

Long term non reproductive sequellae : Mental disorders

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A real scientific controversy ?

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- Scientific publications since 70 years !
- 80's : post traumatic syndrome = analogy with post traumatic syndrome in veterans, developed by Pro-Life movements (USA)
- The claim that abortion causes mental health problems is propagated by psychologists and politicised anti-abortion groups to dissuade women from abortion

- Define the problem: mental disorders that would be caused in a women by a voluntary termination of unwanted pregnancy
 - Psychiatric disorders well characterized by clinical signs or diagnosis, requiring treatment or causing suicide or taking toxic substances.
 - Occurring more than three months after a termination of pregnancy in countries that allow abortion
 - ✦ Is abortion increases the risk of developing mental disorders?
 - ✦ What are the predictors or risk factors for the possible occurrence of mental disorders after an abortion?
 - ✦ Is there a difference according to an unwanted pregnancy has ended by a delivery or interrupted by an abortion?

Induced abortion and psychological sequelae

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Summary of studies rated as 'very good' quality by systematic review of Charles et al 2008.⁷

Studies	Country	Design	Sample Size	Groups	Outcome measure	Relative Effect of abortion
Gilchrist et al 1995(ref ¹³)	UK	Prospective cohort	13 261	Abortion, Refused abortion, Delivered	Psychosis Depression Anxiety Self Harm	Neutral
Russo and Zerk 1992 (ref ¹²)	USA	Retrospective cohort	5295	Abortion, Delivered	Self esteem	Neutral
Schmiege and Russo 2005 (ref ⁴⁸)	USA	Longitudinal survey	1247	Abortion, Delivered	Depression	Neutral
Steinberg and Russo (ref ⁴⁹)	USA	Longitudinal survey	3482	Abortion, Delivered	Anxiety	Neutral

Best Practice & Research Clinical Obstetrics and Gynaecology 24 (2010) 657–665


Practice points

Women having a single first trimester abortion are not at any higher relative risk of mental health problems than if they deliver that pregnancy.

A previous history of psychiatric illness has been identified as one of the strongest predictors of mental health problems after abortion or childbirth.

Women who are ambivalent about the decision to have the abortion, or for whom the pregnancy was originally intended, or who lack a supportive partner, or belong to a cultural group that considers abortion to be wrong are at higher risk of negative psychological responses such as sadness and anxiety.

These same risk factors are also predictive of negative psychological responses following childbirth.



INDUCED ABORTION AND MENTAL HEALTH

A SYSTEMATIC REVIEW OF THE MENTAL HEALTH
OUTCOMES OF INDUCED ABORTION, INCLUDING
THEIR PREVALENCE AND ASSOCIATED FACTORS.

DECEMBER 2011

Developed for the Academy of Medical Royal Colleges by National Collaborating Centre
for Mental Health, London, 2011

180 articles identified by the RCP:

Peak in 2010 and 2011

44 studies included with heterogeneous methodological quality

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Studies	Total	Methodology		
		Poor or very poor	Suitable	Good or very good
Prevalence of mental disorders after abortion	35	15 (43%)	19 (54 %)	1 (3%)
<i>taking into account the history of mental illness</i>	7 (20%)	3	2	2
Search for associated factors	28	13 (46%)	9 (32%)	6 (21 %)
<i>Comparison after abortion and after unwanted pregnancy</i>	4		2	2

Methods used by the authors

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- Prospective studies (followed women for several years)
- Exploiting national surveys(ex. National Comorbidity Survey–NCS, USA, 1990-1992 NCS 1 and 2001-2003 NCS 2)
- Retrospective studies with interviews
- Internet surveys
- Crosses investigation (ex: Crossover death registry to identify suicides and the register of abortions)

1st question: Is abortion increases the risk of developing mental disorders?

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- Two studies both classified as 'good' and 'very good'
- Two studies from Coleman whose results are inconsistent with previous
- The scientific answers that have been given to Coleman studies
- The study of Munk-Olsen (NEJM)
- The last analysis of Steinberg (2014)

Steinberg et Russo, 2008

Abortion and anxiety : what's the relationship ? Social science & Medicine, 67, 238-252, 2008

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Mental Disorders	No Abortion (1)	1 abortion (2)	2 or + abortions (3)
Generalized anxiety disorders (GAD)	7,4 %	6,5% (ns with 1)	3 % (ns with 1 &2)
Social anxiety	13,4%	11,0% (ns with 1)	21,3% (ns with 1, p= 0,008 with 2)
PTS*	7,5 %	9,2% (ns with 1)	19,0 % (ns with 2, p= 0,004 with 1)

Same study with risk factors

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	Social Anxiety		PTS	
	OR	p	OR	p
2 or + TP versus 0 TP	1,65 (0,76-3,57)	0,20	1,29 (0,43-3,84)	0,64
2 or + TP versus 1 TP	1,96 (0,83-4,62)	0,12	1,32 (0,41-4,21)	0,64
1 IVG versus 0 TP	0,84 (0,44-1,63)	0,84	0,98 (0,54-1,78)	0,94

2^e study: Coleman et al, 2009

(Induced abortion and anxiety, mood, and substance abuse disorders : isolating the effects of abortion in the national comorbidity survey, Journal of Psychiatric research, 43, 770-776, 2009)

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Diagnosis	No abortion % of women	Abortion % of women	Significativity	
PTS	11,5	19,8	p<0,001	
Alcoholism	16,3	36,8	p<0,001	
Drug addiction	9,7	23,6	p<0,001	
Severe depression	26,6	40,7	p<0,001	
Agoraphobia	11,2	18,0	p<0,001	
Panic attacks	12,3	18,0	p<0,001	

3e study: Steinberg et Finer, 2011

(Examining the association of abortion history and current mental health : A reanalysis of the National

Comorbidity survey using a common risk-factors model, Social science and medicine, 72, 72-82, 2011).

Mental disorder	Comparison	OR without risk factors (95% CI) (p)	OR with risk factors (95% CI) (p)
Mood disorder	1 TP versus 0	1,4 (0,8-2,3) (ns)	1,1 (0,6-1,9)(ns)
	Multiple TP versus 0	1,9 (0,9-4,3) (ns)	1,0 (0,4-2,5) (ns)
Anxiety	1 TP versus 0	1,1 (0,7-1,7)(ns)	1,0 (0,6-1,6) (ns)
	Multiple TP versus 0	2,3 (1,4-3,9)(p<0,05)	⇒ 1,4 (0,7-2,6) (ns)
Taking Toxic substances	1 TP versus 0	2,1 (1,1-4,0)(p<0,05)	⇒ 1,4 (0,8-2,5) (ns)
	Multiple TP versus 0	5,2 (2,2-12,2)(p<0,05)	⇒ 4,0 (1,5-11,0) (p<0,05)

4e study: Coleman, 2011

(Abortion and mental health : quantitative synthesis and analysis of research, British Journal of Psychiatry, 199, 180-186, 2011)

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	Comparaison Abortion/ No abortion	
	Odds ratio	p
All mental disorders	1,81 (95% CI 1,57-2,09)	<0,0001
Taking marijuana	3,30 (95% CI 1,64- 7,44)	0,001
Suicidal behavior	2,55 (95% CI 1,31-4,96)	0,006
Alcoholism	2,10 (95% CI 1,77-2,49)	<0,0001
Depression	1,37 (95% CI 1,22-1,59)	<0,0001
Anxiety	1,34 (95% CI 1,12-1,59)	<0,0001

- Abortion increases women's risk of mental health problems by 81%
- 10% of mental health problems are attributable to abortions

- Violating guidelines for conducting a meta analysis
- Not accounting for dependence of effect sizes
- Calculating population attributable risk factor when not appropriate
- Not adhering to the stated inclusion and exclusion criteria
- Misclassifying the comparison group
- Adjusting effect sizes for different factors
- Making invalid inferences regarding the proportion of all births that are unintended

Abortion and mental health: findings from The National Comorbidity Survey-Replication

Obstet Gynecol 2014 Feb;123(2 Pt 1):263-70

- The **National Comorbidity Survey Replication (NCS-R)** was a study done with 9,282 new participants / NCS 1
- 259 women post abortion / 677 women post childbirth

Table 3. Hazard Ratios (95% Confidence Intervals) of Abortion Compared With Delivery for Each Disorder

Type of Disorder	Model 1	Model 2	Model 3	Model 4
Anxiety disorders	1.52* (1.08–2.15)	1.12 (0.86–1.46)	1.50* (1.08–2.09)	1.12 (0.87–1.46)
Mood disorders	1.56 [†] (1.23–1.98)	1.18 (0.91–1.52)	1.53* (1.19–1.95)	1.18 (0.88–1.56)
impulse-control disorders	1.62* (1.02–2.57)	1.10 (0.74–1.65)	1.51 (0.99–2.31)	1.10 (0.75–1.62)
Substance use	3.05 [†] (1.94–4.79)	2.25 [†] (1.35–3.78)	2.86 [†] (1.86–4.39)	2.30 [†] (1.35–3.92)
Eating disorders	2.53* (1.09–5.86)	1.79 (0.68–4.73)	2.39 (0.92–6.19)	1.82 (0.63–5.25)
Suicidal ideation	1.62* (1.09–2.40)	1.25 (0.87–1.79)	1.52* (1.05–2.19)	1.25 (0.88–1.78)

Model 1 is unadjusted; Model 2 is adjusted for prepregnancy mental health disorders; Model 3 is adjusted for prepregnancy adversities, miscarriage before pregnancy event, age at pregnancy event, race or ethnicity, and childhood economic status; and Model 4 is adjusted for the factors in Models 2 and 3.



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Dr. Priscilla K. Coleman, Ph.D



Dr. Coleman is a Professor of Human Development and Family Studies at Bowling Green State University in Ohio. Her Ph.D. training was in Lifespan Developmental Psychology at West Virginia University, graduating in 1998. After a four year post at the University of the South in Sewanee, TN, Dr. Coleman joined the faculty at BGSU in 2002.

The outlets for her nearly 50 peer-reviewed journal articles have been in various disciplines including psychology (developmental, clinical, and social areas), family studies, education, and medicine (psychiatry, general practice, obstetrics and gynecology) among others. She is currently on the editorial boards for five international psychology and medical journals. Dr. Coleman has published more peer-reviewed articles on the mental health implications of abortion than any other researcher in the world and she frequently presents her research to audiences across the U.S. and elsewhere.

In recent years she has spoken in Australia, England, Chile, Germany, Ireland, Poland, and Portugal. In 2012, Dr. Coleman presented research findings at Parliament Houses in the UK, New South Wales, and in Queensland. She has also been invited to speak at the UN on more than one occasion and has served as an expert in several state and civil court across the US. Finally, in 2007 she testified before U.S. Congress.

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5e study : Munk-Olsen et al, 2011

(Induced first-trimester abortion and risk of mental disorder, New England Journal of Medicine, 364, 332-339, 2011)

	Incidence of Psychiatric care	Significativity
9 months before abortion	1,46 % (95%CI 1,37-1,56)	ns (p= 0,19 avec ligne précédente)
12 months after abortion	1,52 % (95% CI 1,44-1,61)	

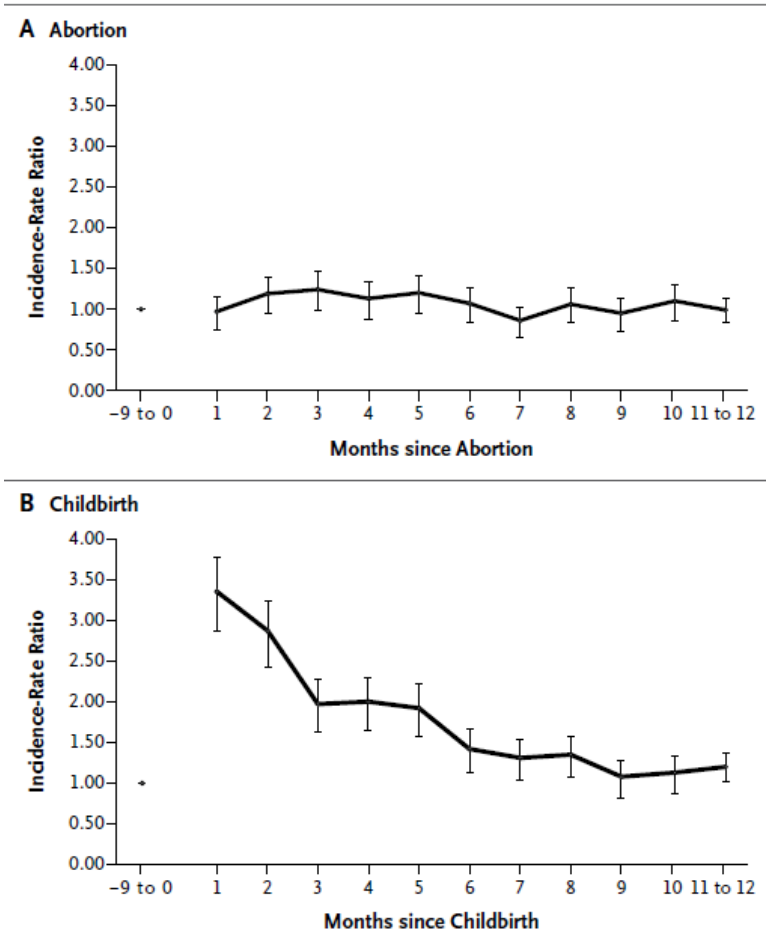


Figure 3. Incidence-Rate Ratios of First Psychiatric Contact for Any Mental Disorder before and after First-Trimester Induced Abortion or Childbirth. Panel A shows data for first-trimester induced abortion. Panel B shows data for childbirth. All data were adjusted for age and calendar period. The period -9 to 0 (the reference category) refers to the period from 9 months before the abortion or childbirth to the time of the event. I bars indicate 95% confidence intervals.

2^e question: What are the risk factors for the development of mental disorders in women having an abortion?

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- Six studies provide consistent results were considered methodologically sound or very good by the RCP
- The most predictive of the development of mental disorders following abortion factor is pre-existing mental disorders before the abortion (mood disorders, anxiety disorders, taking toxic substance)
- No effect of age or socio-economic factors

3^e question: Comparison between women who pursued an unwanted pregnancy and those having interrupted

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- Unwanted pregnancy is a significant life stressor which has been associated with increased incidence of mental health issues (Adler et al., 1990; Charles, Polis, Sridhara, & Blum, 2008; Russo, 2008)
- The effects of unwanted pregnancy aside from the abortion could explain the differences between women who continued their pregnancies and women who have abortions
 - Most of the studies compares the frequency of mental disorders after abortion than after childbirth
 - But a particularly limiting factor is that **in most of these studies, it is not possible to know if the pregnancy was desired or not** (ex Fergusson 2006 in NZ)
 - Only four studies control whether the pregnancy was planned or not

3^e question: Comparison between women who pursued an unwanted pregnancy and those having interrupted

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Psychiatric History	Comparison	Risk ratio (95% CI)
Psychosis	Delivery / Abortion	0,8 (0,5-1,2) ns
Psychiatric disorder except psychosis	Delivery / Abortion	1,0 (0,9-1,2) ns
None	Delivery / Abortion	1,0 (1,0-1,1) ns

Gilchrist et al

Conclusion

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- No hard evidence to present to say that abortion can cause an increase in the frequency of mental disorders
- This does not mean that women who had an abortion do not have mental disorders, especially women who already had a mental disorder before induced abortion, or who have been exposed to some form of violence
- No hard evidence currently exists to suggest that women who interrupt an unwanted pregnancy have more mental disorders than those who give birth