DOI: 10.1111/ajo.13359

SHORT COMMUNICATION

Pregnant women report being denied medications to treat severe nausea and vomiting of pregnancy or hyperemesis gravidarum – findings from an Australian online survey

Han-Fang Hsiao[1], Alicia Thomas[1], Caitlin Kay-Smith[2] and Luke E. Grzeskowiak[1,3,4,5]

[1]SA Pharmacy, Flinders Medical Centre, SA Health, Adelaide, South Australia, Australia

[2]Hyperemesis Australia, Sydney, New South Wales, Australia

[3]College of Medicine and Public Health, Flinders Health and Medical Research Institute, Flinders University, Adelaide, South Australia, Australia

[4]Adelaide Medical School, Robinson Research Institute, University of Adelaide, Adelaide, South Australia, Australia

[5]South Australian Health and Medical Research Institute, Adelaide, South Australia, Australia

Correspondence: A/Prof Luke E. Grzeskowiak, Department of Clinical Pharmacology, Flinders University, GPO Box 2100 Adelaide, SA 5001, Australia.
Email: luke.grzeskowiak@flinders.edu.au

Conflict of Interest: The authors report no conflict of interest.

Received: 8 February 2021;
Accepted: 17 March 2021

We conducted an online survey of 249 Australian women who currently or previously experienced severe nausea and vomiting of pregnancy (NVP) or hyperemesis gravidarum (HG) and examined their experiences in being denied medications during pregnancy. One in four women reported being denied medications for NVP/HG, which most commonly involved doxylamine and encounters with community pharmacists. Women's experiences reflected that lack of awareness of guidelines and unfavourable risk-benefit assessments appeared to be key barriers to facilitating medication access. Approaches towards identifying and effectively addressing barriers to the provision of effective treatments for severe NVP and HG are urgently needed.

KEYWORDS
antiemetics, Australia, community survey, hyperemesis gravidarum, morning sickness, pregnancy

INTRODUCTION

Up to 90% of women experience symptoms of nausea and/or vomiting during pregnancy.[1]

Symptoms of nausea and vomiting in pregnancy (NVP) range from mild to severe.[2] Hyperemesis gravidarum (HG) is typically considered a severe form of NVP and is often characterised by the inability to tolerate oral fluids and/or food and is commonly associated with weight loss.[2] HG has been reported to affect up to 10% of pregnancies and is associated with significant adverse maternal, fetal and child outcomes.[1,2] In particular, severe NVP and HG have been shown to have substantial negative effects on maternal quality of life, including interference with social and occupational functioning, personal relationships and caring responsibilities.[1,2,3]

Management of NVP/HG depends on symptom severity and their associated impacts on quality of life, as well as medication safety considerations. Guidelines for the treatment of NVP/HG all recommend step-wise treatment of symptoms, commencing with non-pharmacological interventions.[4–7] The majority of women experiencing severe NVP/HG require one or more medications to assist with symptom control.[4]

Despite guidelines recognising the importance of early identification and treatment of NVP/HG, previous studies have shown that women with NVP often report experiencing not being taken seriously by healthcare professionals when seeking treatment.[8,9] This is coupled by evidence of high levels of maternal anxiety,[10] or a reluctance among some health care professionals,[11,12] about the use of medications to treat severe NVP or HG.

These findings raise concerns that women may not be receiving treatment in accordance with evidence-based guidelines. Therefore, we sought to examine women's experience related to being denied access to medications for the treatment of severe NVP or HG.

MATERIALS AND METHODS

These findings are part of a larger online survey exploring women's awareness and attitudes towards, as well as experiences regarding, the use of medications to manage severe NVP and HG. The survey was restricted to those currently living in Australia who are currently or have previously experienced severe NVP or HG. As part of the survey, women were asked (yes/no) whether they had ever been denied treatment for NVP or HG and, if so, were invited to provide a free text response regarding their experience. Free text responses were quantified according to the individual medication and healthcare professional mentioned and subjected to qualitative analysis to identify common themes. The survey was distributed through the website and social media accounts of the national HG consumer group, Hyperemesis Australia, between July and September 2020. Completion of the survey was voluntary, and responses were anonymous. Individual IP addresses of respondents were not tracked. Survey data were collected and managed using REDCap, hosted at The University of Adelaide.[13] Differences in participant characteristics according to whether women were denied medications were compared using Student's T-test for means and Fisher's exact test for categorical variables. Data were cleaned and analysed using STATA 16 (StataCorp LP, College Station, TX). Statistical significance was defined as a $P < 0.05$. Ethics approval was obtained from the University of Adelaide's Human Research Ethics Committee (H-2020-090).

RESULTS

Characteristics of the 249 respondents are provided in Table 1. Almost half (38%) were currently pregnant at the time of the survey, with the majority (195; 78%) reporting receiving a formal diagnosis of HG.

Approximately one in four ($n = 68$; 27%) women reported being denied a medication by a healthcare professional during pregnancy. Women who reported being denied a medication were more likely to have completed secondary school, have received a formal HG diagnosis during pregnancy and have experienced three or more pregnancies affected by severe NVP or HG (Table 1).

Medications most commonly denied included doxylamine ($n = 45$) and ondansetron ($n = 16$) and involved interactions with pharmacists ($n = 44$) and medical practitioners ($n = 19$; Table 2).

Major themes identified from free text responses are summarised below.

Some women indicated a general lack of awareness among healthcare professionals regarding medications used to treat severe NVP or HG.

> *"GP had no idea doxylamine was used to treat HG and wouldn't prescribe me the medication."*

Women recalled accounts of being told the medications were not recommended or safe for pregnant women, or that they were not sick enough to warrant the medication.

> *"I don't think it's [NVP] taken seriously while in the first trimester and health professionals just write it off as normal morning sickness until it continues into the following trimesters. I always dreaded going into the chemist to get doxylamine as I had to plead with 90% of the pharmacists that the obstetrician advised me to take it for HG."*

Conflicts between healthcare providers regarding the use of various medications during pregnancy were evident, with eight women reporting pharmacist refusal, despite presenting prescriptions for either doxylamine, ondansetron or prednisolone.

> *"I would have a script and still be turned away for doxylamine and ondansetron because the chemist didn't believe it was ok to give a pregnant woman the medication."*

Some women reported resorting to lying about not being pregnant, or sending someone else in on their behalf, to purchase/receive medications from the pharmacist.

> *"Doxylamine – I always had to lie and say it was for sleep and that I wasn't pregnant or breastfeeding. Or get my husband to buy it. On the packet it says not safe for pregnancy even if it is category A."*

In some situations, medications were provided only after women provided supporting evidence in the form of a clinical guideline.

> *"Pharmacy stating that medication was unsafe in pregnancy despite having script. Had to show them guidelines before they would dispense medication, and they did so reluctantly."*

TABLE 1 Characteristics of survey respondents according to whether they reported being denied access to medications for treating severe nausea and vomiting of pregnancy or hyperemesis gravidarum

		Denied medications		
	Total ***N*** **(%)**	**Yes** ***n*** **(%)**	**No** ***n*** **(%)**	***P*** **value**
N	249	68	181	
Age at time of completing survey (years; mean [SD])	33.2 (5.8)	32.7 (4.9)	33.4 (6.1)	0.410
Caucasian ethnicity	232 (93.17)	64 (94.1)	168 (92.8)	1.000
Completed secondary school	216 (88.2)	62 (92.5)	154 (86.5)	0.267
Nulliparous	31 (12.5)	10 (14.7)	21 (11.6)	0.522
State/territory of residence				
South Australia	39 (16.9)	6 (9.7)	33 (19.5)	0.385
Queensland	38 (16.5)	12 (19.4)	26 (15.4)	
Victoria	66 (28.6)	20 (32.3)	46 (27.2)	
Northern Territory	1 (0.4)	1 (1.6)	0 (0)	
Tasmania	5 (2.2)	1 (1.6)	4 (2.4)	
Western Australia	20 (8.7)	5 (8.1)	15 (8.9)	
New South Wales	55 (23.8)	14 (22.6)	41 (24.3)	
Australian Capital Territory	7 (3.0)	3 (4.8)	4 (2.4)	
Number of pregnancies affected by severe NVP/HG				
1	84 (33.7)	21 (30.9)	63 (34.8)	0.479
2	95 (38.2)	24 (35.3)	71 (39.2)	
≥3	70 (28.1)	23 (33.8)	47 (26.0)	
Time since most recent pregnancy affected by severe NVP/HG				
Currently pregnant	95 (38.2)	23 (33.8)	72 (39.8)	0.754
<6 months	42 (16.9)	12 (17.7)	30 (16.6)	
6–12 months	33 (13.3)	8 (11.8)	25 (13.8)	
1–2 years	36 (14.5)	10 (14.7)	26 (14.4)	
>2 years	43 (17.3)	15 (22.1)	28 (15.5)	
Diagnosed with HG	195 (78.3)	58 (85.3)	137 (75.7)	0.121

HG, hyperemesis gravidarum; NVP, nausea and vomiting of pregnancy; SD, standard deviation.

DISCUSSION

Our findings provide evidence that when seeking treatment, women with NVP/HG report being denied medications by healthcare providers. This occurs in interactions with pharmacists and medical practitioners. Possible underlying explanations include: lack of provider awareness of clinical practice guidelines, misleading labelling produced by pharmaceutical manufacturers (e.g. most doxylamine packaging states not to use during pregnancy), or genuine concern or uncertainty regarding the fetal safety of specific medications with or without consideration of the benefits of treatment.

While previous cross-sectional surveys have been undertaken to examine women's use of medications for the treatment of NVP,[10,14] these have not specifically assessed women's experiences in being denied access to medications. Such findings have been previously limited to anecdotal reports.[15] Similarly, while women's feelings of not being taken seriously or the trivialisation of symptoms is a common finding in qualitative studies,[8,9] information on the nature of those interactions, in terms of types of medication and healthcare professionals involved, has not previously been explored.

Our findings suggest an urgent need to identify and effectively address barriers to the provision of effective treatments for severe NVP and HG. The recently published national clinical practice guidelines by the Society of Obstetric Medicine of Australia and New Zealand for the management of severe NVP and HG seek to overcome many of these issues,[4] but significant efforts are required to improve provider training and facilitate implementation of these and other guidelines, particularly across primary health care settings. This requires a collaborative multidisciplinary approach involving consumer organisations, professional societies and government organisations. Concurrently, it appears to

TABLE 2 Individual medications women reported being denied access to for treating severe nausea and vomiting of pregnancy or hyperemesis gravidarum according to interaction with specified healthcare professional

	Healthcare professional						
		Medical Practitioner					
Medication*	**Pharmacist**	**GP**	**EM**	**Ob/Gyn**	**Unspecified Doctor**	**Unnamed HCP**	**Total**
Doxylamine	40	2	2	0	3	1	45
Ondansetron	4	6	2	0	1	5	16
Corticosteroids	2	0	0	0	0	0	2
Metoclopramide	1	0	0	0	0	0	1
Prochlorperazine	1	0	0	0	0	0	1
Promethazine	1	0	0	0	0	0	1
Unnamed Medication	1	2	0	0	0	0	3

EM, emergency medicine doctor; GP, general practitioner; HCP, health care professional.
*Women could report being refused more than one medication by more than one healthcare professional.

be time for the Australian Therapeutic Goods Administration to consider following international efforts aimed at improving medication labelling regulations, such as the Pregnancy and Lactation Labelling Rule introduced by the Food and Drug Administration in the United States.[16] This would require all medication packaging and consumer medicines information to include evidence-based information on use in pregnancy, such that consumers and providers are able to rationally weigh up risks and benefits.

This study has a number of limitations. Firstly, while the use of a non-probabilistic sampling strategy could be viewed as a study limitation, the use of a purposive sampling strategy reaching out to members of the consumer organisation Hyperemesis Australia was seen as an efficient approach to reaching the target population. The response rate to the survey is unknown, and there is the potential that those more likely to respond to the survey were those who had particularly negative or positive experiences. While our survey findings cannot be used to determine the true prevalence with which women are denied treatment with medications for NVP/HG, it does not distract from the key finding that this practice does occur and requires further investigation and action. Furthermore, restricting the survey to those currently living in Australia also means the findings may not be generalizable to other countries given differences in the structure of the healthcare system, clinical guidelines and medication availability. In addition, given the nature of individual benefit-risk assessments, we are not in a position to determine the appropriateness of reported experiences. Lastly, the small sample size limited the ability to examine differences in women's reported experiences according to demographic and disease characteristics.

In conclusion, our finding that numerous women report being denied access to medications for the treatment of severe NVP or HG emphasises the critical need for approaches towards identifying and effectively addressing barriers to the provision of effective treatments. In particular, further studies evaluating healthcare professional attitudes towards recommending or prescribing medications for severe NVP and HG are warranted.

ACKNOWLEDGEMENTS

L.E. Grzeskowiak was supported by a Mid-Career Fellowship from The Hospital Research Foundation. This study was supported by a 2020 Engaging Opportunities research grant provided by the Robinson Research Institute. The funding source(s) had no involvement in the conduct of the research and/or preparation of the article.

REFERENCES

1. Fejzo MS, Trovik J, Grooten IJ *et al*. Nausea and vomiting of pregnancy and hyperemesis gravidarum. *Nat Rev Dis Primers* 2019; **5**: 1–17.
2. Dean CR, Shemar M, Ostrowski GA, Painter RC. Management of severe pregnancy sickness and hyperemesis gravidarum. *BMJ* 2018; **363**: k5000.
3. Tan A, Lowe S, Henry A. Nausea and vomiting of pregnancy: effects on quality of life and day-to-day function. *Aust N Z J Obstet Gynaecol* 2018; **58**(3): 278–290.
4. Lowe SA, Armstrong G, Beech A *et al*. SOMANZ position paper on the management of nausea and vomiting in pregnancy and hyperemesis gravidarum. *Aust N Z J Obstet Gynaecol* 2020; **60**: 34–43.
5. Royal College of Obstetricians and Gynaecologists. The Management of Nausea and Vomiting of Pregnancy and Hyperemesis Gravidarum (Green-top Guideline No.69). 2016. [Accessed 7 Feb 2021.] Available from URL: https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg69/
6. ACOG (American College of Obstetrics and Gynecology). ACOG practice bulletin No. 189: nausea and vomiting of pregnancy. *Obstet Gynecol* 2018; **131**: e15-e30.
7. Campbell K, Rowe H, Azzam H, Lane CA. The management of nausea and vomiting of pregnancy. *J Obstet Gynaecol Can* 2016; **38**(12): 1127–1137.
8. van Vliet R, Bink M, Polman J *et al*. Patient preferences and experiences in hyperemesis gravidarum treatment: a qualitative study. *J Pregnancy* 2018; **2018**: 5378502.
9. Power Z, Tomson AM, Waterman H. Understanding the stigma of hyperemesis gravidarum: qualitative fndings from an action research study. *Women Birth* 2010; **37**(3): 237–244.
10. Heitmann K, Solheimsnes A, Havnen GC *et al*. Treatment of nausea and vomiting during pregnancy—a cross-sectional study among 712 Norwegian women. *Eur J Clin Pharmacol* 2016; **72**: 593–604.

11. Power ML, Holzman GB, Schulkin J. A survey on the management of nausea and vomiting in pregnancy by obstetrician/gynecologists. *Prim Care Update Ob Gyns* 2001; **8**(2): 69–72.
12. Dochez V, Dimet J, David-Gruselle A *et al*. French family physician experience concerning the outpatient care for women suffering from nausea and vomiting in pregnancy. *J Gynecol Obstet Hum Reprod* 2017; **46**(4): 367–371.
13. Harris PA, Taylor R, Thielke R *et al*. Research electronic data capture (REDCap) – a metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform* 2009; **42**(2): 377–381.
14. Heitmann K, Holst L, Lupattelli A *et al*. Treatment of nausea in pregnancy: a cross-sectional multinational web-based study of pregnant women and new mothers. *BMC Pregnancy Childbirth* 2015; **15**: 321.
15. Gadsby R, Barnie-Adshead T, Sykes C. Why won't doctors prescribe antiemetics in pregnancy? *BMJ* 2011; **343**: d4387.
16. Pernia S, DeMaagd G. The new pregnancy and lactation labeling rule. *Pharm Therap* 2016; **41**(11): 713.