

## **Sense of own attractiveness among women in advanced pregnancy**

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### **ABSTRACT**

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**Introduction:** Due to the contemporary fashion for a slim silhouette some women may be concerned about change in their outer appearance during pregnancy.

**Purpose:** To examine the sense of own physical attractiveness among women in advanced pregnancy and its conditioning.

**Material and methods:** From the 1730 who reported for regular health check-up to 3 randomly selected outpatient departments, 260 were selected who became pregnant, and the examinations with the questionnaire were repeated.

**Results:** Before pregnancy 2.3% women were satisfied with their body image, 13.1% – satisfied, 29.2% – unsatisfied, whereas the reminder (55.4%) admitted that they were not able to evaluate it. During pregnancy, the results were as follows: 24.6%, 32.3%, 17.7% and 25.4%, respectively. The differences in the frequency of these replies (prior to and during pregnancy) were highly significant

statistically ( $p < 0.001$ ), to the benefit of the pregnant women who were more often satisfied with their body image than those non-pregnant and less often dissatisfied. In the group of women in the study, the level of satisfaction with own physical appearance before pregnancy significantly differed by age ( $p < 0.05$ ). In advanced pregnancy, age, woman's general wellbeing in pregnancy, and attitude of the partner towards the pregnant woman were significant ( $p < 0.05$ ).

**Conclusions:** The sense of own attractiveness among women in advanced pregnancy is varied; nevertheless, it is higher, compared to the period before becoming pregnant. The factors which condition the sense of own attractiveness among women in advanced pregnancy is age, general wellbeing during that time, and the attitude of the partner towards them.

**Key words:** pregnancy, physical attractiveness of a pregnant woman, partner relationships

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## **INTRODUCTION**

The fact of conceiving a baby begins a special period in the life of a woman, which is associated with various changes preparing her body for the needs of the developing foetus. The initial weeks of pregnancy may be difficult for her, not only from the physical, but also the psychological aspect [1].

The future mother is in a new situation, she must learn a new role, and change the hierarchy of values proceeding from thinking in terms of 'I' to 'we' [2, 3].

The mental and biological adaptation to the state of being a mother takes a different course in each woman. This may exert an effect on the change in perception and assessment of own physical attractiveness, especially in advanced pregnancy, when the woman's appearance changes [4-10]. An increase in body weight and change of the silhouette may be perceived by pregnant women both as a fulfilment of femininity, or loss of female attractiveness [11].

Having difficulties with acceptance of the changing shapes of own body they often control their weight, count calories, sometimes take dietary supplements facilitating dieting, undertake intensive physical exercises and/or apply diets for weight loss. In this way they try to maintain body weight from before pregnancy for the longest time possible, which may be dangerous for them and the developing foetus [12-14].

The consequence of such behaviour may be an occurrence of one of the forms of nutritional disorders in pregnant women called pregorexia, with symptoms similar to that of anorexia [15].

The scale of this phenomenon, both in Poland and worldwide, has not yet been recognized. Also, pregorexia has not been included in the official register of diseases. Nevertheless, this term is increasingly more often used by obstetricians and psychologists.

The aim of this study was to discover the sense of own physical attractiveness among women in advanced pregnancy and its conditioning.

## **MATERIALS AND METHODS**

The studies of a prospective character which consisted of two stages, initially covered 1730 women who, during the period of two months, reported for health check-ups to one of the 3 randomly selected outpatient departments for women in Lublin. After 8 months, out of this group, 260 women were selected who had become pregnant and the examinations were repeated. Consent to participate in the study expressed by women was the precondition for inclusion into the group, and in addition, at the second stage of the study, the diagnosis of advanced pregnancy, i.e.

between weeks 24-30. Women who were ill or with pregnancy complications were excluded from the study. 17% (6.1%) women in advanced pregnancy refused to participate in the survey without reporting any reasons.

The respondents' age ranged from 17 – 44;  $32.83 \pm 10.15$ , on average. The largest number of respondents (140; 53.8%) were aged 21-28, followed by 29-35 (68; 26.2 %), under 20 (38; 14.6 %), and over 35 (14; 5.4%).

In the presented report, empirical material was used, collected exclusively from women who participated at both stages of the study.

The investigations were conducted by means of two questionnaires specially designed for the purpose of the presented study. The questionnaire consisted of closed - ended, open and semi - open questions of single or multiple choices. The first questionnaire form (for non-pregnant women) was aimed at collection of information concerning age, place of residence, pregnancy planning, and the study objective, i.e. woman's satisfaction with her outer appearance (in other words – women's satisfaction with her physical attractiveness in association with body image). The second questionnaire form (for pregnant women) contained questions concerning the general wellbeing of the pregnant woman, the first reaction of her male partner to the pregnancy, partner's attitude towards the pregnant woman, and her satisfaction with own appearance.

While constructing the questionnaires, methodological guidelines were used presented in literature, and suggestions of experts, i.e. professors in obstetrics, sociology and psychology. The form and nomenclature of the questions posed were adjusted to the varied intellectual levels of respondents, i.e. the perceptual capabilities. The stage of preparation of the research instruments was terminated by pilot studies carried out among 20 healthy women using pre-conception advice, and 20 women in advanced pregnancy of a physiological course. Finally, the results of pilot studies were excluded from the presented report.

Prior to the study, each respondent was informed about the method of completing the questionnaire and anonymity of the results collected. In addition, it was explained that the collected material will be used exclusively for scientific purposes, in order to improve (optimize) the quality of care of a pregnant woman.

Considering the level of education the respondents were divided into 3 groups: education level lower than secondary school, secondary and post-secondary school education, which was equivalent to 9-11 years of education, 12-14 years, and more than 14 years. In the presented study, the expressions: satisfaction with own body image, appearance, and physical attractiveness were used interchangeably.

The study was approved by Bioethical Committee of the Medical University in Lublin (No. 0254/ 34/ 2009).

The material collected was subjected to descriptive and statistical analyses. The values of the parameters analyzed measured on a nominal scale, was characterized by means of sample size, percentage, mean and standard deviation.

In order to analyze the presence of differences, or relationships between the non-measurable parameters analyzed,  $\chi^2$  test for homogeneity and independence was used. For small sample size (below 5) in the studies in sub-groups Yates' correction was applied. The inference error was adopted on the level of 5%, and associated with it the level of significance set at  $p < 0.05$ , indicating the presence of statistically significant differences or relationships.

The database and statistical analyses were performed based on the computer software STATISTICA 7.1 (StatSoft, Poland) [16].

As many as 148(56.9%) respondents were pregnant with their first child, followed by 70 (26.9%) with the second and 42(16.2%) with the third baby. 54(20.8%) respondents had an education level lower than secondary, while 124(47.7%) possessed secondary and 82(31.5%) post-secondary education level. More than a half of the women in the study (146; 56.1%) reported that the current pregnancy had been planned, whereas the remainder (114; 43.9%) admitted that it had not.

Before pregnancy, 6(2.3%) women were very satisfied with their outer appearance, 34 (13.1%) were satisfied, 76(29.2%) definitely dissatisfied, while the remainder (144; 55.4%) admitted that they were not able to make an evaluation.

During pregnancy, the results were as follows: 64(24.6%), 84(32.3%), 46(17.7%) and 66 (25.4%), respectively.

Table 1 presents the differences in the frequency of replies provided before and during pregnancy.

**Table 1.** Satisfaction of women with own body image before and during pregnancy

Satisfaction before pregnancy	Satisfaction in advanced pregnancy							
	very satisfied n=64; 24.6%		satisfied n= 84; 32.3%		unable to assess n=66; 25.4%		dissatisfied n= 46; 17.7%	
	n	%	n	%	n	%	n	%
<b>very satisfied</b> n=6; 2.3%	0	0.0	0	0.0	0	0.0	6	100.0
<b>satisfied</b> n=34; 13.1%	2	5.9	0	0.0	26	76.5	6	17.6
<b>unable to assess</b> n = 144; 55.4%	18	12.5	66	45.9	32	22.2	28	19.4
<b>dissatisfied</b> n = 76; 29.2%	44	57.9	18	23.7	8	10.5	6	7.9
<b>significance</b>	$\chi^2=128.52; p<0.001$							

## RESULTS

The differences in the frequency of replies provided before and during pregnancy were statistically significant ( $p < 0.001$ ) to the benefit of the pregnant women, who more often than those non-pregnant were very satisfied and satisfied with their outer appearance, and more rarely dissatisfied or not able to express their opinion.

Table 2 presents the relationship between satisfaction with own appearance and age, education level, and planning pregnancy in advance, whereas Table 3 – in advanced pregnancy.

The respondents' satisfaction with own appearance before pregnancy significantly differed by age ( $p=0.002$ ). Education level and the fact of planning pregnancy (or not) were insignificant ( $p > 0.05$ ) – Table 3.

A significant relationship was observed between the satisfaction of the women in the study

with own physical attractiveness in advanced pregnancy and age ( $p < 0.001$ ), while it was not related with the level of education and pregnancy planning ( $p > 0.05$ ).

The differences between the frequencies of subjective evaluations of own physical attractiveness, according to the number of subsequent pregnancies, were on a level close to significance ( $p=0.057$ ).

The greatest majority of respondents (238; 91.5%) evaluated their general wellbeing in pregnancy in positive terms, including 78 (30.0%) who evaluated their wellbeing as very good, 86 (33.0%) as good, and 74 (28.5%) as relatively good.

The remainder reported that their wellbeing was poor or very bad (22; 8.5%).

**Table 2.** Satisfaction with own body image before pregnancy and age, education level and pregnancy planning

Variables examined	Satisfaction before pregnancy							
	very satisfied n=6; 2.3%		satisfied n= 34; 13.1%		unable to assess n=144; 55.4%		dissatisfied n= 76; 29.2%	
	n	%	n	%	n	%	n	%
<b>Age of women</b>								
<b>under 20</b> n=38; 14.6 %	0	0.0	8	21.1	12	31.5	18	47.4
<b>21-28</b> n=140; 53.8 %	4	2.8	10	7.2	80	57.1	46	32.9
<b>29-35</b> n =68; 26.2 %	0	0.0	14	20.6	42	61.8	12	17.6
<b>over 35</b> n =14; 5.4%	2	14.3	2	14.3	10	71.4	0	0.0
<b>significance</b>	$\chi^2=26.65$ ; p=0.002							
<b>Education level</b>								
<b>&lt; than secondary school</b> n=54; 20.8%	2	3.7	4	7.4	32	59.3	16	29.6
<b>secondary school</b> n =124; 47.7%	4	3.2	22	17.7	66	53.3	32	25.8
<b>&gt; than secondary school</b> n =82; 31.5%	0	0.0	8	9.8	46	56.1	28	34.1
<b>significance</b>	$\chi^2=5.4$ ; p=0.49							
<b>Pregnancy planning</b>								
<b>Yes</b> n = 146; 56.1%	2	1.4	16	10.9	90	61.6	38	26.1
<b>No</b> n = 114; 43.9%	4	3.5	18	15.8	54	47.4	38	33.3
<b>significance</b>	$\chi^2=4.35$ ; p=0.23							

**Table 3.** Satisfaction with own body image in advanced pregnancy by age, education level and the presence of planned pregnancy

Variable examined	Satisfaction with planned pregnancy							
	very satisfied n=64; 24.6%		satisfied n= 84; 32.3%		unable to assess n=66; 25.4%		dissatisfied n= 46; 17.7%	
	n	%	n	%	n	%	n	%
<b>Women's age</b>								
<b>under 20</b> n=38; 14.6 %	16	42.1	8	21.1	6	15.7	8	21.1
<b>21-28</b> n=140; 53.8 %	40	28.6	58	41.4	24	17.1	18	12.9
<b>29-35</b> n =68; 26.2 %	8	11.8	18	26.4	34	50.0	8	11.8
<b>over 35</b> n =14; 5.4%	0	0.0	0	0.0	2	14.3	12	85.7
<b>significance</b>	$\chi^2=75.59$ ; p<0.001							
<b>Education level</b>								
<b>&lt; than secondary school</b> n=54; 0.8%	12	22.2	18	33.3	10	18.6	14	25.9
<b>secondary school</b> n =124; 47.7%	28	22.6	36	29.0	40	32.3	20	16.1
<b>&gt; than secondary school</b> n =82; 31.5%	24	29.3	30	36.6	16	19.5	12	14.6
<b>significance</b>	$\chi^2=9.05$ ; p=0.17							
<b>Planned pregnancy</b>								
<b>Yes</b> n = 146; 56.1%	36	24.7	52	35.6	34	23.3	24	16.4
<b>No</b> n = 114; 43.9 %	28	24.6	32	28.1	32	28.1	22	19.2
<b>significance</b>	$\chi^2=2.0$ ; p=0.57							

The majority of women in the study reported that the first reaction of the woman's partner to her pregnancy was positive (192; 73.8%) - they showed their satisfaction and happiness, while the remainder (68; 26.2%) provided a negative answer concerning this issue – their partners were scared, nervous, demonstrated indifference towards pregnancy, or even reluctance.

The attitude of partners towards respondents most often changed in pregnancy (162;

62.3%) - in 152 (58.5%) cases the partner became more caring, and 10 (3.8%) – more indifferent. The remaining women (98; 37.7 %) mentioned that their partners remained as they had always been, i.e. tender, good and caring.

Table 4 presents the relationship between the respondents' satisfaction with own physical attractiveness and the above-mentioned characteristics.

**Table 4.** Women’s satisfaction with own body image in advanced pregnancy and their general wellbeing, first reaction of the male partner to pregnancy and attitude of the partner towards the pregnant woman

Variables examined	Satisfaction in advanced pregnancy							
	very satisfied n=64; 24.6%		satisfied n= 84; 32.3%		unable to assess n=66; 25.4%		dissatisfied n= 46; 17.7%	
	n	%	n	%	n	%	n	%
<b>Women’s wellbeing in pregnancy</b>								
<b>very good</b> n=78; 30.0%	20	25.6	34	43.6	12	15.4	12	15.4
<b>good</b> n= 86; 33.0%	24	27.9	20	25.6	34	43.6	8	9.3
<b>relatively good</b> n= 74; 28.5%	20	27.0	26	35.1	12	16.2	16	21.6
<b>poor and very bad</b> n= 22; 8.5%	0	0.0	4	18.2	8	36.4	10	45.4
<b>significance</b>	$\chi^2=33.82$ ; p=0.0001							
<b>First reaction of partner to pregnancy</b>								
<b>positive</b> n= 192; 73.8%	50	26.0	68	35.4	46	24.0	28	14.6
<b>negative</b> n=68; 26.2%	14	20.6	16	23.5	20	29.4	18	26.5
<b>significance</b>	$\chi^2=7.4$ ; p=0.06							
<b>Attitude of partner towards pregnant woman</b>								
<b>more caring</b> n= 152; 58.5%	36	23.7	58	38.1	38	25.0	20	13.2
<b>the same as always</b> n= 98; 37.7 %	26	26.5	26	26.5	26	26.5	20	20.5
<b>more indifferent</b> n= 10; 3.8%	2	20.0	0	0.0	2	20.0	6	60.0
<b>significance</b>	$\chi^2=14.36$ ; p=0.03							

A significant relationship was observed between the respondents’ satisfaction with own outer appearance in advanced pregnancy and their general wellbeing during that time (p=0.0001), as well as their partner’s attitude towards them (p=0.03). The first reaction of the woman’s partner to pregnancy turned out to be insignificant (p>0.05).

## DISCUSSION

Due to the contemporary fashion for a slim silhouette, some women may be concerned about change in their outer appearance during pregnancy [13]. The presented results show that the women examined were significantly more often (p<0.05) satisfied with their body image in advanced pregnancy than before becoming pregnant. Based on the material collected, it is not possible to provide an unequivocal answer to the question about the reason for this phenomenon. Perhaps ascribing a high value to motherhood and entering into a new social role allowed the women to accept the changes, and in a different way (more positively) evaluate their outer appearance. This view is confirmed in literature [17-19].

Similar prospective studies were conducted in 2005 by Skouteris et al. [20] among 128 pregnant women. Also, the researchers examined retrospectively women’s satisfaction with own body image during the last three months before becoming pregnant. Analysis of the material collected confirmed that the majority of

respondents adapted well to the changes, and the highest level of dissatisfaction with own appearance occurred by the middle of the second trimester of pregnancy. Boscaglia et al. [18] noted a beneficial effect of performing physical exercises on women’s satisfaction with own body image during pregnancy [18].

The results obtained allowed the conclusion that pregnant women who are physically active accept the occurring changes easier and quicker, compared to those who prefer a passive style of life.

Pregnancy is the time when there may occur various changes in partnership relations [21,22]. It is not only the first reaction of the woman’s partner to the news about pregnancy that is important for her wellbeing, but also his attitude towards her, and consequently, towards the baby to be born [22].

The majority of respondents provided a positive reply concerning both the first and second issues. However, the differences in the frequency of positive evaluations of the partner’s behaviours are noteworthy (73.8% and 96.2% of the women examined, respectively).

These evaluations confirm that in the course of time many men who had negatively reacted to the news about pregnancy changed, and became tender and caring for their pregnant partner. Relevant literature reports show that the transition towards fatherhood may be difficult for some men [23,24].

They need time, assistance and support to find themselves in the new life situation, and learn to perform a new social role, especially when they become fathers for the first time [25].

While awaiting the birth of a child, the male partners often experience stress, fear and uncertainty [26,27].

The causes and consequences of these negative emotions have been relatively well recognized to-date. Nevertheless, it is not known if there is any relationship and of what kind between the occurrence of these emotions and difficulties with acceptance of the changing appearance of the pregnant woman. In addition, does it exert any effect and of what kind on the woman's self-reported body image in advanced pregnancy? An explanation of this problem requires further studies.

An interesting issue in the material presented concerns the detected relationships. It might seem that all variables adopted in the presented study significantly differentiate the subjective evaluations of physical attractiveness reported by women before and/or during pregnancy. However, this was not confirmed by the results obtained. It was found that data concerning the period before pregnancy confirmed only one of three variables, i.e. the respondents' age, whereas those pertaining to the period of pregnancy – three of six variables, including the respondents' age, general wellbeing in pregnancy, and the attitude of the partner towards the pregnant woman. The differences close to the level of significance ( $p=0.06$ ) were also observed when the first reaction of the male partner to the news about pregnancy was taken into consideration. The remaining variables (education, number of subsequent pregnancy, pregnancy planning and the presence of pregnancy planned or not) were insignificant.

Literature concerning the self-reported sense of attractiveness among pregnant women is relatively scarce. Further studies, especially of a prospective character, are necessary to explain the problem discussed, as well as investigation of other possible conditioning. This would perhaps enable a better understanding of certain behaviours of women in pregnancy, and the causes of the occurrence of their fears, stress and concerns. This would also facilitate for the medical staff (physicians, midwives, nurses) the identification of individuals who need support, and to conduct active prenatal counselling. It is important to impart such information to pregnant women concerning life style which would be understandable and helpful for them in gaining normal body weight, and at the same time, maintaining satisfaction with own body image [28].

### **Conflicts of interest**

None declared.

### **CONCLUSIONS**

1. The sense of own attractiveness among women in advanced pregnancy varies; however, it is more positive than during the period preceding pregnancy.
2. The factors conditioning the sense of own attractiveness in women in advanced pregnancy is their age, general wellbeing at that time, and the attitude of the male partner towards the pregnant woman.

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