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Clinical characteristics, management and outcomes of hyperemesis gravidarum: a retrospective study in an Irish maternity hospital

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Year published: 2026

Study Design

Researchers examined hospital records (retrospective observational review) to better understand how HG presents, how it is treated, and what pregnancy and infant outcomes are associated with current care practices. This study was conducted at a large Irish maternity hospital (The National Maternity Hospital in Dublin).

Participants: 198 women admitted to hospital with a diagnosis of Hyperemesis Gravidarum between 2020 to 2023. This included 73 women who attended the dedicated dayward/IRIS clinic

What information was collected? Demographic and clinical characteristics, HG severity, weight changes, hospital attendance, medication and pregnancy outcomes. Data for the non-HG population were extracted from the 2022 hospital clinic report for comparison with HG data.

Key Findings

- Most women were admitted during the first trimester with significant vomiting, dehydration, ketonuria, and weight loss. Many required multiple hospital admissions during pregnancy.
- Almost all (97%) had moderate or severe symptoms of nausea, vomiting and/or retching when they first attended.
- 72% reported a wellbeing score of five or less out of 10, indicating substantial distress. The authors observed a link between higher PUQE scores and lower wellbeing scores, highlighting the impact of severe nausea and vomiting on overall maternal health.
- By the time women were first seen, they had lost on average 2.6kg, and 2 in 5 had lost over 5% body weight which is considered significant.
- Women were under the HG service for an average of 11 weeks. During this time, 76% required day ward management, 78% attended A&E, and 37% needed overnight admission, at least once.

- Half of them tried 3-4 medications, with 88% prescribed Cariban (drug name: Doxylamine/Pyridoxine) and/or Stemetil (drug name: Prochlorperazine)
- There were 187 live births, of which slightly more were male (55.2%) and most (70%) were vaginal deliveries.

Significance

This research demonstrates that HG places a significant physical and healthcare burden on women and maternity services. The findings support the need for clear clinical pathways, standardised treatment protocols, early intervention, and dedicated HG services, such as specialist outpatient or day-case clinics. The study provides important baseline data to inform service development and improve care for women with HG in Ireland.



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The far-reaching burden of Hyperemesis Gravidarum—an exploration of women's experiences and perceptions of healthcare support.

Authors: Beirne, E. R., Andrews, L. B., Murtagh, L. P., Browne, S., Curran, S. B., & O'Brien, E. C.

Year published: 2023

Background: HG exerts a profound effect on a woman's physical and mental health, but there is not enough known about women's experiences of enduring HG and their interactions with healthcare professionals in Ireland.

Study Design: The researchers spoke with 11 women who had experienced HG, either during pregnancy or shortly after giving birth. They used small group discussions (focus groups) to let women share their personal stories. The conversations were recorded, written down, and then analysed to find common themes.

Aim: To gain insight into the personal and healthcare experiences of women with HG.

Key findings: The study identified four main themes:

- The emotional toll of HG: HG deeply affected women's mental health. Many felt isolated, unable to live normal daily lives, and even lost their sense of identity. HG clashed with the idea of a "happy pregnancy," leaving some unable to bond with their baby during or after pregnancy.
- Reluctant treatment of HG: Many women felt healthcare professionals didn't understand how serious HG was, often dismissing it as "just morning sickness." Some doctors were reluctant to prescribe medication, and women themselves were fearful about taking drugs during pregnancy, even when needed.
- The treatment journey. Positive side: IV fluids (hydration through a drip) were described as a lifeline. Challenges: Day wards often weren't suitable, with too few resources and women feeling rushed or overlooked. Community care was also hard to access. Confusion about care: Women felt no single healthcare professional "owned" HG care, leaving gaps in treatment. Dietitians often provided unexpected emotional and practical support, not just nutrition advice. Aftercare: Once HG symptoms improved, women felt abandoned without guidance on recovery or postnatal needs.
- The far-reaching burden: Financial strain: Medication and private care were expensive. Some women even had to source medicine from abroad. Impact on relationships: Partners and family often had to take over childcare and household responsibilities. HG also affected women's decisions about having more children. Physical effects: Beyond vomiting, women described loss of bodily control (e.g., incontinence), malnutrition, and guilt about not being able to nourish their baby properly.

Significance: The study shows HG is not just a medical condition, it affects every part of a woman's life: her health, her finances, her relationships and her mental well-being. Women want:



- A dedicated HG service with clear leadership.
- More understanding and support from healthcare providers.
- Easier access to medication and IV fluids.
- Mental health care tailored to HG.
- Greater awareness in society so family, friends, and employers can better support them.



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The IRIS clinic: A Protocol for a mixed-methods study evaluating the management of Hyperemesis Gravidarum

Authors: O'Brien, E. C., Doherty, J., Killeen, S. L., Bennett, M., Murtagh, L., Curran, S., Murphy, S., McHale, H., & Sheehy, L.

Year published: 2024

Background: Despite the burden of HG, there is limited evidence on the most effective ways to manage the condition. In 2020, The National Maternity Hospital in Dublin established the IRIS Clinic. This is the first dedicated day-case service for HG in Ireland. The clinic was developed in response to patient feedback and offers holistic, coordinated care in a supportive outpatient setting. The multidisciplinary team includes midwives, obstetricians, dietitians, pharmacists, and perinatal mental health specialists, while also providing opportunities for peer support among attendees.

Study Design: This research outlines the protocol for a mixed-methods evaluation of the IRIS Clinic. The study is composed of three key elements:

- Prospective arm – 50 women attending the IRIS Clinic will be followed over time. Their symptoms, nutritional intake, quality of life, and well-being will be assessed before their first clinic visit and again eight weeks later.
- Qualitative arm – Semi-structured interviews will capture participants' lived experiences, focusing on the impact of the clinic on their care, well-being, and pregnancy journey.
- Retrospective arm – A chart review of 200 women previously diagnosed with HG will evaluate treatments received and pregnancy outcomes prior to the clinic's establishment.

Aims: The study seeks to determine whether the IRIS Clinic model improves outcomes for women with HG and to assess the practicality and effectiveness of this service. If successful, this approach could provide a blueprint for similar services nationally and internationally.

Significance: By systematically evaluating both clinical outcomes and patient experiences, this study represents an important step in developing evidence-based, patient-centred models of care for Hyperemesis Gravidarum.



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Women's Experiences of Hyperemesis Gravidarum and Attending a Dedicated Multi-disciplinary Hydration Clinic

Authors: Doherty, J., McHale, H., Killeen, S. L., Curran, S., Bennett, M., Sheehy, L., Murphy, S., Murtagh, L., & O'Brien, E

Year published: 2023

Background: Traditionally, care for HG has been fragmented, with women often relying on GPs or emergency departments for ad-hoc treatment. Many women report that their condition is misunderstood and undervalued by healthcare providers. In response, the IRIS Clinic was established in 2020 at the National Maternity Hospital, Dublin. This is the first dedicated day-case service for HG in Ireland. The clinic provides coordinated, multi-disciplinary care involving midwives, dietitians, obstetricians, and perinatal mental health professionals. Women receive intravenous fluids, medication review, dietary support, and psychological input in a supportive outpatient setting.

Study Design: This study explored women's lived experiences of both HG itself and attending the IRIS Hydration Clinic. We interviewed 10 women who had attended the clinic at least twice. Qualitative analysis of the interview transcripts were completed using a method known as Reflexive Thematic Analysis.

Aims: The study aimed to capture women's perspectives on HG and to evaluate whether a dedicated hydration clinic met their needs. The findings provide direction for refining and expanding HG care models

Key Findings: Four main themes were identified:

- HG – Not just morning sickness: Participants highlighted the severity of the condition, its profound physical and psychological impact, and the lack of recognition both socially and within healthcare.
- IRIS – Not just a clinic: Women described overwhelmingly positive experiences of the clinic, emphasising the benefits of continuity of care, individualised treatment, validation of their condition, and the sense of safety that regular appointments provided.
- Relationships: The supportive relationships built with midwives, dietitians, and peers at the clinic were described as central to women's well-being. The clinic fostered a sense of camaraderie and reduced feelings of isolation.
- The Future of IRIS: Women recommended expanding the service (more clinic days), strengthening the role of perinatal mental health support, providing clearer information resources, and ensuring sensitivity around discussions of weight and diet.

Significance: The study concludes that dedicated HG clinics provide substantial benefits for physical and mental health, reduce reliance on emergency and inpatient care, and validate HG as a serious medical condition. The findings strongly support the development of similar services across maternity units nationally and internationally.



Day care versus inpatient management of nausea and vomiting of pregnancy: cost utility analysis of a randomised controlled trial

Authors: Murphy, A., McCathy, F.P., McElroy, B., Khashan, A.S., Spillane, N., Marchocki, Z., Sarkar, R.K., Higgins, J.

Year Published: 2016

Background: This study compared an outpatient “day care” treatment approach for severe nausea and vomiting in pregnancy against traditional inpatient hospitalisation. Researchers performed a cost–utility analysis based on a randomised controlled trial in a maternity hospital in Ireland (98 pregnant women). The goal was to evaluate which approach offers better value and outcomes for patients and the health system.

Study Design: The study was a randomised controlled trial (RCT) conducted in a maternity hospital in Ireland. It compared two groups of pregnant women experiencing severe nausea and vomiting:

One group received day-care outpatient management, where they were treated during the day and returned home. The other group received traditional inpatient care, involving hospital admission.

Participants were randomly assigned to either group, and the study measured outcomes such as hospital stay duration, patient satisfaction, health utility (QALYs), and cost-effectiveness.

Aims: The aim of the study was to evaluate whether day-care outpatient management for severe nausea and vomiting in pregnancy (NVP) is a cost-effective alternative to traditional inpatient hospital care, without compromising patient outcomes or satisfaction.

The researchers specifically sought to:

- Compare the clinical effectiveness of both approaches.
- Assess patient satisfaction with each model.
- Conduct a cost–utility analysis to determine which strategy offers better value for money, using quality-adjusted life years (QALYs) as the health outcome metric.

Key Findings:

- **Cost Savings:** Day-care management was significantly less expensive than inpatient care—approximately €985 per patient versus €3,837 for inpatient treatment.
- **Equivalent Health Outcomes:** Both groups achieved similar health outcomes, with no significant difference in quality-adjusted life years (QALYs) gained.
- **Reduced Hospital Stay:** Patients in the day-care group had a median hospital stay of 0 days compared to 2 days in the inpatient group.
- **High Patient Satisfaction:** Satisfaction scores were comparable between groups, indicating that patients found day-care treatment acceptable and effective.



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- Cost-Effectiveness: The probability that day-care management was the more cost-effective strategy was around 70%, making it a strong candidate for preferred care delivery.

Significance: The significance of this study lies in its demonstration that day-care management for severe nausea and vomiting in pregnancy (NVP) can be just as clinically effective and satisfactory for patients as traditional inpatient care—while being substantially more cost-effective.



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A Prospective Cohort Study Investigating Associations between Hyperemesis Gravidarum and Cognitive, Behavioural and Emotional Well-Being in Pregnancy

Authors: McCarthy, F.P., Khasan, A.S., Robyn, A.N., Moss-Norris, R., Baker, P.N., Dekker, G., Poston, L., Kenny, L.C., on behalf of the SCOPE consortium

Year Published: 2011

Study Design: The study was a large, prospective cohort that followed over 3,400 first-time pregnant women, comparing those with and without hyperemesis gravidarum to assess how severe vomiting affected their mental health and pregnancy outcomes.

Women were interviewed at 15 and 20 weeks of pregnancy, and their emotional well-being and pregnancy results were tracked and analysed.

Aims: The aim of the study was to investigate whether HG is associated with changes in cognitive, behavioural, and emotional well-being during pregnancy, and to determine if HG increases the risk of negative pregnancy outcomes such as preterm birth.

Key Findings:

- Women with hyperemesis gravidarum (HG) had significantly higher levels of anxiety, stress, depression, and limiting behaviour during pregnancy compared to women without HG.
- These effects were even stronger in women with severe HG (those who required hospitalisation).
- For most women, stress, depression, and limiting behaviour scores improved after the HG symptoms resolved, but anxiety levels remained elevated for weeks after vomiting stopped.
- Severe HG was linked to a higher risk of spontaneous preterm birth (about 2.6 times greater risk compared to women without HG).
- There were no significant differences in birthweight, small for gestational age (SGA), or infant sex ratio between women with and without HG.

Significance: The significance of this study is that it shows HG, especially when severe, not only affects physical health but also has a substantial impact on a woman's mental and emotional well-being during pregnancy. It highlights that women with HG are at higher risk for anxiety, stress, and depression, and that severe HG increases the risk of preterm birth.

This means that healthcare providers should pay attention to both the physical and psychological needs of women with HG and consider offering emotional support and anxiety management as part of their care. The study also suggests that improving mental health support could potentially improve pregnancy outcomes for women suffering from HG.



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