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Abortion among young women and subsequent life outcomes

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Abstract

This paper will discuss the nature of the association between abortion and mental health problems. Studies arguing that both side of the debate as to whether abortion *per se* is responsible will be presented. The prevalence of various psychiatric disorders will be outlined and where there is dispute between studies these will be highlighted. The impact of abortion on other areas such as education, partner relationships and sexual function will also be considered and the question as to whether abortion helps women's mental health will be addressed. Suggestions for early identification of illness will be made. The absence of specific interventions will be highlighted

Word count: 7225 including practice points, research agenda, multiple choice questions and references

Abortion among young women and subsequent life outcomes

Induced abortion is the most common surgical procedure in the Western World with an estimated 42 million pregnancy terminations taking place worldwide each year according to The Alan Guttmacher Institute. The relationship between abortion and subsequent life outcomes, particularly those relating to mental health outcomes, is one that has been discussed, often acrimoniously, in peer reviewed journals for several decades although this was hampered by significant methodological flaws in the earlier studies. It is an important question to resolve since an increase in the incidence of mental health problems post abortion would impact significantly on resources as well as on personal wellbeing.

A number of questions present themselves in relation to the subsequent life outcome for women who terminate their pregnancies. These are:

1. What is the usual emotional reaction to abortion?
2. Is there a specific psychiatric disorder associated abortion?
3. Is abortion associated with an increase in mental health problems and if so is the relationship a causal one?
4. What psychiatric disorders are associated with abortion?
5. Does abortion impact on social outcomes such as education, employment and relationships?
6. Does terminating an unwanted pregnancy help women's mental health?
7. What therapeutic interventions are available when a woman has an adverse reaction and do these have impact on subsequent life outcomes?

Each of these questions will be considered in this paper. However it is important to outline problems in presenting and interpreting the data that answering these questions entails. In addition there are significant gaps in our knowledge, particularly in relation to treatments and this will be highlighted.

Presenting and Interpreting the Data

Presenting the data from studies on abortion and mental health problems is difficult. Due to the nature of the statistical analysis and the controls for confounding that this demands, prevalence and incidence rates may not be available and instead odds ratios (ORs), risk ratio (RR) and population attributable risks (PAR) (a measure of the proportion of total morbidity contributed by the variable of interest) are presented.

A further problem in interpreting the data rests with the variable quality and methodology of the studies. For example some use clinical diagnosis obtained from general practitioners' records [1] while others are based on diagnosis derived from structured interviews conducted in the general population [2]. Some are cohort studies which identify women seeking abortion and carry out evaluations after a set period thereafter [3] while others use a nested case-control design [2]. Sourcing the data varies also with some using public databases such as the National Longitudinal Survey of Youth [4] or record linkage methods e.g. abortion registered variously

linked to suicide registers [5], to Medicaid claims [6]. These considerations are important since they address different aspects of the question relating to abortion and subsequent mental health.

A further issue is the problem of confounding with some factors associated with both the decision to abort and poor subsequent mental health such as prior psychiatric history while there may be underlying differences between women who abort and those who choose to continue a pregnancy e.g. socioeconomic status. Controlling for these possible confounders and sources of bias is thus essential. Most of the large scale studies for over two decades have controlled for socio-demographic variables and some personal variables such as prior mental health history [1, 7] but a recent crop of studies has also begun to control for variables connected to the decision to abort such as partner violence [8] and childhood abuse [2] and even more recently for the wantedness of the pregnancy [9] resulting in controls for over 30 variables in the latter, the largest number ever.

In this paper only studies that have controlled for confounding will be included, with the exception of one qualitative study.

1. What is the usual reaction to abortion?

While many women experience sadness or regret following abortion these emotional reactions are understandable and do not constitute a psychiatric disorder. Several studies have evaluated the emotional trajectory for women who have an abortion. These show that for most women distress is prominent prior to the abortion procedure and immediately following the operation there is a sense of relief [3]. Feelings such as “freedom” and “control again” have been used to describe the short term emotional reactions, that seem to persist after the event [7]. Recent evidence points to a mixture of positive and negative emotions and while the majority of women reported at least one negative emotion such as guilt, sadness, grief these were offset by the positive feelings of relief and happiness and when asked if the decision was correct the answer is in the affirmative [10].

Although the majority of women report relief, this is not universal and evidence for this comes from both quantitative and qualitative studies. An increase in feelings of dissatisfaction has been reported [3] from 10.8% at 1 month to 16.3% at 2 years post-abortion. One of the few qualitative studies to examine this issue identified several patterns of reaction over 9 years after the event [11] with some describing the predicted pattern of reaction beginning with distress followed by relief while others reported no distress at any point. These two groups shared the common characteristics of conceptualising the foetus as less human, reported more social support and a view that society supported their abortion decision. Another group identified continuing distress rather than relief and a fourth described the onset of distress after a period of initial relief following a negative reappraisal of the event. These groups had a view of the foetus as more human, reported lower social support and a belief that society is either overly judgemental or negates the impact of abortion on women. Drawing on the bereavement literature, the authors suggest a potential approach to intervention (see below).

2 Is there a specific abortion related disorder?

Those who support this view of a specific post-abortion disorder call it post-abortion syndrome (PAS)[12]. Using the model of post traumatic stress disorder (PTSD) it is proposed that the symptoms described are phenomenologically similar to those experienced by sufferers with PTSD although the content is focussed on the abortion and on the baby. PAS has not yet been validated as a discrete entity with its own specific symptom constellation or longitudinal course that separates it from other psychiatric disorders. One investigator [3] specifically included questions about abortion specific nightmares, flashbacks and so forth during the final interview 2 years post-abortion and only 1% met the criteria for PTSD. PAS has received little research attention since then. Accordingly, it is not a recognised term within psychiatry and will not be used in this paper.

3 Is abortion associated with an increased risk of mental health problems?

There is agreement that mental health problems can be demonstrated after induced abortion but there is no broad consensus about the nature of this relationship. A number of possible explanations for this association present themselves as follows:

- a. the abortion *per se* triggers the adverse reaction and without this the woman would not have developed psychiatric disorder. In other words the reaction is independent of any vulnerability factors (see Who is at Risk?). This is the most contentious aspect of the debate.
- b. some women have risk factors (see table 1) that increase vulnerability to psychiatric disorders post-abortion. It is argued that any psychiatric problems which arise after abortion do so in this context and this is the view of the American Psychological Association [13]. In the debate on causation, this is set in opposition to (a) above. The vulnerability factors can be broadly grouped in three categories:
 - personal vulnerability e.g age, past history, coercion
 - contextual vulnerability e.g. late abortion, cultural attitudes
 - inter-personal vulnerability e.g. social supports, intimate partner violence
- c. factors pre-exist which lead to both abortion seeking and mental health problems e.g. partner violence or unwanted pregnancy, so that when symptoms persist they are a continuation of previous symptoms

Two recent systematic reviews have concluded respectively that a single first trimester abortion *per se* does not cause psychiatric disorder [13] and that the better designed studies found few if any differences between women having abortions and their comparison group with respect to mental health outcomes while less well designed studies found such an association [14]. However, both preceded the publication of several new large-scale studies [15 16 9 9] three of which were longitudinal and which controlled for multiple variables including two which also controlled for the wantedness of the pregnancy. These point to a possible causal link between abortion and subsequent mental health problems.

It is sometimes stated [17] that it will never be possible to know with certainty whether abortion *per se* causes psychiatric disorder since only a randomised design could prove this. In the case of abortion and mental illness this would entail randomly

allocating pregnant women to, either abortion or pregnancy completion, and then following their mental health longitudinally, an approach that would clearly be grossly unethical. In 1965 Prof. Austin Bradford Hill, an epidemiologist, proposed a set of nine criteria [18] that guided the search for the causative role of occupational and lifestyle factors in a number of diseases such as cancer. These included strength of association, consistency, specificity, temporal sequence, biological gradient, biologic rationale, coherence, experimental evidence and analogous evidence. If applied systematically these could assist in determining whether there is a causal link or not between abortion and mental health problems much as occurred in the context of the smoking and lung disease debate in the 1950's and 60's without the need for unethical randomised exposure. Elements of this approach were evident in at least one of the above studies [9] which concluded that abortion was associated with a small causal link to subsequent mental health problems, increasing the risk by up to 30%.

Who is at risk?

On both sides of the debate about causality it is recognised that a number of pre-abortion variables are associated with adverse consequences for some women. Having a prior psychiatric history is most commonly cited [3] since a variety of stressful events can provoke recurrences in this group. Additional risk factors identified in the scientific literature are younger age and having other children pre-abortion, the presence of strong maternal instincts, coercion or ambivalence and cultures that are opposed to abortion [19] It is also widely acknowledged that abortion for foetal anomaly places women at risk of adverse psychological outcomes [20 21] as has the possible role of partner violence mediating the adverse consequences [8 22] See table 1

Table 1 Risk factors recognised as associated with adverse reactions

Previous psychiatric history Poor social support Late abortion Abortion for foetal anomaly Those who are ideologically/religiously opposed to abortion Ambivalence about abortion Coerced abortion Strong maternal instincts Abortion in the very young Intimate partner violence
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4. Prevalence of psychiatric disorders post-abortion

The specific diagnoses that have been studied in women post-abortion are no different from those found in the post-natal period, with the exception of psychotic disorders which, with a few exceptions [1 15, 23] have not received much attention. Many studies examine only specific disorders such as major depression, substance misuse or

anxiety, possibly reducing the power to establish a causal link between abortion and subsequent mental health disorders [9].

Any psychiatric disorder: One of the earliest studies to examine the question of the prevalence of any psychiatric disorder post abortion [1] used a large sample of women (over 13,000) and it found no difference in the prevalence of psychiatric disorder (either psychotic or non-psychotic) between various groups (abortion not sought, abortion sought but refused, abortion granted and changed mind before abortion).. One of the problems with this study is the possibility of bias due to under diagnosis since the presence of psychiatric disorder was only identified when the subject presented to the general practitioner and it was then diagnosed. For many years this was a yardstick against which other studies were judged, due to its large sample size and its use of women refused abortion along with other pregnancy outcomes

However, these findings are challenged by emerging studies that have identified a 30% increased risk for any mental disorder (excluding psychosis), after multiple confounders, included the wantedness of the pregnancy, were in place [9]. Others have examined a number of individual disorders [15 16] although no composite rate is provided. These will be described below.

Post-traumatic stress disorder (PTSD): It is surprising that PTSD has not been the subject of more study since the traumatic nature of abortion for some women is recognised. One investigator found that among women having first trimester abortions 1% developed PTSD at two year follow-up [3] while another, by contrast [15] identified 19.8% of women as meeting the criteria for PTSD, almost double the rate in women not having abortions. This amounted to a PAR of 6.2%.

Substance misuse: Unlike PTSD, substance misuse has been the subject of several studies. Clinically a link between abortion and substance misuse is plausible since the associated distress could lead to misuse and later dependence on substances. Several very recent studies have borne this out.

In a Norwegian sample [24] of women under the age of 25, odds ratios of between 2 and 4.7 were identified for the misuse of alcohol, cannabis, nicotine and other illegal substances in those having abortions compared to those giving birth or not being pregnant, results that were broadly similar to those of another study [16] which found significantly higher risks for tobacco dependence and illicit substance misuse (excluding cannabis) associated with either abortion or miscarriage but alcohol misuse was higher in the abortion group only.

Similar results were obtained when The National Co-morbidity Survey, a large population database in the US was studied. [15]. The prevalence rates for alcohol and drug dependence respectively in the abortion group were 23.4% and 16.7% with a population attributable risk (PAR) due to abortion amounting to 13.2% and 12.2%. These findings were replicated in another study from New Zealand [9] with risks for alcohol dependence (RR 1.19-2.88) and illicit drug dependence (RR 2.88-3.56) being higher in those who had abortions compared to other groups. All of these studies are notable for extensive controlling for confounders, up to 30 in one study..

Suicidal behaviour: Suicidal behaviours include deliberate self harm (DSH), suicidal ideation and suicide and have been the subject of study in relation to abortion. In one study [1] DSH was more common in women having or being refused abortion but the association may not be a causal one and the authors speculate that this may be due to the confounding effect of adverse social circumstances although no data supporting this was presented.

Suicidal ideation has also been described in association with abortion and while one study found a statistically significant association between this and abortion subsequent and more extensive control for confounders resulted in a non significant association [29].

Turning to suicide, a number of record linkage studies from Finland [5] and the United States [25] have found higher rates in women who had had abortions than in other groups. One study [5] described rates of 34.7/100,000 in women who had abortions compared to 5.9/100,000 in those giving birth and a mean national rate for women of 11.3/100,000. These studies cannot demonstrate that abortion causes suicide although of course this is one possibility. Another is that there may be common factors associated with abortion seeking and suicide such as impulsivity or pre-existing mental illness.

Depressive disorder: Not surprisingly, this has been the most frequently studied conditions in respect of abortion since loss, of any type, is often a trigger. In one study [3] 22% of post abortion women met criteria for depression, a figure which the authors said was similar to the national in that age group although no control group was included.

IN a series of studies one [2] reported lower risks of depression among women who were not pregnant (65% lower risk) or who were pregnant but not having an abortion (52% lower risk) in comparison to women having abortions. although this was less powerful in a later study [9] Another long-term study [26] followed young women from the age of 12 for 27 years. It found that those in the 21-26 age range, but not the younger age range, had 2.9 time the odds of developing depression if they had an abortion as compared to giving birth.

Australian investigators [16] recently compared 4 groups according to their reproductive history- never pregnant, live birth, abortion and miscarriage and found the latter two had rates of affective disorder of over 400% although the differences only reached borderline significance when confounders were controlled. Further doubt is cast on the relationship between abortion and depression with two studies, using the same data set, reaching different conclusions. One [27] found that risk for depression was higher among married women who aborted a first unwanted pregnancy as compared to those who gave birth although there were no differences among unmarried women. The other however [4] stated that evidence, supporting the view that choosing to terminate rather than deliver of a first unwanted pregnancy was associated with a higher risk of depression, was inconclusive.

Anxiety disorders: Anxiety disorders have also been linked to abortion. One of the studies [15] identified panic disorder in 11% and agoraphobia in 18%, of women post-abortion,, rates that are significantly higher than in those not having abortion. The

fraction of the total that was contributed by abortion were calculated at 11.5% and 9.7% each and these findings on an increased rate for anxiety disorder have been replicated by others [16] including one that compared those having abortions to women experiencing miscarriage or giving birth. However, discrepant findings have also emerged with one study [22], using an overlapping database to that in one of the above studies, found that when variables relating to partner violence were controlled the impact of abortion on anxiety disappeared.

Other disorders: There is a suggestion [28] that unexplained physical symptoms are associated with prior abortion history the sample may be biased since the study was carried out in a specialist in-patient environment rather than in a general population. The possibility that abortion was linked to bipolar disorder was identified in a recent study [15] when it was diagnosed over double the numbers having abortion as compared to controls, amounting to a PAR of 16.6%. Other psychotic disorders have not been examined recently although one investigator [1] found that in those without a prior psychiatric history the risk of developing psychosis was higher after childbirth than after abortion although the necessity for hospitalisation for this was similar. One early study [23] found that psychotic reactions were more common in women who had abortions (18.4/10,000) as compared to post-partum women (12/10,000).

Utilisation of psychiatric services, among women making Medicaid claims have been found to be higher both for psychiatric admission rates [6] and out-patient attendance rates 29

What are the early warnings and when does psychiatric disorder emerge?

A question that is of concern to clinicians is what are the early warning signs that the woman has been adversely affected by the abortion? This is a little researched area but one possible guide might be the reaction of women to the procedure. Most women report satisfaction with the decision in retrospect although both negative and positive emotions are described including sadness, guilt, sorrow, regret, grief, relief, happiness. So the initial response to the abortion is for many a mixture of emotions with positive and negative. The level of distress, guilt and upset at the time of the abortion has been shown [10] to moderate subsequent mental health problems with those who show one negative reaction having rates of disorders that are 40-80% higher than in those reporting no negative reaction. Thus the presence of distress post-abortion may be a harbinger of subsequent mental health problems.

The possibility of symptoms emerging at other times cannot be discounted. In particular there is some evidence that symptoms may emerge during a subsequent pregnancy. This was termed “reactivated mourning” as it was believed to be due to failure to acknowledge and grieve for the loss of the previous pregnancy, with the new pregnancy serves as a reminder [30. 31] It has not received recent attention from the scientific community. Whether similar reactivation extends to other reminders of the terminated pregnancy such as a close relative announcing a pregnancy or delivering a baby has not been studied scientifically although there are anecdotal accounts of same. Periods of public discussion and controversy around the issue of abortion are also reported anecdotally as being a vulnerable time for many.

While it is expected that most reactions are likely to present in the first year or so after the abortion, there is some evidence that these can be delayed into the future, possibly as appraisal of events changes over time [11].

Are there specific symptoms?

Pregnancy loss, whether by abortion or miscarriage, has been to be associated with significant distress although the patterns differ for each. While relief is prominent initially in those having abortions this becomes intermingled with negative emotions and one study [32] identified guilt and shame as prominent along with avoidance of thoughts and feelings about the abortion two years after the event.

The usual symptoms of depression or anxiety will be described by those traumatised by abortion and these include low mood, anxiety and panic attacks. In addition, loss of pleasure from life (anhedonia), tearfulness, anxious foreboding, reduced interests, weight loss, poor concentration and insomnia might be a problem for some.

Although one study inquired about abortion specific symptoms [3] and failed to find any, anecdote and popular literature describes a number of such symptoms including a focus on the baby, worries about possible infertility in the future, anger directed at those who encouraged or provided the abortion and ruminations about whom the baby may have looked like or whom he/she might have resembled in personality. Further study in this area is called for.

4. The impact of abortion in other areas

a) The social outcome of abortion

Women frequently identify educational, relationship and financial considerations [33] as the most common reasons for the abortion decision. In light of the literature linking teenage motherhood to a range of social disadvantages such as educational underachievement and poverty [34], it might be expected that possible life benefits might accrue from terminating a pregnancy. Few studies have examined this issue. There is some evidence for benefits in the educational and financial among those having abortions as compared to those giving birth [35 36] with benefits to employment and education being noted although the latter study noted with lower self-esteem in those having abortions than those bringing the pregnancy to term while relationships deteriorate over time in both groups. A recent study [37] also found benefits to educational attainment while welfare dependence, lower employment rates and relationship difficulties were more common in the abortion group in comparison to others.

b) Partner and psychosexual relationships following abortion

Most of the focus has been on the presence of psychiatric disorders in women after abortion. A much less researched area is that of the impact of abortion on partner relationships or on sexual dysfunction. A review of the literature concluded that

negative sexual effects were identified by 10-20% of women post abortion [38] although the studies were of variable design and methodological quality. Notwithstanding this dispersion the authors concluded that there was a negative impact on the relationship, in a sizeable minority up to three years post-event. An interesting observation [39] was that men as well as women reported negative reactions. For men, experiencing an abortion in the current relationship was associated with an increased risk of jealousy and conflict about drugs while for women arguments focussed on money and relatives of the partner and of the subject. Both men and women experienced an increased risk of arguing about children as compared to those who had not experienced abortion. In addition women were found to have an increased risk of various forms of psychosexual dysfunction.

5 Does abortion have beneficial effects on women's mental health?

The impact of unintended pregnancy on mothers, on siblings and on the family in general is thought to be significant. This led the Institute of Medicine in the US [40] to recommend that policies be developed nationally to reduce such pregnancies. Similar policies have been adopted in many other countries such as Britain. Against this background women may seek abortion for unintended pregnancies as a protection against mental health problems and other difficulties while some jurisdictions specifically allow abortion on the grounds of risk to mental health.

This therefore raises the question – “Does abortion help the mental health of women who would otherwise be at risk of adverse reactions to an unwanted pregnancy?”. If abortion is helpful to women's mental health then the corollary, in the context of an unwanted pregnancy, is that being refused a termination would increase the likelihood of psychiatric illness.

Examining this question by studying the impact of being denied an abortion [1] the authors found that neither psychosis, non-psychotic disorder or deliberate self harm were significantly higher in those refused abortion as compared to those who gave birth or had abortions. This issue lay dormant until recently when one study commented [9] “Although decisions on whether to proceed with induced abortion are made on the basis of clinical assessments of the extent to which abortion poses a risk to maternal mental health, these clinical assessments are not currently supported by population level evidence showing the provision of abortion reduces mental health risks for women having an unwanted pregnancy”. These investigators [10] have recently turned their attention to this question in greater detail and found that bringing an unwanted pregnancy to term was not associated with a significantly increased risk of mental health problems (risk ratio 1.05-1.11). These findings suggest that as the woman adapts to carrying an unwanted pregnancy to term the distress decreases, supports come into play and a relationship is formed with the foetus at which point abortion is no longer contemplated.

What are the clinical implications of these findings?

Many doctors are reticent to ask questions of a personal nature and this is particularly true of sensitive areas such as reproductive history. Yet inquiring about reproductive decisions and about the response to them is crucial to mental health assessment. With regard to termination of pregnancy the issue is overhung by the belief that induced abortion, *per se*, does not cause any long term emotional difficulties and that the problems stem from past or concurrent vulnerability factors [13 14]. Moreover many see reproductive choices as a private domain, where people, including doctors are reluctant to tread.

Those who develop a psychiatric disorder after a stressful event such as childbirth or loss of a job have antecedent risk factors that may include poor social supports, prior history etc. These should not undermine the diagnosis but should inform a multifaceted approach to treatment, involving treatment of the symptoms, where possible modifying the perceived impact of the stressor and building resilience. The same principles apply to those who suffer adverse reactions to abortion – symptoms may need to be treated pharmacologically, as appropriate, the impact of the abortion may need to be addressed if the woman perceives it to be a trauma and steps should be taken, where practicable, to enhance her resilience whether by building self confidence or enhancing social supports.

Even if abortion is not "in and of itself" the cause of psychological problems, could it be viewed as a marker for greater risk of negative psychological outcomes? This clearly circumscribed event could thus be used to evaluate women beforehand, to identify the associated risks and to provide a range of interventions to alleviate these and treat subsequent mental illness as recommended by the Royal College of Psychiatrists [41]

A further difficulty is that women who develop psychiatric disorders post-abortion often present some considerable time after the event and it has been estimated that more than two out of three women do not return for follow-up appointments at the abortion clinic, limiting the possibility of early identification [42]. So while abortion is a sensitive area, it should be inquired about in a number of situations that fall into two broad categories – the first apply to women who have recently had an abortion and the second to women in general.

In addition routine inquiry into pregnancy loss events such as miscarriage, stillbirth and abortion and their emotional impact should be made on every patient presenting for a first psychiatric consultation and in cases of deliberate self harm, so that a complete understanding of the possible aetiology of the patients' condition can be arrived at.

6. What interventions improve life outcomes in women with adverse experiences of abortion?

As with any treatment decision, much will depend on the wishes of the woman concerned. But over and above that, when a woman wishes to deal with the emotional consequences of the termination there are no guidelines, either clinical or empirical, to assist in deciding to which agencies referral should be made or when this should take

place. So a doctor confronted with a woman distressed, say, six weeks after an abortion has to base the decision on clinical acumen rather than evidence.

Clinically, the first consideration is the recency of the abortion since it is understandable that distress will be present in many women in the weeks post abortion. Yet the finding that post-abortion distress may be a marker for the development of recognised psychiatric disorder [10] suggests that close follow-up is required in order to evaluate the onset of psychiatric disorder and to provide a suitable range of treatments to attenuate this.

Further deficits in our knowledge exist with regard to the type of interventions, whether psychological, pharmacological or in combination, that will achieve the best outcome both short and long term. Neither is there any information on who should deliver these. The one issue that is important is to acknowledge the emotion that the person is experiencing and not to minimise her sadness and sense of loss by comments that the correct decision was made or that the pregnancy was in the early stages. While well-meaning, this approach [11] may exacerbate the distress.

There are woefully few evaluations of interventions for women with post-abortion emotional difficulties. Moreover, the issue of whether abortion per se or some related factor is responsible when women develop psychological complications has fostered an atmosphere of uncertainty as to the need for specific interventions. In so far as there are any treatments, most are delivered by religious or by secular charities. Some individual therapists have developed interventions, some from a religious 43, others from a secular 44 that could theoretically be evaluated scientifically. An exception, albeit with a limited methodology, is a study [45] which found a change in symptoms during treatment using a spiritually based intervention. As there was no control group it cannot be demonstrated that this was due to the intervention rather than simply the passage of time. Bearing in mind the suggestion [32] that the literature on grief might be applicable in this type of pregnancy loss it is surprising that this has not been developed or evaluated in this context.

Summary

There are gaps in our knowledge relating to many aspects of the abortion-mental illness association. There is continuing debate concerning whether there is a causal link, with several recent studies suggesting a causal connection although others dispute this. It is accepted that there are risk factors that increase some women's vulnerability to psychiatric disorder post-abortion. Most of the non-psychotic psychiatric disorders have been studied and to a much lesser extent psychotic disorders. Anxiety disorders and substance misuse are most frequently and consistently described following abortion while studies relating to depression, PTSD and suicidal behaviour have shown conflicting results. The impact on social outcomes has been much less studied but abortion seems to confer benefits in a limited range of areas that pertain mainly to education but studies are limited in number and in duration of follow-up. There is some evidence that relationships and sexual function are impaired post-abortion but these studies are limited in number also. No recent studies have demonstrated that after controlling for the wantedness of the pregnancy women having abortions have better mental health outcomes than those giving birth

There is an almost total absence of intervention studies into the treatment of these conditions.

Practice points

Women who have recently had an abortion should:

- ✚ Be screened for distress
- ✚ If present, they should be followed up since it may be a transient, understandable reaction or may augur the onset of a recognised psychiatric disorder
- ✚ Those who are vulnerable (poor supports, prior history etc) should be closely monitored
- ✚ If the reaction is identified as abnormal in its intensity or duration, appropriate psychiatric/psychological referral should be made
- ✚ Inquiry about the relationship that the woman has with her partner

Specific consultation situations should also provide an opportunity to inquire about reproductive history and problems associated with same. These include

- ✚ when young women presenting for contraceptive advice
- ✚ In primary care when women of childbearing age present with emotional problems
- ✚ In those with pre- or post natal depression
- ✚ When intimate relationship problems are present the possible role of peri-natal loss including loss through induced abortion should be evaluated
- ✚ Women who have a known history of induced abortion should be screened for psychiatric disorder and relationship problems accruing from the abortion

Women who have abortion associated emotional problems should be referred for psychiatric/ psychological intervention although there is no evidence base to suggest benefit or otherwise and no specific therapies have been evaluated.

Research Agenda

- ✚ Virtually every areas relating to the psychosocial aspects of abortion requires further studies
- ✚ The question of the causal role of abortion *per se* in causing mental health problems needs to be resolved
- ✚ Further studies conducted over longer time periods than hitherto, on the impact of abortion in social areas such as employment, education are required
- ✚ The impact of abortion on intimate relationships and on sexual function requires further evaluation

- ✚ Interventions addressing the treatment of women specifically with post-abortion mental illnesses need to be developed
- ✚ These interventions need to be studied for efficacy and effectiveness

Multiple choice questions

Q1 Risk factors for developing psychiatric illness post abortion include

- 1 Previous psychiatric history True
- 2 Strong social supports False
- 3 Late abortion True
- 4. Having no previous children True

The answers to all of these questions are provided in table 1 and the related paragraph

Q2 Abortion is associated with

- 1. Increased rates of mental illness in some women True
- 2. Decreased rates of mental illness in some women False
- 3. Improvement in partner relationships overall False
- 4. Improvement in educational prospects in some women True

- 1. The studies describing the various psychiatric disorder in section 4, address Q1,
- 2. This is dealt with in section 5
- 3 and 4 are covered in section 4, b and a respectively.

Q3 Abortion is associated with

- 1. A specific psychiatric disorders known as post abortion syndrome False
- 2. A very high prevalence of psychotic illness
- 3. An increased risk of substance abuse
- 4. An increased risk of suicide

- 1. This has never been demonstrated (see section 2)
- 2. In so far as psychosis has been studied in section 4, “Other psychiatric Disorder” do not suggest there is a very high prevalence of these conditions (Gilchrist et al, 1986, Coleman et al 2009)
- 3 and 4 Section 4 also addresses these questions separately. In both it is important that “association” does not necessarily mean “causality” so the association between suicide and abortion does not mean that abortion causes death by suicide although it is one possible explanation.

References

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- ¹ Gilchrist, A. C. et al 'Termination of Pregnancy and Psychiatric Morbidity,' *British Journal of Psychiatry*, 1995, 167, 243-248
- ² Fergusson DM, Horwood LJ and Ridder EM. Abortion in young women and subsequent mental health. *Journal of Child Psychology and Psychiatry*. 2006, 47,1. 16-24
- ³ Major B., Cozzarelli, C., Cooper M. L., Zubek J., Richards C., Wilhite, M. et al. 'Psychological Responses of Women after First-Trimester Abortion,' *Archives of General Psychiatry*, 2000 57, 8, 777-84.
- ⁴ Schmiede S and Russo NF. Depression and unwanted first pregnancy: longitudinal cohort study. *British Medical Journal*. 2005, 331, 72. 1303-1308.
- ⁵ Gissler, M., Hemminki, E., & Lonnqvist, J. Suicides after pregnancy in Finland, 1987-94: register linkage study. *British Medical Journal*, 1996, 313, 1431-1434.
- ⁶ Reardon, Cogle, Rue et al. Psychiatric admissions of low-income women following abortion and childbirth. *Canadian Medical Association Journal*. 2003 168 (10). 1253-6
- ⁷ Adler N. E., David, H. P., Major, B. N. et al. 'Psychological Factors in Abortion: A Review,' *American Psychologist*, 1992, 47, 1194-1204.
- ⁸ Taft, A.J., Watson, L.F. 'Depression and Termination of Pregnancy (Induced Abortion) in a National Cohort of Young Australian Women: the Confounding Effect of Women's Experience of Violence,' *BMC Public Health*, 2008, 8, 1, 75. *
- ⁹ Fergusson DM, Horwood LJ and Boden JM. Abortion and mental health disorders: evidence from a 30-year longitudinal study. *British Journal of Psychiatry*. 2008, 193. 444-451. *
- ¹⁰ Fergusson DM, Horwood LJ and Boden JM. Reactions to abortion and subsequent mental health. *British Journal of Psychiatry*. 2009. 190. 420-426.
- ¹¹ Goodwin, P and Ogden, J. 'Women's Reflections Upon Their Past Abortions: An Exploration of How and Why Emotional Reactions Change over Time.' *Psychology and Health*, 2007, 22, 2, 231-248.*
- ¹² Speckhard A & Rue V. Post. Abortion Syndrome: An Emerging Public Health Concern. *Journal of Social Issues*, 1992, 48, 3,

-
- ¹³ American Psychological Association. Task Force on Mental Health and Abortion. 2008. Report of the Task Force on Mental Health and Abortion, Washington DC. *
- ¹⁴ Charles VE, Polis CB, Sridhara SK et al. Abortion and long term mental health outcomes: a systematic review of the evidence. *Contraception*. 2008, 78. 436-450.
- ¹⁵ Coleman PK, Coyle CT, Shuping M et al. Induced abortion and anxiety, mood and substance abuse disorders: isolating the effects of abortion. 2009, 43, 8. 770-6. *
- ¹⁶ Dingle, K, Alati R, Clavarino A et al. Pregnancy loss and psychiatric disorders in young women: an Australian birth cohort study. *British Journal of Psychiatry*. 2008, 193. 455-60.*
- ¹⁷ Rowlands S and Guthrie K. Abortion and mental health. *British Journal of Psychiatry*. 2009, 195,1. 83.
- ¹⁸ Hill, AB. The environment and disease: association or causation? *Proceeding of the 9Royal Society of Medicine*. 1965, 58. 293-300.
- ¹⁹ Paye EC, Kravitz AR, Notman MT et al. Outcome following therapeutic abortion. *Archives of General Psychiatry*. 1976, 33,6. 725-33.
- ²⁰ Kersting, A, Kroker, K, Steinhard, J. et al. (2007), 'Complicated Grief after Traumatic Loss: a 14-Month Follow-Up Study,' *European Archives Psychiatry and Clinical Neuroscience*, 2007, 257, 8, 437-434.
- ²¹ Korenromp, M. J., Christiaens, G.C., van den Bout, J et al, 'Long-term Psychological Consequences of Pregnancy Termination for Fetal Abnormality: a]Cross-Sectional Study,' *Prenatal Diagnosis*, 2005, 25, 3, 253-260.
- ²² Steinberg JR and Russo N. Abortion and anxiety. What's the relationship? *Social Science in Medicine*. 2008, 67,2. 238-252.
- ²³ David HP, Rasmussen NK and Holst E. Post-partum and post-abortion psychotic reactions. *Family Planning Perspectives*. 1981. 13 (2): 91-92
- ²⁴ Pedersen W. Childbirth, abortion and subsequent substance use in young women: a population based longitudinal study. *Addiction*. 2007. 102,12. 1971-8.
- ²⁵ Reardon DC, Rue PG, Scheuren F et al. Deaths associated with pregnancy outcome: a record linkage study of low income women. *Southern Medical Journal*. 2002, 95,8. 834-841.
- ²⁶ Pedersen W. Abortion and depression: a population-based longitudinal study of young women. *Scandinavian Journal of Public Health*. 2008. 36. 424-28.
- ²⁷ Reardon DC and Cogle JR. Depression and unintended pregnancy in the National Longitudinal Survey of Youth: a cohort study. *British Medical Journal*. 2002, 324, 7330. 151-152.

-
- ²⁸ Fertl, KL, Beyer R, Geissner E et al (2009). Women with a history of pregnancy loss or abortion. In a behavioural medicine hospital. Psychotherapy and Psychosomatic Medicine and Psychology. Epub ahead of print
- ²⁹ Coleman PK, Reardon C, Rue VM et al State funded abortions versus deliveries: a comparison of out-patient mental health claims over 4 years. *American Journal Orthopsychiatry*. 2002. 72,1. 141-152
- ³⁰ Kumar, R and Robson, K. 'Psychological Medicine: Previous Induced Abortion and Ante-Natal Diagnosis' in *Primiparae: Preliminary Report of a Survey of Mental Health in Pregnancy*, 1987, 8, 711-715
- ³¹ Kitamura T, Shima S, Sugawara M et al. Psychological and social correlates of the onset of affective disorders among pregnant women. *Psychological Medicine*. 1993, 23,4. 967-975.
- ³² Broen AN, Moum T, Bødtker AS et al. Psychological Impact on Women of Miscarriage Versus Induced Abortion: A 2-Year Follow-up Study. *BMC*. 2005, 12:3, 18
- ³³ Sihvo S, Bajos N, Ducot B et al. Women's life cycle and the abortion decision in unintended pregnancy. *Journal of Epidemiology and Community Health*. , 57,8. 601-5
- ³⁴ Font-Ribera L, Perez G, Salvador J et al. Socioeconomic inequalities in unintended pregnancy and abortion decision. *Journal of Urban Health*. 2008, 85,1. 125-35.
- ³⁵ Zabin LS, Hirsch MB and Emerson MR. When urban adolescents choose abortion: effects on education, psychological status and subsequent pregnancy. *Family Planning Perspectives*. 1989, 21,6. 248-55.
- ³⁶ Bailey PE, Bruno ZV, Bezerra MF. Adolescent pregnancy 1 year later: the effects versus motherhood in Northeast Brazil. *Journal of Adolescent Health*. 2001. 29,3. 223-32.
- ³⁷ Fergusson DM, Boden JM and Harwood LJ. Abortion among young women and subsequent life outcomes. *Perspectives on Sexual and Reproductive Health*. 2007, 39,1. 6-12.
- ³⁸ Bradshaw, Z and Slade, P. The effects of induced abortion on emotional experiences and relationships: a critical review of the literature. *Clinical Psychological Review* 2003, 23,7. 929-58.
- ³⁹ Coleman P, Rue VM and Coyle CT. Induced abortion and intimate relationship quality in the Chicago Health and Social Life Survey. *Public Health*. 2009, 123, 4. 331-338.

⁴⁰ Brown, SS and Eisenberg L. eds. 1995. *The Best Intentions: Unintended Pregnancy and the Wellbeing of Children and Families*. Washington DC. National Academy Press.

⁴¹ Royal College of Psychiatrists. Position Statement of Women's Mental Health in Relation to Induced Abortion. Royal College Of Psychiatrists, London. March 2008.*

⁴² Picker Institute. (1999). *From the Patient's Perspective - Quality of Abortion Care*, Boston, MA

⁴³ Burke T. (2002) *Forbidden Grief. The Unspoken Pain of Abortion*. Acorn Books

⁴⁴ Du Puy C and Dovitch D. (1997). *The Healing Choice. Your Guide to Emotional Recovery After Abortion*. Prentice Hall:

⁴⁵ Layer, SC, Roberts, C, Wild K et al. Post-abortion Grief: Evaluating the Possible Efficacy of a Spiritual Group Intervention. *Research on Social Work Practice*, Vol. 14, No. 5, 344-350 (2004)