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# Consumer satisfaction with a weight gain intervention programme for obese pregnant women

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## **Abstract**

**Objective:** To investigate women's attitudes and satisfaction with a weight gain intervention programme during pregnancy.

**Design:** Exploratory descriptive study. Data were collected via interviews.

**Setting:** University hospital

**Participants:** 56 obese pregnant women who attended antenatal care at the University Hospital of Linköping's obstetrical department and took part in an intervention programme aimed at reducing weight gain during pregnancy, between November 2003 and August 2004.

**Findings:** The interviews comprised several questions concerning attitudes and opinions of the programme. The majority of the women expressed positive experiences with the treatment and would attend the programme if they were pregnant again. Most of the women stated that they had changed their eating and exercise habits during pregnancy, and almost all of them had continued with these new habits. Even though the weight gain goal of maximum 6.9 kg was reached by less than half of the participants, most of the women were satisfied with their weight gain. 71.4 % of the women participated in a aqua aerobic class. They stated that the most satisfactory experience was the exercise form and that it also was a good social experience.

**Key conclusions and implications for practice:** A pregnant woman herself must be actively involved in setting her own goals to prevent an excessive weight gain during pregnancy. Considerable effort and support must be placed on discussing strategies, pitfalls and risks. In order for the woman to maintain the change in attitude and habits, she must probably be given continuous feedback and reinforcement over the long term.

## Introduction

Obesity is an emerging health problem in the Western world and the problem extends to obesity during pregnancy (Headly et al., 2004; Brynhildsen et al., 2006). The medical risks for obese women during pregnancy and delivery are well known (Baeten et al., 2001; Sebire et al., 2001; Cedergren, 2004).

To date, few options have been available for a structured treatment or weight gain intervention programme during pregnancy, as most diets and treatment programme have excluded pregnant women. Nevertheless, pregnancy may be an optimal time to inform and challenge women to change their eating behaviour and physical activities and thereby prevent excessive weight gain. Possible results may include improved birth and pregnancy outcome, and reduced postpartum weight retention. (Polley et al., 2002; O'Toole et al., 2003).

In general a weight loss intervention that involves a combination of behaviour modifications, information, diet and exercise seems to be associated with most success in obesity treatment (Shepard, 2003).

For this reason an intervention programme for pregnant obese women (Body Mass Index, BMI  $\geq 30$ ) based on Cognitive Behavioural Therapy (CBT) and motivational talks was started at the University Hospital of Linköping in 2003. The overall purpose of the programme was to reduce the women's total weight gain during the pregnancy to a maximum of 6.9 kg and also to increase the women's psychological well-being and self esteem. The limited weight gain was based on the recommendations from the American Institute of Medicine 1990. They recommend at least 6.8 kg weight gain during pregnancy for women with a pre-pregnant weight BMI  $> 29$ .

Studies on consumer satisfaction and patient expectations of obesity treatment or intervention programmes are sparse. Evaluation of different programme has mainly focused on the patients' weight loss expectations and the results have indicated that the expectations are mostly unrealistic; more so for women than men (Foster et al., 1997; Foster et al., 2001; Linne et al., 2002).

Little is known about how pregnant women perceive and evaluate a structured weight gain intervention programme during pregnancy. A positive attitude towards an intervention programme may be of major importance for success with the programme. Consequently, the aim of this exploratory descriptive study is to investigate a group of women's attitudes towards and satisfaction with an intervention programme with the aim of limiting weight gain to 6.9 kg during pregnancy.

Ethical approval was obtained from the Ethical Review Board in Linköping.

## Methods

In Sweden almost all pregnant women attend public antenatal care clinics (ACC). The antenatal and delivery care is free of charge. Healthy pregnant women are recommended 7-9 visits to a midwife and eventually one appointment with an obstetrician. The first visit generally occurs during pregnancy weeks 8-10.

### *Participants*

All pregnant women attending regular antenatal care at the University Hospital of Linköping's obstetrical department with diagnosed obesity at the first visit (BMI>30, n=126) and pregnant during November 2003 and August 2004 were approached. We excluded women who were recent immigrants and did not speak or understand Swedish. Women with diagnosed diabetes or diseases related to the thyroid function were excluded as well as women treated with neuroleptic drugs: in total 35 women. 61 of the obese women (67 %) accepted and completed the programme and were asked to take part in the interview.

Fifty-six women (92 %) accepted to take part in the follow-up interview.

Of these 56 women, 32 (57 %) had previous children (1-3) and 24 (43 %) of the women expected their first child. The mean age of the women was 28.9 years, SD= 3.88

At the time of enrolment in the programme 45 women were gainfully employed, 3 women were on parental leave following a previous birth, 5 women were unemployed and 3 were on sick leave.

### *Intervention*

The obesity intervention programme for pregnant women was based on a number of extra visits to a specially trained midwife. According to Miller & Rollnick (2002), the corner stone in the programme is a motivational interview/talk in early pregnancy, with the aim of motivating the obese pregnant woman to change her behaviour and to obtain

information relevant to her needs. The midwife worked according to the following schedule:

- \* Assessment of the pregnant woman's knowledge of obesity as a risk factor for the pregnancy, the delivery and the child.
- \* If the woman lacked sufficient knowledge she was offered the information and given accurate facts.
- \* The woman was also informed about the potential consequences of different behaviours associated with eating and food intake. Written information was supplied if needed.
- \* The woman was invited to a 30 minutes session every week. The session included weight control and supportive talk.
- \* All women who attended the programme were also invited to a aqua aerobic class (once a week), specially designed for obese women.

### *Interview*

All women who participated in the programme were asked if they could give their opinion on the programme 3-4 months after delivery. To minimize bias a research assistant from another department at the university, with no connection to the treatment or the study, contacted the women. A total of 61 consecutive women were asked to take part in an interview concerning their opinions about the programme. 56 women were interviewed as two women had experienced intrauterine fetal death and 3 of the women declined to take part.

The interview comprised several questions concerning attitudes and opinions on the programme. Questions were asked about satisfaction with the treatment programme, the

number of visits, and the expectations of the goal for the treatment and the weight gain during the pregnancy. Further questions included if she would attend this programme next pregnancy, if she would recommend this programme to a pregnant friend, if she had changed her eating/exercise behaviour during pregnancy and if so if the behaviour was maintained. The woman was also asked about the support from her family as well as the midwife and if she had taken part in the water-aerobic sessions.

The interviews ranged from 15- 30 minutes.

## Findings

In answer to the question, “*What has been the most positive experience with the programme?*” 33 (59 %) of the 56 participating women in the interview stated that this was the mental coaching, discussion and the motivational talk received from the midwife. Twenty women (36 %) considered the weekly weight control as a great help. The rest of the women stated the support in general to be most beneficial for them. Another positive experience with the programme was the opportunity to have regular health checkups (14%).

The majority, 31 of the 56 women (55 %) experienced the number of appointments as sufficient. For the remaining participants the number of appointments with the midwife was considered too many.

When asked about less positive experiences in the treatment, 5 women stated that they had been too focused on weight and 9 women stated that they did not like the amount of medical check-ups (besides the weight control) and that they had to answer questionnaires about their health status.

In response to the question “*How satisfied are you with your weight gain during the pregnancy?*”, thirty-nine women out of 56 were very satisfied and 11 rather satisfied. These women had a mean weight gain of 11.3 kg (3.2-19.0 kg) and the difference between weight at the first check-up and weight at the postnatal check-up 6-12 weeks postpartum was  $-10.2 - + 10.1$  kg.

For the 6 women who were not satisfied the mean weight gain was 18.2 kg (13.3-21.9 kg). The difference between weight at the first check-up and weight at the postnatal check-up 6-12 weeks postpartum for these 6 women was  $1.8 - 9.7$  kg.

Twenty-three women out of 56 had a maximum weight gain of 6.9 kg. All but two of the participants were delivered in gestational week  $>37$ .

In response to the questions “*Would you attend this programme if you were pregnant again and would you recommend the programme to a friend?*” 48 of the women said they would attend the programme if they were pregnant again and all 56 women would recommend the programme to a friend. One of the women who stated that she was not satisfied with her weight gain did not intend to attend the programme if pregnant again. Of the 56 women, 4 would also have wanted to see a psychotherapist. Another 7 women stated that it would perhaps have helped them if a nutritionist has been included in the programme.

When asked about the participation in the aqua aerobic class 40 women (71.4 %) did attend and stated that they were most satisfied with this form of exercise and that it also was a good social experience. The least satisfactory experience was that the women had to be able to take time from work and that it was rather crowded in the pool.

Most of the women had changed their eating habits as well as increased the amount of physical activity during the pregnancy and almost all of these women had continued these new habits during the postpartum period (Table 1 and Table 2).

Tables 1 and 2 show the women’s answers concerning their experiences with eating and exercise changes during the programme.

*Table 1: Frequency distributions of the women's (n=56) answers about their eating habits*

	Yes		No	
	n	%	n	%
Did you change your eating habits when you joined the programme?	43	76.2	13	23.2
If you have changed your eating habits, do you continue the new habits?	41	95.3	2	4.7
If you have changed your eating habits, has your partner supported you?	40	93	3	7
Has the rest of your family changed their eating habits?	33	60.0	22	40.0

*Table 2: Frequency distributions of the women's (n=56) answers about their exercise habits*

	Yes		No	
	n	%	n	%
Did you change your exercise habits when you joined the programme?	51	91.1	5	8.9
If you have changed your exercise habits, do you continue your new habits?	50	98.0	1	2.0
If you have changed your exercise habits, has your partner supported you?	48	94.1	3	5.9
Has the rest of your family changed their exercise habits?	22	40.0	33	60.0

## Discussion

Our results indicate that a majority of the women (70 %) in the intervention programme were satisfied with their weight gain. This is not in accordance with the results from other studies on obesity where most participants had unrealistic hopes and expectations and instead experienced disappointments (Linne et al., 2002). Furthermore, there is also evidence that there exists a difference between the sexes - women have as a rule the most unrealistic expectations (Linne et al., 2002).

The intervention goal was a maximum of 6.9 kg weight gain during the pregnancy, which was reached by 41 %. More than half of the women (57 %), however, had set a personal goal, which was achieved.

A woman's evaluation of the advantages and disadvantages of a change in behaviour will be of considerable importance if she is to change her relationship with food and her eating habits. The majority of the women stated that they had changed their eating and exercise habits during the programme and that the change had persisted after delivery. Although a number of the women did not reach the stipulated goal of a maximum of 6.9 kg weight gain, or her own goal, this persisting new alignment in eating and exercise behaviour can be interpreted as an effect of the women's satisfaction with the programme. It might also represent a possibility of future weight loss during the non-pregnant state.

Furthermore, a potential positive effect of increased physical activity on metabolic- and cardiovascular risks should not be underestimated despite the fact that no weight reduction had occurred.

Our predominantly positive results show that it is possible to influence woman to gain positive results for themselves and for the expected child in the same way as in the issue of smoking. Smoking cessation during pregnancy might be one of the main causes of

improved weight among newborns in Sweden as well as in the rest of the Nordic countries as can be deduced from the latest studies (Kallen, 2001; Surkan et al., 2004). The study design stipulates obligatory sessions every week. Is this really necessary for success?

On this issue 55.4 % of the women stated that the number of sessions was adequate and 44.6 % stated that they were too many. One could therefore speculate that the number of sessions could be reduced in order to diminish the cost for the treatment. However, on the question if they would have succeeded in weight maintenance without the frequent sessions 76.9 % of the women stated that they did not think so.

This finding correlates well with the observation in another study on weight loss among pregnant women. In a randomised study of 40 obese mothers who had recently given birth, participating in a self-directed and structured intervention group the first year postpartum, the women who participated in the structured group had a significant weight reduction and body fat reduction as compared to the self-directed group (O'Toole et al., 2003).

The cost effectiveness of the programme will be presented elsewhere but another means to reduce costs for the programme might be that the individual sessions could be changed to group sessions since the majority of the women (71.9 %) were satisfied with the aqua aerobic class for the reason that it gave them the opportunity to have social contacts with other pregnant women. For some women this might be of help since they were able to discuss their situation with others in the same situation; however there might also be some disadvantage for women who do not want to be pressed into a group. This issue merits further investigation in other intervention programmes.

The women who took part in the intervention programme will be followed for two years

after delivery. During this period sessions will be arranged in order to give the delivered woman feedback and to deal with problem situations that may arise when the woman no longer participates in regularly scheduled meetings, but only visits the midwife every 6 months. The results of this intervention will be presented elsewhere.

## **Conclusion**

The pregnant woman herself must be actively involved in setting her own goal to prevent an excessive weight gain during pregnancy. It is not the midwife's goals that are to be met. Considerable effort and support must be placed on discussing strategies, pitfalls and risks. In order for the woman to maintain the change in attitude and eating habits, she must probably be given continuous feedback and reinforcement over the long term.

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