Gestational Weight and Nutrition: A Qualitative Study

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Abstract: *Background:* Excessive gestational weight gain and maternal obesity are well recognized as risk factors for maternal and foetal complications. Little is known regarding the beliefs and attitudes of Irish pregnant women with a medical card attending a rural General Practice on weight and nutrition.

Aim: To identify knowledge and attitudes among Irish pregnant women in a rural General Practice regarding gestational nutrition and weight.

Methods: Ten women took part in individual audio-taped interviews in this qualitative descriptive study. The method of qualitative description was used in data analysis to identify recurring themes and provide a comprehensive summary of findings.

Results: Five main themes were identified: (i) Fear of postnatal weight retention, (ii) The legacy effect of the first pregnancy on weight (iii) Little awareness of link between gestational weight gain and infants' health risks (iv) Aceptance of the doctor's advice and (v) Barriers to physical activity in pregnancy.

Conclusions: Women considered weight mainly in the context of their own health. There was a lack of awareness on the effect of excess gestational weight on their baby's in utero, birth and future weight. In contrast, mothers to-be appeared to be concerned to protect their newborn's health through adequate pre-natal nutrition.

Keywords: Birth weight, Diet, Health promotion, General Practice, Lifestyle, Obesity, Pregnancy, Qualitative.

INTRODUCTION

In Europe, the prevalence of obesity among adult female has increased significantly over the last 2 decades rising from 13% to 21% in Irish women [1]. The complications associated with excessive gestational weight gain and maternal obesity are well documented. Maternal risks include preeclampsia, Gestational Diabetes Mellitus (GDM) [2], labour difficulties and increased postnatal weight [3]. The foetus is at risk of macrosomia, neonatal hypoglycaemia [4] and childhood obesity [5]. A previous qualitative study examined perspectives of women attending a tertiary maternity centre with a history of macrosomia [6]. However, little is known regarding the knowledge among pregnant women on weight and nutrition in a rural and lower socioeconomic, hard to reach setting. Physicians and nurses engaged in antenatal care have an opportunity to provide health promotion at a time when motivation is rarely lacking among women to look after their own health and their baby's health. We consider that understanding pregnant woman's perspectives on gestational weight and nutrition may enable health professionals to assist women in maintaining a healthy weight during the childbearing years and beyond.

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METHODS

A qualitative study was conducted in a teaching rural Irish general practice between January to April 2011. The practice population was 2500 of which 87% were eligible for service under the General Medical Services (medical card) Scheme and as such are representative of a lower socioeconomic group in Irish society. The study was approved by the research ethics committee of the Dublin North East Specialist Training Programme for General Practice.

Our study objective was to explore the knowledge and attitudes of a group of Irish pregnant women in a rural, socially deprived area on weight and nutrition in pregnancy. A search using the practice computer software allowed a list of current pregnant women to be compiled. To reduce bias, the women who were patients of the first author were purposefully removed from this list of pregnant women. Women were invited by the first author in writing via post to participate and received a detailed study information leaflet and consent form. The first author was a general practioner (GP) in the practice at that time. Women were subsequently contacted by telephone. Questions were answered and the study discussed. The ability to refuse or drop out during the process and the assurance of confidentiality was emphasised. This telephone follow-up finalised the participant list and

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these patients were invited for individual interview, before which the study details were summarised again and written informed consent was obtained.

Semi-structured in-depth interviews by the first author lasting between 40 and 55 minutes were conducted to gain insight into the women's understanding and attitudes to weight and nutrition. A topic guide of both open and closed ended questions was used. It was based on recent literature findings and the author's personal experience and included the topics-weight and its impact on maternal and infant health, general nutrition and physical activity in pregnancy. A research diary was also kept by the first author and served as an important reflective tool. The interviews were recorded by audio cassette, transcribed verbatim by the 1st author and checked for accuracy by the other researcher.

The qualitative description method in qualitative research was used to analyse the data. Its aim is to provide firsthand knowledge of a phenomenon as opposed to generalising data extrapolated from a sample to the general population and to provide a comprehensive summary of events. It is the qualitative method of choice when straight descriptions of phenomena are desired without interpretation [7]. Data collection and initial analysis occurred simultaneously. Data saturation was considered to have been reached after 10 interviews. Content analysis identified recurring themes within the main categories of weight and nutrition. The priority was to stay as close as possible to the data. The research team met weekly to compare and interpret emerging themes. The first author also met on a regular basis with an independent researcher experienced in qualitative methods who checked the results to improve validity and ensure neutrality.

RESULTS

All 10 women who were approached participated in the study. All participants were medical card holders and therefore representative of a lower socioeconomic group (SEG) in rural Ireland. 5 women were nultiparous and the mean age of participants was 29 years (range 25-35). Six participants were overweight while one was obese. The mean BMI was 27 (range 21-32) with a mean gestational age at interview of 28 weeks (range 22-35).

Five principal themes were identified from the analysis of the interviews.

1. Fear of Postnatal Weight Retention

Most women expressed worry around retaining weight in the postnatal period. Women wanted to "get back to their old figure" and their "old clothes". This was a major motivator for weight control in pregnancy. Many felt that a difficulty in losing excess gestational weight may affect their mental well-being in the post natal period. Some women considered that retaining weight postpartum would lead to depression. There was personal experiences of depression among some participants,

"Depression would have affected me…after the first baby, I had gained so much weight, and it really affected me a great deal" (patient 1)

"If I had a lot of weight on after having the baby and couldn't get it off, I could see myself get depressed" (patient 10)

2. Legacy Effect of Weight Gain in First Pregnancy

The majority of women felt they had been unprepared for the amount of weight they would gain in their first pregnancy and the difficulty in losing that weight post delivery. Some expressed the view that the first pregnancy was a time when a woman might develop a lifelong weight problem,

"Lots of people blame excess weight on "baby fat" but they still have it 3 years after their first pregnancy" (patient 2)

Many women on their second and subsequent pregnancies, appeared to regret a false belief in "eating for two" during their 1st pregnancy. They found it difficult to lose the weight they had gained,

"In my first pregnancy I went up 4 sizes, I was eating a lot of rubbish then" (patient 7)

"I think you can gain bad habits in your first pregnancy… you tend not to be able to give them up afterwards" (patient 9)

3. Poor Awareness of Gestational Weight Gain and Infant Health

No participants considered excess gestational weight gain or maternal obesity to play a role in their baby's future health. Most women did not consider their weight to affect their baby's birth weight. No women felt a large birth weight to increase an infant's risk of obesity or other health problems in later life. No women

cited their baby's health or birth weight as a motivator in weight control during pregnancy,

"I don't think the baby's weight is affected by what I weigh or what I eat" (patient 9)

"I was a big baby but I am not obese now" (patient 2)

4. Trust and Acceptance of Doctor's Advice

Women were aware of the need to eat healthily but were sometimes overwhelmed by the abundance of the information directed at them,

"The midwife was not keen on me taking Pregnacare ™ recommended by my GP " (Patient 1)

Women viewed the GP as an important advisor on weight nutrition and physical activity in pregnancy and relied on their guidance among the plethora of information sources,

" It's the doctor's job to advise, I think you always go to your doctor to check things" (patient 3)

Although all the women in this study took folic acid once pregnant, very few did so pre conceptually. There was an acceptance of information regarding the benefits of supplements without having to know the exact reasons for them,

"The doctor knows best" (Patient 4)

Many participants highlighted the need to be confronted with the risks regarding their weight even if this was an uncomfortable topic,

"If the doctor gives you a leaflet you are going to read it" (Patient 8)

"You need to hear it whether you like it or not, you need to know everything, then you can try your best to monitor it" (patient 9)

5. Barriers to Physical Activity in Pregnancy

Weight and nutrition were considered more important than physical activity during the antenatal period. Women felt there were multiple barriers to their participation in physical activity during pregnancy. These included safety fears, a physical inability to participate, embarrassment due to bodily changes and a lack of suitable options locally. The GP was considered to be a key provider of information on safe exercise and the suitability of particular activities. Some women felt a group setting would be useful in relaying this information,

"I would have walked a lot but now I can't keep up with those I previously walked with" (patient 3)

"You have to be careful not to over exert yourself" (patient 4)

"I'd be worried something would happen to baby" (patient 8)

"Getting into a swimsuit is the problem" (patient 1)

"I would like to share my experience and receive lifestyle advice in a group of pregnant women" (patient 3)

Themes	Quote from Study Participants
Fear of postnatal weight gain	" I gained so much weight and it really affected me"
Legacy effect of weight gain	" I think you gain bad habits in your first pregnancy, you tend not to be able to give them up afterwards"
Poor awareness of association between gestational weight gain and infant health	" I don't think the baby's weight is affected by what I weigh or what I eat"
Trust and acceptance of doctor's advice	" The doctors know best"
Barriers to physical activity in pregnancy	" I would be worried that something would happen to the baby"

DISCUSSION

Participants appeared to have well developed concerns regarding the potential adverse physical and emotional health effects of excessive weight gain in pregnancy. Women considered the maternal risks of postnatal weight retention and depression as important. In counterpoint, there was a striking lack of awareness among all women of a link between a mother's weight and their baby's in utero weight, birth weight and future obesity risks. The absence of appreciation for the hazards of excessive maternal weight gain has been demonstrated elsewhere. Nitert *et al* reported that knowledge on the increased maternal complications of obesity is better known than the attendant neonatal complications [8].

Women in this study were concerned about retaining excess weight post partum. This anxiety was

the most frequently cited motivator towards the maintenance of a healthy weight in pregnancy. Pregnancy related weight gain has been shown to be distressing for women [9]. There is also quantitative evidence correlating excess gestational weight gain with post-partum weight retention up to 10 years post-natally [10].

Women interviewed for this study considered excessive weight gain in pregnancy to be a contributor to low mood in pregnancy and subsequent post natal depression. Gestational weight gain above Institute of Medicine recommendations has also been associated with a greater likelihood of major depression [11]. Many participants felt supplements and having a healthy diet were important for their baby's health. However they did not appear to link this to the degree of maternal weight gain. In contrast, their fear of weight gain and its cosmetic and emotional consequences was the motivator among respondents to avoid excessive weight gain. This differs from another qualitative study where women reported not monitoring their weight and had the assumption they would lose weight after delivery [12]. In this study women considered diet, nutrition and taking supplements as mainly important in the context of their baby's good health and wellbeing. Women felt they were motivated to eat healthily and take supplements to ensure their baby had a good start at life. Women considered nutritional knowledge to be largely a matter of common sense. They were aware of the need to eat healthily but were sometimes overwhelmed by the abundance of the information directed at them. Although all the women in this study took folic acid once pregnant, very few did pre conceptually. There was a poor awareness of the benefits of and reasons behind taking folic acid, calcium, and vitamin D supplements which is consistent with findings by Tarant *et al* who found less that 50% of women were taking folic acid appropriately [13]. Women were largely satisfied with the advice they received on gestational weight and nutrition from their doctors. The doctor's role was highlighted as important and necessary. Women had the expectation that they would receive information on weight and nutrition as part of their antenatal care. GPs have previously indicated a need for further training in maternal nutrition [14].

A number of participants thought a group setting might be helpful to receive advice on weight and nutrition. Group education sessions have proven to be beneficial in many areas of lifestyle education. Some women felt the use of fear and shock tactics might improve weight maintenance in pregnancy.

"Be harsh, show these women the worst outcome, like that add for drink-driving on TV" (Patient 2)

Women felt diet and nutrition were more important than physical activity for the health of mother and baby which is consistent with a study by Weir *et al* [15]. The majority of women were largely unsure of the safety of exercise in pregnancy which is comparable to a previous study by Haakstad *et al* who found that pregnant women feel they lack access to consistent information on physical activity in pregnancy [16]. The ACOG recommends women with uncomplicated pregnancies can remain active during pregnancy and should modify their usual exercise routines as medically indicated [17].

Women had a desire to receive practical information regarding availability of suitable and safe activities in their locality. Unsurprisingly, tiredness and a feeling of being physically unable to continue with their routine activities were highlighted by many.

To our knowledge, this is the first study to look at the perspectives on pregnancy weight and nutrition in an Irish rural lower SEG who are a vulnerable and hard to reach group of society and thus may have a higher risk of excessive weight gain and poor nutritional intake in pregnancy. This is also a limitation of the study as the study sample is not representative of the general Irish population. The results and analysis were checked by an experienced researcher to improve the rigor of the findings and help to decrease researcher bias. A researcher diary stimulated reflection after interviews and aided in objectivity. Although the interviewer was not known previously to the participants, she was a GP in the practice. This may have influenced the participant's responses and introduced a bias.

CONCLUSION

The pregnant women interviewed for this study were aware of the risks of excessive weight gain to their own physical and mental health. However there does not seem to be the same appreciation of potential harmful effects on their baby. These women were conscious of the lasting impact of weight gain, especially in the first pregnancy. They believed that infant health was linked to the quality of the antenatal diet and supplements rather than to maternal weight gain. They identified the first pregnancy as a pivotal epoch in the course of their weight and eating habits.

Women in this group trust and seem to rely on their doctor to help them cope with an overload of health related information in pregnancy, suggesting that the GP or the primary care team may be a critical conduit for essential lifestyle advice in pregnancy.

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