

Early pregnancy loss in Ireland: A scoping review

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Background

- Pregnancy loss can occur at any point during a pregnancy, from conception to the neonatal period
- Spontaneous miscarriage is the most common complication of pregnancy, and occurs in around 15-25% of pregnancies^{1,2}
- Definitions of early pregnancy loss and miscarriage vary across countries and organisations, making international comparisons and estimates of the prevalence of pregnancy loss difficult.^{1,3}

1. Quenby et al. Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss. *The Lancet*. 2021;397(10285):1658-67.

2. Health Service Executive, Royal College of Physicians of Ireland. Clinical Practice Guideline: Management of Early Pregnancy Miscarriage. 2014.

3. Kolte et al. Terminology for pregnancy loss prior to viability: a consensus statement from the ESHRE early pregnancy special interest group. *Hum Reprod*. 2015;30(3):495-8.

Early pregnancy loss

- The Institute of Obstetricians and Gynaecologists at the Royal College of Physicians in Ireland defines early pregnancy loss as a loss within the first 13 weeks of pregnancy¹
- Ectopic pregnancy is a serious, life-threatening complication of early pregnancy, involving the growth of a pregnancy outside of the womb
 - Reported incidence was 16.8 per 1,000 deliveries in Ireland in 2019²
- Molar pregnancy involves the development of abnormal cells in the womb, which can progress and metastasize
 - Estimated to affect 1 in 600 to 1 in 700 pregnancies in Ireland³

1. Institute of Obstetricians and Gynaecologists RCPI and Directorate of Quality and Clinical Care, HSE. Ultrasound diagnosis of early pregnancy miscarriage clinical practice guideline. 2010.
2. HSE, Office of the National Women and Infants Health Programme, National Clinical Programme for Obstetrics and Gynaecology. Irish Maternity Indicator System National Report 2019.
3. National Gestational Trophoblastic Disease Registry Monitoring and Advisory Centre. Gestational Trophoblastic Disease - Molar Pregnancy 2021.

Early pregnancy loss

- Providing precise estimates of early pregnancy loss is challenging as some early miscarriages occur before the woman knows that she is pregnant
- Many women who experience first trimester miscarriage are managed in outpatient or community settings, while some do not interact with healthcare services at all
- The Irish National Standards for Bereavement Care following Pregnancy Loss and Perinatal Death acknowledge that there are limited or no national data available on certain types of pregnancy losses in Ireland.¹

The National Maternity Bereavement Experience Survey

- The first National Maternity Bereavement Experience Survey will provide an opportunity for parents who experienced a second trimester miscarriage, a stillborn infant or the early neonatal death of a baby to describe their experiences of care
- Considering the differences in care settings, contact with healthcare services and treatment options, women's maternity care experiences of early pregnancy loss are outside of the scope of the first National Maternity Bereavement Experience Survey.

Methods

▪ **Inclusion criteria**

- (non)randomised trials
- cohort studies
- case control studies
- cross-sectional studies
- qualitative studies
- conducted in Ireland or reporting Irish data

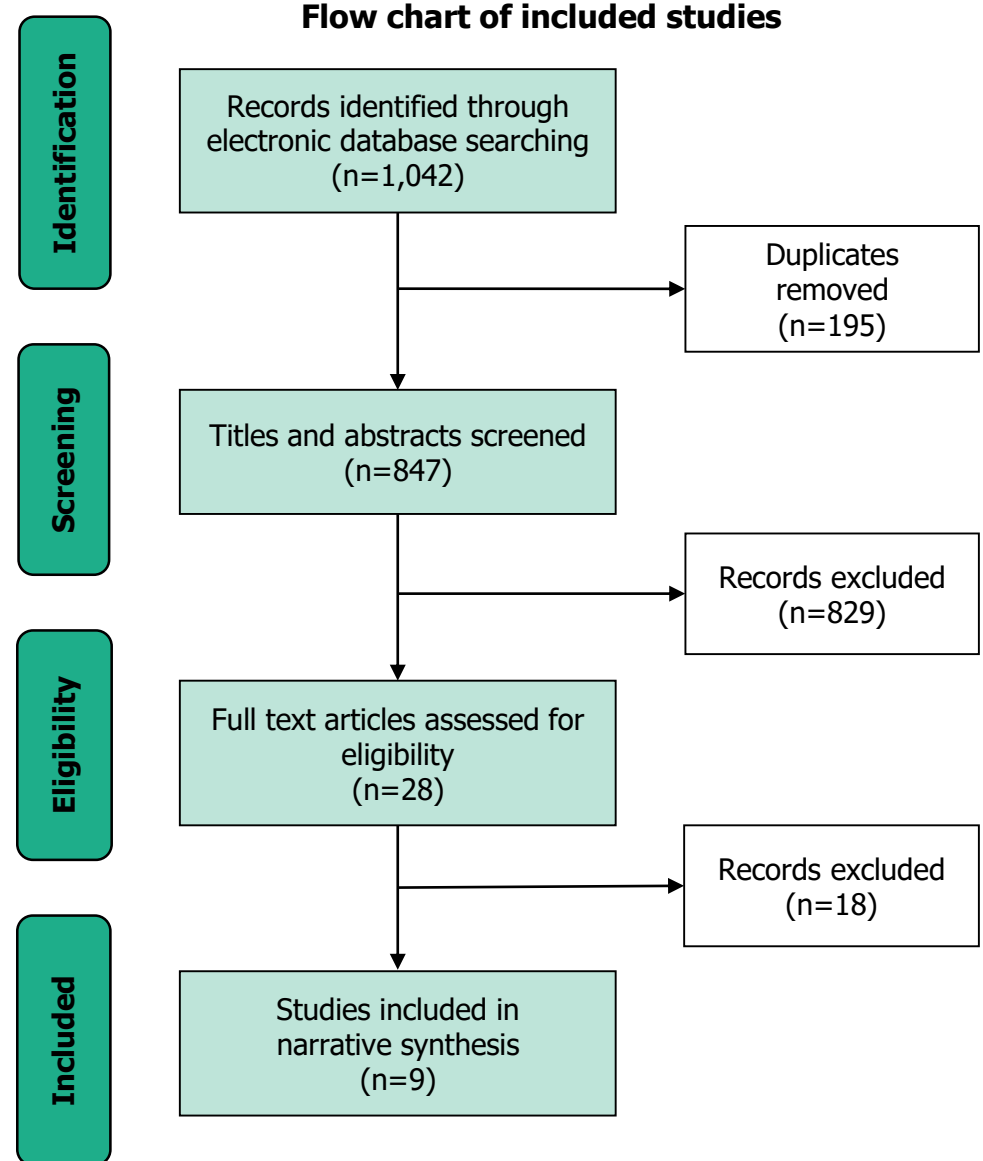
▪ **Exclusion criteria**

- Case reports or case studies
- reviews
- letters
- discussion papers
- conducted outside of Ireland or using non-Irish data



Methods

- Databases and repositories searched
 - PubMed
 - CINAHL
 - PsycINFO
 - Web of Science
 - Lenus
 - Google and GoogleScholar
 - Institutional repositories for Masters/PhD theses/dissertations
- 1 January 2010 to 21 June 2021.



Results

- Nine studies published since 2010:
 - Two studies reported on the incidence of early miscarriage or ectopic pregnancy hospitalisations^(1, 2)
 - Four studies focused on women's or parent's experiences of (early) pregnancy loss⁽³⁻⁷⁾
 - Three studies reported on public awareness⁽⁸⁻⁹⁾

Included studies

1. Campillo ISSL, Meaney S, O'Donoghue K, Corcoran P. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2018;231:174-9.
2. Campillo ISSL, Meaney S, O'Donoghue K, Corcoran P. Reprod Health. 2019;16(1):51.
3. Meaney S, Corcoran P, Spillane N, O'Donoghue K. BMJ open. 2017;7(3):e011382.
4. Purandare N, Ryan G, Cipriker V, Trevisan J, Sheehan J, Geary M. Irish medical journal. 2012;105(10):326-8.
5. Spillane N, Meaney S, O' Donoghue K. Sex Reprod Healthc. 2018;16:154-9.
6. Mulvihill A, Walsh T. British Journal of Social Work. 2014;44(8):2290-306.
7. McCarthy CM, Meaney S, Rice R, Sheehan J, O'Donoghue K. Eur J Obstet Gynecol Reprod Biol. 2020;254:200-5.
8. Campillo ISSL, Meaney S, Sheehan J, Rice R, O'Donoghue K. Matern Child Health J. 2021;25(2):282-92.
9. Campillo ISSL, Meaney S, Sheehan J, Rice R, O'Donoghue K. BMC Womens Health. 2018;18(1):188.

Characteristics of included studies

Author	Study design	Sample	Key findings/main themes
Incidence or prevalence of first trimester miscarriage, ectopic or molar pregnancy in Ireland			
Campillo 2018 ⁽¹⁾	Retrospective database study	N=12,098 hospitalisations for ectopic pregnancy.	Overall hospitalisation rate for ectopic pregnancy was 15.1 per 1,000 deliveries (95% CI 14.8, 15.4) – 12.8/1,000 deliveries in 2005 (95% CI 11.9, 13.7); 17.7/1,000 deliveries in 2016 (95% CI 16.6, 18.7).
Campillo 2019 ⁽²⁾	Retrospective database study	N=50,538 hospitalisations for early miscarriage.	Overall hospitalisation rate for early miscarriage was 63.0 per 1000 deliveries (95% CI 62.5, 63.6) – 70.6/1,000 deliveries in 2005 (95% CI 68.4, 72.8); 51.5/1,000 deliveries in 2016 (95% CI 49.7 to 53.3).
Women's experiences of first trimester miscarriage, ectopic pregnancy or molar pregnancy			
Meaney 2016 ⁽³⁾	Qualitative	N=16 people (incl. 4 couples) who experienced miscarriage.	Acknowledgement of miscarriage as valid loss, misperceptions of miscarriage, hospital environment and management of miscarriage, support and coping, reproductive history and implications for future pregnancies.
Mulvihill 2014 ⁽⁴⁾	Qualitative	N=8 women who had experienced a miscarriage.	Importance of communication, physical hospital environment, The presence of disenfranchised grief, follow-up support.
Purandare 2012 ⁽⁵⁾	Cross-sectional	N=75 women who experienced early pregnancy loss.	Type of miscarriage did not appear to impact on severity of grief. For women who had an ectopic pregnancy, grief was more severe if they had no living children. For women with a living child, grief severity appeared to increase with the number of miscarriages.
Spillane 2018 ⁽⁶⁾	Qualitative	N=7 women who experienced ectopic pregnancy.	Coping with shattered expectations, management: a lack of regard for this loss by caregivers, bereavement care and acknowledgement of loss.
Public awareness of first trimester miscarriage, molar or ectopic pregnancies in Ireland			
Campillo 2021 ⁽⁷⁾	Cross-sectional	N=746 university students.	59.2% identified the common features of first trimester miscarriage. 27.7% identified that a cause could be identified for 50 to 60% of first trimester miscarriages.
Campillo 2018 ⁽⁸⁾	Cross-sectional	N=746 university students.	20.1% identified the estimated rate of first trimester miscarriage to be 20%, while 30.7% believed that miscarriage occurs in less than 10% of pregnancies. 42.4% identified genetic abnormality as the main cause of miscarriage.
McCarthy 2020 ⁽⁹⁾	Cross-sectional	N=967 Irish adults.	39.7% defined miscarriage as a pregnancy loss after 24 weeks. 28.2% estimated that first trimester miscarriage occurs in 21-30% of pregnancies.

Incidence and prevalence

- Incidence of early miscarriage hospitalisation (before 14 completed weeks)
 - 63.0 per 1,000 deliveries between 2005 and 2016
 - 49.7 per 1,000 deliveries in 2016
- Incidence of ectopic pregnancy hospitalisation
 - 15.1 per 1,000 deliveries between 2005 and 2016
 - 17.7 per 1,000 deliveries in 2016.

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Public awareness

- 59% of students identified the most common features of first trimester miscarriage
- Male students more likely to have poorer knowledge
- Older students, those studying medicine or another health discipline and those who were married, cohabitating or in a relationship more likely to correctly identify signs and symptoms
- Preferred sources of information were Google, GPs, hospitals.

Author	Study design	Sample	Key findings/main themes
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Campillo 2021 ⁽⁷⁾	Cross-sectional	N=746 university students.	59.2% identified the common features of first trimester miscarriage. 27.7% identified that a cause could be identified for 50 to 60% of first trimester miscarriages.

Public awareness

- 20% of students identified the estimated rate of first trimester miscarriage to be 20%
- 30% believed that miscarriage occurs in less than 10% of pregnancies
- Women, older students and those who knew someone who had a miscarriage more likely to correctly identify rate of miscarriage
- Most students correctly identified established risk factors, including drugs, a maternal medical condition and alcohol
- 42.4% correctly identified chromosomal abnormality as the most common cause of first trimester miscarriage.

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Public awareness of first trimester miscarriage, molar or ectopic pregnancies in Ireland			
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Public awareness

- 28% of Irish adults correctly estimated that first trimester miscarriage occurs in 21-30% of pregnancies
- 61% underestimated and 8% overestimated
- Men and those without children more likely to underestimate the rate of miscarriage
- 83% were aware of someone who had experienced a miscarriage
- 9% of respondents and 6% of partners experienced a miscarriage themselves
- Preferred sources of information included the Internet, GPs and hospitals.

Author	Study design	Sample	Key findings/main themes
Public awareness of first trimester miscarriage, molar or ectopic pregnancies in Ireland			
McCarthy 2020 ⁽⁹⁾	Cross-sectional	N=967 Irish adults.	39.7% defined miscarriage as a pregnancy loss after 24 weeks. 28.2% estimated that first trimester miscarriage occurs in 21-30% of pregnancies.

Women's experiences

- Severity of grief experienced by women appeared similar for early miscarriage, ectopic pregnancy and molar pregnancy.
- For women with ectopic pregnancy, grief was more intense for those who had no living children
- For women who had a living child, grief intensity appeared to increase with the number of miscarriages.
- Only women attending a miscarriage clinic in one maternity hospital in Ireland were included

Author	Study design	Sample	Key findings/main themes
Women's experiences of first trimester miscarriage, ectopic pregnancy or molar pregnancy			
Purandare 2012 ⁽⁵⁾	Cross-sectional	N=75 women who experienced early pregnancy loss, including early miscarriage (defined as miscarriage prior to 16 weeks), ectopic and molar pregnancy.	Type of miscarriage did not appear to impact on severity of grief (perinatal grief scale). For women who had an ectopic pregnancy, grief was more severe if they had no living children. For women with a living child, grief severity appeared to increase with the number of miscarriages.

Women's experiences

- Qualitative studies highlight sadness, anger, confusion and blame experienced by bereaved parents
- Grief is often hidden due to lack of public acknowledgement and recognition, leaving women and couples feeling isolated and alone.
- Importance of clear and detailed information about diagnosis, treatment options and the potential impact of the loss on future fertility.

Women's experiences of first trimester miscarriage, ectopic pregnancy or molar pregnancy

Meany 2016 ⁽³⁾	Qualitative	N=16 people (incl. 4 couples) who experienced miscarriage.	Acknowledgement of miscarriage as valid loss, misperceptions of miscarriage, hospital environment and management, support and coping, reproductive history and implications for future pregnancies.
Mulvihill 2014 ⁽⁴⁾	Qualitative	N=8 women who had experienced a miscarriage.	Importance of communication, physical hospital environment, the presence of disenfranchised grief, follow-up support.
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Women's experiences

- Hospital environment, particularly presence of couples with ongoing pregnancies is challenging
- Medical terminology surrounding pregnancy loss
- Women with experience of early pregnancy loss report increased levels of anxiety during subsequent pregnancies.

Women's experiences of first trimester miscarriage, ectopic pregnancy or molar pregnancy

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Conclusion

- Limited awareness and knowledge of early pregnancy loss among the general public
- Lack of agreement between studies on what was considered the 'correct' rate of first trimester miscarriage
- No studies focusing exclusively on molar pregnancy were identified.



Conclusion

- Administrative data on first trimester miscarriage, ectopic pregnancy or molar pregnancy are not routinely collected or reported in Ireland
- Early pregnancy loss is a distressing and traumatic experience for parents, who require dedicated supports and services
- Capturing and reporting complete and accurate data on all types of pregnancy loss occurring in Ireland could help to raise public awareness and inform healthcare planning and practice.



Early pregnancy loss: A scoping review

- Full report available on our website:

https://yourexperience.ie/wp-content/uploads/2021/10/Scoping-Review-of-Early-Pregnancy-Loss-in-Ireland_12102021-1.pdf





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