

WHAT IS PREGNANCY SICKNESS AND WHY IS IT IMPORTANT?

Abstract

Nausea and vomiting of pregnancy occurs in approximately seventy three percent of singleton pregnancies. Nausea most commonly occurs in at least two episodes both before and after mid-day. Morning sickness is a harmful inaccurate misnomer. A daily diary of symptoms can determine when to eat and helps research. The severity of nausea can be estimated by its duration in days per pregnancy average forty five. About twenty five percent of women with single pregnancies have no nausea, nearly thirty five percent nausea lasts for up to thirty three hours, approximately twenty percent have one hundred to three hundred hours, a further ten percent have three hundred to seven hundred hours nausea per pregnancy. This latter thirty percent need information support and treatment. Vomiting is significant if associated with dehydration, scanty dark urine, electrolyte imbalance, ketosis (starvation) or over five percent pre-pregnancy weight loss. Positive association between severity of nausea and number of vomits. Nearly forty seven percent of pregnant women vomit. Average onset of nausea occurs near day thirty nine. Peak time seven to thirteen weeks, tighter value seven to nine median nine. Tail off after week ten. Average cessation twelve to fourteen weeks whether symptoms start early or severely. Approximately ten percent continues beyond twenty weeks but cessation can be sudden at any stage. Severity of nausea varies in roughly half or third of successive pregnancies per woman, though similar in seventy to eighty percent after hyperemesis gravidarum. Lower incidence of nausea for spontaneous abortions or women who smoke.

Introduction

This conference is an important milestone into research findings for various aspects of nausea and vomiting associated with pregnancy in which I have been involved for over forty years, prompted by my experiences in General Practice consulting with pregnant women suffering from severe nausea and vomiting. These women seemed all those years ago to have a condition causing them great distress, but to whom it was difficult to give useful information and support about the cause, treatment or outcome of the condition, for herself or her baby. It is most encouraging that today we have come to share our knowledge and enable better understanding of this vital, but in many respects poorly understood condition.

In this presentation all the days or weeks of pregnancy mentioned will be from the women's first day of her last menstrual period (LMP). Instead of writing nausea and vomiting of pregnancy each time the initials NVP or HG for hyperemesis gravidarum will be used. This review is based on one hundred and fifty eight literature studies culled from Med Index and related papers and our own investigation (Gadsby 1993). The number of studies for each topic usually with its pooled population (pool population) of women who had NVP will be included for example R.1. 2 = Literature view 2. the complete literature review can be downloaded free from our website www.pregnancysicknesssupport.org.uk.

Understanding the nausea (feeling sick) of NVP

On average about 73% of women who deliver a single, normal baby have some degree of NVP. Please notice the expression 'some degree' as it is the severity of their NVP which is important to pregnant women. 26 studies pooled population 39,700 pregnant woman (R.1.1.) **Nausea** is the most **common symptom** of NVP. Almost 99% of women who have NVP have nausea 3 studies pool population 1,777 pregnant women with NVP (R1.3e). Approximately 32% have nausea with no vomiting 10 studies pool population 8,435 pregnant women with NVP (R.1.2.a). Pregnant women say **nausea is the more troublesome symptom** than vomiting due to its duration and intensity with the day-to-day constancy being wearisome 6 studies pool population 4,370 pregnant women with NVP (R.1.2e.). It is this severe nausea which may unfortunately

produce the remark heard on our helpline, “no more babies for me”.

The effects of nausea on the quality of women’s lives

17 studies pool population 5,647 women with severe NVP (R.1.42). The Colleges of Obstetricians and Gynaecologists of Canada and America in their guidelines suggest that routine questions to be asked early in pregnancy should include questions about NVP, I add such as, “Are you eating and drinking well, keeping your food down, or feeling nauseous (sick)”, and if appropriate is NVP having an effect on the pregnant woman’s quality of life, Arsenault M. J. Lane CA (2002). Reference 1. American College of Obstetricians and Gynaecologists Practice Bulletin 52 (2002). Reference 2. This includes her ability to manage household activities such as shopping, cleaning, cooking or if appropriate being an efficient parent, O’Brien B. Naber S (1992). Reference 3. Some cannot attend social functions for fear of vomiting, Smith C. Crother C. Beilby J. Dandeaux J. (2000), Reference 4. Additional aspects of severe NVP or HG on the quality of the woman’s life include depression due to NVP symptoms, any effect on the relationship with her partner, and if it seems appropriate, her attitude to future pregnancies and feelings towards possible termination of her pregnancy. Mazzota P. Maltepe C. Navioz Y. Magee LA. Koren G (2000) Reference 5.

NVP and paid employment

If the pregnant woman has paid employment which she is too ill to attend due to NVP she is only one of substantial number of pregnant women in a similar position. 10 studies pool population 7064 working women with NVP (R.1.41). Approximately 30% of working pregnant women need to take time off work due to NVP 5 studies pool population 2,294 working women with NVP (R.1.41)

Episodic nature of NVP and the daily diary

The nausea of NVP occurs in daily episodes. A majority, in the region of 85% of women with NVP have at least 2 episodes of nausea per day 5 studies pool population 934 women with NVP (R.1.2b). These episodes occur before and after mid-day 13 studies pool population 7904 women with NVP (R.1.7b). The majority of each episode lasts 1-4 hours 2 studies pool population 397 women with NVP (R.1.2b). When NVP is at its worst these episodes for an individual woman have a regular daily pattern. 4 studies pool population 496 women with NVP (R.1.2c). The realisation of these three facts is important because if the woman keeps a **daily diary** of her symptoms, she will find there will be one or two periods during each day when her symptoms improve. At these times she can be ready to eat or drink.

The **severity of nausea** can be estimated by its **duration** in hours per week or in hours for the whole pregnancy. This duration is easily measured using the daily diary. The average duration of nausea per pregnancy is 6.5 weeks (45 days) 5 studies pool population 4,433 women with NVP (R.1.2d). In our study figures for the total hours of each pregnancy were twenty percent of pregnant women had no NVP, of the women who had NVP 35% had NVP which lasted only up to 33 hours per pregnancy this is the milder part of the whole condition of NVP. However, 20% of women with NVP had 100-300 hours of nausea in their pregnancy and a further 10% had between 300-700 hours of nausea in their pregnancy. It is this latter 30% especially the 10% who need helpful information support and treatment for this by some people scorned, but potentially devastating condition, Gadsby R., Barnie-Adshead A.M., Jagger C. (1993) Reference 6 (R.1.2d). There were over 700,000 deliveries in England and Wales in 2008, but 25% had no NVP. Therefore 525,000 had NVP of whom 30% need support information and treatment: 157,500 pregnant women in England and Wales in 2008.

Incidence of Vomiting

Vomiting is very significant because of its association with dehydration (scanty dark urine) electrolyte imbalance and ketosis (starvation) especially if associated with more than 5% loss of pre-pregnancy weight. The time from LMP vomiting started and the number of vomits per day are important features. Almost 47% of pregnant women vomit, 13 studies pool population 19,330 pregnant women of whom 9,095 vomited (R.1.3a). In our study 25% of women vomited up to 10 times per pregnancy but 10% vomited 40 or more times per pregnancy. One woman vomited 258 times (Gadsby et al 1993), (R.1.3c). There is a significant positive association between prolonged nausea and the number of vomits per pregnancy. 3 studies pool population 554 women with severe NVP (R.1.3d). Imagine 700 hours of nausea and 258 vomits in one pregnancy, a really depressing possibility, but it can happen! **The correct name Nausea and Vomiting of Pregnancy** gives the best opportunity to describe all the degrees of severity of this condition, rather than pregnancy sickness, which for many people refers mainly to vomiting and lowers the significance of the nausea involved.

The Clinical Picture of NVP

The **onset** of NVP is concentrated fairly lightly around day 39 from LMP. An important fact is when considering the aetiology of NVP. 8 studies pool population 2092 women with NVP (R.1.4a). However about 13% of women start NVP before a missed period. 5 studies with 1,620 women (R.1.4b). In approximately 90% of women NVP starts before day 56, 7 studies 2036 women (R.1.4c). So if a woman starts nausea and vomiting for the first time after the end of week 14 be very careful before diagnosing NVP. **The peak time** when NVP is at its worst is between 7-13 weeks 8 studies pool population 6,192 women (R.1.4), but most of these 8 authors give a tighter 2 week period for peak of symptoms. In our study we found the peak incidence was in weeks 7-9, median 9. Gadsby et al 1993. Again an important finding when considering the cause of NVP. **The tail off** of NVP was more gradual compared to the onset usually starting in week 10. In only 10% of pregnancies does NVP get significantly worse, increased by more than 7 hours of nausea per week, after week 9. (Gadsby 1993) **The cessation** is more variable compared to the onset. The average range is 12-14 weeks 3 studies 738 women with NVP (R.1.5). This applies however late or early, severely or mildly NVP starts (Gadsby 1993). NVP we all know may continue after 14 weeks, in 1 of 9 studies 91% of NVP ceased by week 16, but in another study approximately 90% ceased by the end of week 22. It seems reasonable to say that approximately 10% of NVP continues after week 20. This is a useful figure as one of the most common questions women with severe NVP will ask on our support line is "how long will it last". We certainly cannot give a definite answer to that question but we may be able to give some encouragement by saying that in approximately 30% of women NVP will go off quite suddenly. In our study 30% of women had 14 hours of nausea in the week before symptoms stopped (R.1.5a) (Gadsby et al 1993). This sudden cessation can occur at any stage of pregnancy 2 examples from women's own description in the magazine Pregnancy and Birth, NVP went off suddenly one at 11 weeks the other a 30 weeks.

Avoid the name morning sickness

8 studies pool population 7581 women with NVP (R.1.7c). Only the mildest form of NVP applies to the condition correctly called morning sickness when the pregnant woman gets one episode of NVP per day and that before mid-day. This occurs in only approximately 14% of pregnancies associated with NVP 5 studies 2220 women with NVP 304 had only morning sickness (R.1.7a). The name morning sickness trivialises NVP therefore sometimes leading to anxiety, perplexity and even despair for the pregnant woman who is having the most severe NVP when she can only find information about morning sickness which she not unreasonable thinks is a different condition from the one which she is suffering. When the pregnant woman complains of her dreadful

morning, noon and night problem all too often she is told by some medical professionals, relatives or friends and even by other women who have experienced no NVP or only mild symptoms during their pregnancy “never mind morning sickness is normal in pregnancy and is nothing to worry about”. In fact she is looking for helpful information support and treatment. Smith C et al (2000). Employers can be very unsympathetic. One employer said to a woman who later phoned our helpline “if you got up one hour earlier each day, morning sickness would be over by the time you came to work”. Therefore we repeat with 6 other authors the term morning sickness should never be used to describe the whole range of severity of the condition Nausea and Vomiting of Pregnancy.

Variation of NVP from one pregnancy to the next in the same women

We know that there is often a variation in the severity of NVP from one pregnancy to the next in the same women 5 studies (R.1.8a) but symptoms of NVP can recur similarly from one pregnancy to the next in the same women 6 studies pool population 10446 pregnant women (R.1.8b). In approximately 50-66% of women NVP will be similar in succeeding pregnancies 4 studies pool population 818 pregnant women. However if NVP was decreased in a prior pregnancy it was associated with a lower risk of current NVP. WEIGEL MM, WEIGELL R.M (1988) Reference 7. Also in 7 recent studies the recurrence rate of severe NVP or HG is as frequent as 70-80% 7 studies pool population 7036 (R.1.8d). There is no doubt that Hyperemesis Gravidarum develops from NVP. 6 studies (R.1.2f)

The nausea of NVP is unusual compared to the nausea associated with other medical conditions

4 examples are about 55% of women with NVP find their nausea is improved when they eat any food 8 studies pool population 2254 women with NVP, 1248 nausea improved after **eating** (R.1.2g). Women with severe NVP can experience **hunger** between episodes of nausea 4 studies 556 women (R.1.40), women can have craving for certain food and drinks between episodes of nausea 3 studies 1612 women with NVP (R.1.37). The nausea of NVP is more common in women who do not smoke cigarettes compared to women who do smoke. This applies to NVP and HG. 12 studies 29937 women with NVP (R.1.16). This is because smoking cigarettes damages the early placental (after birth) cells with resultant diminished synthesis of placental hormones, Bernstein L, Pike MC, Lobo RA, Depue RH, Ross PK, Henderson BE (1989) Reference 8.

Relation of NVP and HG to other Obstetric conditions

Four relevant conditions are, severe NVP or HG are **not** associated with an increased risk of developing later in the current pregnancy pre-eclamptic toxemia 8 studies pool population 27066. (R.1.28). A specific foetal abnormality 12 studies (R.1.35d&e), premature labour delivery before 37 weeks 16 studies (R.1.30) stillbirth or perinatal mortality 8 studies (R.1.36).

Other obstetric conditions that are associated with an increased or decreased risk of NVP

It is well known that twin pregnancies are often associated with increased NVP or HG. 8 studies pool population 1498 twin pregnancies (R.1.33) as are hydatidiform moles 8 studies 680 moles (R.1.24). Perhaps less well known is a lower incidence or severity of NVP in many pregnancies resulting in spontaneous miscarriages 18 studies 1863 miscarriages (R.1.26). One pregnant woman rang our helpline to say “I have no NVP how will that affect my pregnancy?” The answers 25% of women who deliver a single normal baby will have no symptoms of NVP 16 studies pool population 6234 women without NVP (R.1.6) but one must think to yourself “as long as they are past the stage of spontaneous miscarriage”.

Conclusion

I hope you will have noticed many opportunities for further research into this significant obstetric and medical condition. The importance of NVP is evidently the very unpleasant experience which occurs for 30% of women who suffer from NVP and the dreadful experience for the worst 10% of these women. They do need helpful information, support and treatment. It is also important to realise nausea (feeling sick) and vomiting of pregnancy is an important well defined clinical condition for which morning sickness is a harmful and inappropriate name when considering the various degrees of severity in which **nausea and vomiting of pregnancy** can present. Evidence of this is that at present our website www.pregnancysicknesssupport.org.uk receives about 190 visitors each day.

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