiety symptoms, etc.

Results: - It was reported that there is an association between abortion and anxiety. Women who have had more than 2 abortions were at a higher risk of having anxiety symptoms.

David M. Fergusson et al (2006) studied the *effect of abortion in young women and subsequent mental health*. The study aimed to understand the linkages between abortion and mental health outcomes in the interval of 15-25 years. There have been ongoing debates about the issue of abortion as a response to unwanted pregnancy.

Material and Methods: - The study was on 1265 children born in the Christ church urban region from birth to 25 years of age. Both the pregnancy analysis and mental health analysis for all these women were available. The women were interviewed at ages 15, 16, 18, 21, and 25 about pregnancy as well as abortion. For mental health the Diagnostic Interview Schedule for Children (DISC) and a Composite International Diagnostic Interview (CIDI) and more additional factors. The women were studied for the rates of depression, anxiety disorders, panic disorders, social phobia, etc.

Results: - There was a significant association between pregnancy and rates of disorder. There was a more increased association who had an abortion.

Anne Nordal Broen et al (2005) did a *longitudinal five-year-long study on the course of mental health after miscarriage and induced abortion*. The study was focused on finding out the differences between how miscarriage and abortion have an effect on mental health disorders. Making the decision to get an abortion is voluntary and can have a serious psychological impact.

Materials and Methods: - In total 268 women were asked to participate in the study at the Buskerud Hospital. The exclusion criteria were non-Norwegian speaking and mentally disabled. Only 120 out of the 268 were included in the study. The interviews of these women were done in 4 phases: - 10 days, 6 months, 2 years, and 5 years. The scales for measurement were the Impact of Event Scale (IES) which consists of 15 questions, the Quality of Life scale (QOLS) which consists of 12 questions, Hospital Anxiety, and Depression Scale.

Results: - The women who had undergone an induced abortion had a higher IES avoidance score than the women who had a miscarriage. According to the HADS scale in the case of induced abortion, the scores for anxiety were higher and the score for depression was higher in the case of miscarriage.

Brenda Major et al (2000) did a study on the *psychological responses of women after having an abortion in the first-trimester*. It is a very controversial topic whether an elective abortion can also have a mental impact on women. This study was focused on finding the abortion-related emotions after the termination of unintended pregnancy.

Materials and Methods: - The study included 442 women. The study was only restricted to the women who had a first-trimester termination that was not a result of rape. 882 women were interviewed 1 month after abortion and 442 were interviewed 2 years after the abortion. Only the 442 women who were interviewed at all time frames were considered for the research.

Results: - Many women reported that they felt relief after getting the abortion and that they made the right decision by doing so. The multiple regression analysis revealed that women with mental health disorders pre-abortion were more likely to get a disorder post-abortion.

V. CONCLUSION

There have been many studies that point to a direct relationship between induced abortion of unintended pregnancy and a higher-level risk of developing a mental health disorder. There are more personal and social reasons to get an abortion. There is a level of relief associated with getting an abortion but is often followed by guilt and shame. One study showed that there was an increased risk of suicidal ideation after going through an abortion. There should be mandatory post-abortion care for all women seeking an abortion as there is not always but sometimes the chance of developing a mental health disorder even after a long period of time. There will be more light on this topic as more evidence will be found.

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