The Development of a Self-perception of Pregnants Scale and its Psychometric Features

Gebelerin Kendilerini Algılama Ölçeği'nin Geliştirilmesi ve Psikometrik Özellikleri

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SUMMARY

Objectives: The aim of this study is to develop the scale of Self-perception of Pregnants, and to determine validity and reliability of that scale.

Methods: The sample of present study consists of 326 volunteer pregnants who applied for their routine controls at Ondokuz Mayıs University, Faculty of Medicine. The Cronbach alpha value is found by analyzing inner consistency to determine the reliability of the scale. In addition, explanatory factor analysis is used for the construct validity of the scale.

Results: Exploratory factor analysis revealed that the structure of scale is involved in 12 items and two components. The Cronbach Alpha reliability coefficient calculated for the first factor was found to be 0.86; and the Cronbach Alpha was 0.75 for the second factor. A total of 12 items are identified by factor analysis in which the 33.28% of the total variance is explained with factor 1, and the 53.83% of the total variance is explained with factor 2. It is indicated that the Kaiser-Meyer-Olkin coefficient of the scale is 0.86, and the factor loads are between 0.38 and 0.95. The Chi-square value is found to be significant in factor analysis (χ^2=128.117; sd=50, p=0.00). According to confirmatory factor analysis' results, GFI (.92), NFI (.94), RMSEA (.078), CFI (.96), AGFI (.88) as goodness fit indices were calculated and the findings indicated the model was fit to observed structure.

Conclusion: The findings of reliability studies, exploratory and confirmatory factor analysis studies revealed that the scale was reliable and valid data collection tool to identify the pregnants' self-perception level.

Keywords: Perception of pregnancy; pregnancy; reliability; validity.

ÖZET

Amaç: *Bu çalışmanın amacı Gebelerin Kendilerini Algılama Ölçeği'nin geliştirilmesi, geçerlik ve güvenirliğinin belirlenmesidir.*

Gereç ve Yöntem: *Araştırmanın örneklemini rutin gebelik kontrolü için Ondokuz Mayıs Üniversitesi Tıp Fakültesi Hastanesi'ne başvuran 326 gebe kadın oluşturmuştur. Araştırmada iç tutarlık katsayısı hesaplanmış, ölçeğin faktör yapısının belirlemesinde açımlayıcı ve doğrulayıcı faktör analizi yapılmıştır.*

Bulgular: *Ölçeğin yapı geçerliği için yapılan açımlayıcı faktör analizi ile ölçeğin iki faktörlü bir yapı sergilendiğine ve toplam 12 maddeden oluştuğuna karar verilmiştir. Birinci faktörün Cronbach Alfa değeri .86, ikinci faktörün Cronbach Alfa değeri .75 olarak bulunmuştur. Ölçeğin birinci faktörle toplam varyansın %33.28'ini, ikinci faktörle %53.83'ünü açıklamaktadır. Ölçeğin faktör yüklerinin 0.38 ile 0.95 arasında değiştiği görülmüştür. Doğrulayı faktör analizinde elde edilen Ki kare değerinin ($\chi2$=128.117; sd=50, p=0.00) anlamlı olduğu görüldü. Uyum İndeksi Değerleri ise RMSEA=0.078, GFI=0.92, CFI=0.96, NFI=0.940, IFI==.963, RFI==0.921, AGFI=0.888 olarak bulunmuştur.*

Sonuç: *Sonuçlar geliştirilen GKAÖ'nün gebelerin kendilerini algılama düzeylerini belirlemede uygun geçerli ve güvenilir bir ölçme aracı olduğunu gösterdi.*

Anahtar sözcükler: *Gebeliğe ait algı; gebelik; geçerlik; güvenirlik.*

Introduction

Pregnancy is one of the most important events that can be experienced by any women in reproductive age and which is experienced by women throughout their lives. Although pregnancy is period in which physiological alterations occur,

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it may also lead to accompanying psychological and emotional changes.[1] During pregnancy, many changes occur in physical appearance of the woman such as weight gain and changes in skin. These changes are reflected in social relations of the pregnant woman in addition to influencing her psychologically and emotionally. Psychological and physiological changes taking place during the process of pregnancy affect psychological and social adaptation of the woman and pregnancy is stated to be a natural life crisis for her.[2–4]

In this context, pregnancy is regarded as a complex period leading to the occurrence of physiological and psychological changes for the pregnant woman. Transformations during pregnancy process exert a profound effect on the life of the pregnant woman day by day.[5,6] It is known that the individuals who have a positive perception of their body have high levels of self esteem and self confidence, are successful and

harmonius in their relations with themselves and others in their environment.[7] It is thought that displaying a favorable approach to the changes in her own body will be beneficial both for the health of the woman and that of the baby she will give birth to.

At the onset of pregnancy, pregnant woman can not know what kind of changes will occur in her body and what she will encounter. In this process, the outlook of the woman to pregnancy, her being ready for pregnancy psychologically, physiologically and socially, is very important for healthy progress of this process. As it is known, physical changes associated with pregnancy have an important impact on the body perception of the woman. It is known that if the woman feels herself ready for psychological, physiological and social aspects of the pregnancy and feels a longing for child, she will wellcome the changes in her body.[8] Besides, acceptance of the baby by mother to-be and reactions of the individuals around her to her pregnancy may exert positive/negative psychological effects on the pregnant woman. Meanwhile, the attitude of her spouse and the role of her psycho-social environment is quite important.[9,10] With pregnancy, a mother to-be starts to experience physiological burden of pregnancy, anxiety and an intense feeling of responsibility apart from joy and excitement, because, while women perceive pregnancy as a source of joy, satisfaction, maturation, self actualization and happiness, they also consider it as a period when unfavorable emotional states such as stress, worry, anxious waiting and excessive strain can be experienced. The attitude of the pregnant woman to all of these changes may vary depending upon her reason for deciding to become pregnant, expectations from pregnancy, her vision and psychological, socio economic and cultural background. Regular care, training and counselling services offered during pregnancy enable the pregnant women to adapt to physical, psyhcological and social changes associated with pregnancy.[11,12] Self evaluation of mother to-be during pregnancy process and preventive interventions in order to protect both her and her baby's health is considered an important public health issue.[13] If relevant literature is reviewed, it can be seen that negative self perception of the pregnant woman due to weight gain in this process, physical and emotional problems associated with pregnancy and feeling of dissatisfaction with her body exerts a negative effect on her psychological health,[14–16] also impairing her social relations with her baby and the people around.

In some investigations, it has been stated that pregnant women are dissatisfied with their bodies due to rapid changes occurring in their body and perceive themselves as "obese" and ugly. Dissatisfaction with the body image may lead the pregnant women to have an inadequate or limited diet and to prenatal and postnatal depression, culminating in negative efefcts on health and well being.[17–19] On the other hand, in some other studies, it has been reported that pregnancy is a unique period for women and, women who feel themselves healthy and adequate to have, to give birth to a baby display a positive attitude to the changes occurring in their body.[20] In this context, it is an undeniable fact that becoming pregnant willingly and feeling herself ready for pregnancy plays a quite important part in determining the attitude of the woman towards pregnancy.[21]

In decreasing the problems experienced by pregnant women during pregnancy process, and in improving the health of mother, baby and indirectly community, all health care team especially midwives and nurses have important duties to fulfill. Prior to birth, in addition to medical evaluation of the pregnant woman, offering information and physical care as well as support and counselling services to the pregnant women with a biopsychosocially holistic approach is important. Health workers should listen to symptoms and problems expressed by the pregnant woman carefully and determine the extent of the problems associated with pregnancy.[22,23] In the literature, it has been established that pregnant women receiving accurate and adequate prenatal care accept pregnancy and changes associated with pregnancy in a shorter period and adjust more readily to pregnancy and mother role.[24] In addition, the importance of offering comprehensive service to pregnant women, giving prenatal counselling and training service to pregnant women together with her spouse, the involvement of health care team not only with physical care but also with psychococial care and providing support to pregnant women who have inadequate sources of support is beyond dispute.[25]

In the framework of the above mentioned facts, perception of her body by the pregnant woman may be stated to influence her self esteem and hence quality of life positively and negatively. Therefore, turning negative perceptions into positive ones should be adressed during care of the individual.[26] In this context, it is thought that dissatisfaction with body perception that may develop during pregnancy may have a negative impact on the balance between mother and her environment as well as on the relation between mother and baby. In addition, risky conditions should be recognized beforehand, in order that mother to-be can adapt to pregnancy, the role of being a mother and changes in her own body. Accordingly, measures should be taken in this respect and necessary psycho-training should be given by experts on the issue, so that pregnant women can experience positive emotions in this period and do not encounter adaptation problems in addition to physical problems. In planning these activities, it is important to supply objective data, using scales in order to evaluate the condition of the pregnant woman. In the review of literature on the issue, Prenatal Self Evaluation Scale, which has 7 subdimensions and 79 articles, and whose

adaptation to Turkish was made by Beydağ and Mete (2008), was found to be the only present scale.[27] It is assumed that high number of items in the scale will create logistical problems for people who will administer it. Therefore, it was aimed to develop a new measurement tool based upon the fact that self perception level of the pregnant woman should be determined for offering proper service to the pregnant women. Furthermore, since it may be a measurement tool that can be frequently employed by health personnel following up pregnant women for the evaluation of the effect of pregnancy on self perception of pregnant women, it is thought that it may guide the investigators on the issue and contribute to the relevant literature.

The aim of the present study was to develop "Self Perception Scale for Pregnant women" (SPSP) and to investigate reliability and vaidity analyses of this scale.

Materials and Method

Study Design

The present study was carried out in methodological design.

Place of Investigation

The present investigation was carried out with 326 pregnant women who referred to Ondokuz Mayıs University Faculty of Medicine Investigation and Training Hospital Obstretrics outpatient clinic for routine pregnany controls between January 15th-June 15th 2015.

Self perception Scale for Pregnant Women (SPSS) development was carried out in four stages.

I. Stage; Content Validity

For the development of scale, relevant litrature was rewieved.[27–29] A form with 15 items was developed based upon literature and was administered to a small sample including 25 pregnant women as pilot administration. In scale development and adaptation studies, it is impossible to determine beforehand the number of items that should be included in study group. In general, the larger the item pool, the better it is considered.[30,31] With this study, an item pool of 77 items was formed. Similar statements in the item pool were united in the same item or excluded from pool, obtaining a form of 64 items. This form was submitted to opinions of overall ten experts, including five obstretricians, two public health and three psychological consultants, who were asked about the relevance of items to the issue and their comprehensibility. The aim of validity testing is the the determine whether the items in measurment tool represents the behavior attempted to be measured with the examination of an expert group and to develop a scale including items considered to be significant. Therefore, scale was re-

structured in view of the recommendations and criticism of the experts.[31,32] In view of the expert opinion, some items were excluded from the form and some other items with similar content were united and the scale was developed with 56 items. This scale form was organized in Four Likert type and pilot administartion was made on 20 pregnant women so as to test the intelligibility and comprehensibility of statements and feedback received demonstrated that there was no problem with intelligibility.

II. Stage; Administration of Scale Form

As it is reported in the literature that, in the adaptation of a scale to a particular culture, the number of sample should be at least 10 times as high as the number of items[33,34] in the present study, developed form which has 56 items, was administered to a sample of 326 pregnant women (about 5.5 times higher than the number of items) and its reliability and validity analyses were carried out.

In order to administer planned scale, approval was obtained from local ethics committee of Ondokuz Mayıs University, Faculty of Medicine (approval no: OMU- KAEK 2015–259) and written permission was obtained from Ondokuz Mayıs University Faculty of Medicine Hospital. Administration of scale was carried out in a six month period between January-June 2015. The aim of the study was explained to the pregnant women included in the study and oral consent was obtained from those who have no difficulty in understanding and answering questions and volunteering to participate in the study. In addition, after the administration of scale, the questions of pregnant women were answered and information regarding the issue was given. Investigator provided a comfortable environment for the pregnant women to respond to the items in scale. Scale form was filled by illiterate pregnant women with face to face reading of items aloud while literate ones filled the scale forms themselves. The duration of the administration of scale was around 20-30 minutes. After administration, data of participants were transferred to computer and analysed with SPSS 21.0 program.

III. Stage; Testing of Construct Validity

At this stage, in order to determine construct validity and factor loading of items in the scale, exploratory factor analysis was carried out. The aim of this factor analysis was to reduce many variables thought to be associated with each other to fewer components in order to facilitate the understanding and interpretation of the relations between them and to determine their factor loading.[28,35–37] Therefore, according to results of exploratory factor analysis, factor loading of items was investigated and the items to be included in the scale were chosen and components were determined according to their factor loading of items.
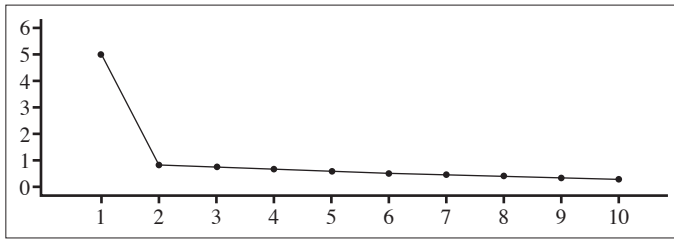
Fig. 1. Scree Plot of SPSP.

Suitability of Data and Adequacy of Sample Test Results

For determining suitability of data to sample and adequacy of sample Kaiser- Meyer- Olkin (KMO) coefficient ve Barlett Sphericity tests have been used . It has been stated that when KMO coefficient is over .60 and Barlett Sphericity test yields significant results, data are suitable for factor analysis.[34,38] In the analyis of the present scale, KMO coefficient was found to be .86, which is quite high as overall sample adequacy criterium for factor analysis. Bartlett's Test of Sphericity Analysis value was found to be χ^2=128.117 and p<.001, which was significant (Table 1). The fact that KMO value was close to, 1 and Bartlett's test of sphericity result was significant with a value of .001 indicates that sample size is adequate and data are suitable for factor analysis.

Scree Plot Results

In order to determine the number of factors that will be rotated, scree plot was invastigated.

When Figure 1 is examined, it can be seen that first sudden change in Scree Plot occurred in second factor, which indicates that scale is probabaly suitable for two factor structure.

Althogh Scree Plot is very practical and yields quite reliable results, considering that basing factor selection solely on this criteriumis not always correct.[39–41] Rotated principle components analysis was carried out.

Rotated Principle Components Analysis Results

Principle component analysis in involved with the contribution of a specific variable to a component and the formation of components present in data.[28,41] For construct validity of scale, expoloratory factor analysis was carried out and as rotation technique, varimax was used. With the aim of determining factor structure in the development of scale, in the form with 56 items, items whose factor loading was over .30 and loading was not on more than one factor were taken into consideration. After factor analysis, items whose factor value was below .30 and with loading on more than factor[38,41] namely items 1., 5., 10., 11. and 14. were removed from the scale. In addition, taking into account the principle that items whose correlation with overall score is .30 or over differentiate individuals better,[41] coefficient of the correlation between item and overall score was assesssed and 39 items whose correlation remained below .30 were removed from scale and its final form was determined. After all of these adjustments, overall number of items was established as 12. After these procedures, items of scale was collected under two factors (Table 1). In conclusion, factor loading can be seen table 1 to vary between .38 and .95. In addition, it has been established that scale explains 33.28% of overall variance with first factor and 53.83% with second factor.

When Scree Plot (Figure 1) and distribution of items in factor analysis (Table 1) were evaluated, it was observed that there were items with high correlation in 2 factor structure,and structure of the scale was decided to include two factors.

Results of Confirmatory Factor Analysis of the Scale

In order to test how well the factor structure determined with explanatory factor analysis corresponds to data obtained, confirmatory factor analysis was performe. In the evaluation of confirmatory factor analysis, diagram, goodness of fit and

Table 1. Factor loading of items in the scale

Item No	Items	Factor 1	Factor 2
		Perception of motherhood during pregnancy	Perception of body during pregnany
2	I am happy to feel myself as a mother with my pregnany beyond being a woman	.80	
3	I feel myself lucky as ı will be able to give birth	.88	
4	I think I will become a good mother	.76	
6	I feel special because I will have a baby	.81	
7	I feel happy with the support of my spouse in pregnancy	.77	
8	I feel happy with the talks I have with my spouse about my pregnancy	.76	
9	I am happy to give birth to a baby	.83	
12	I do not like myself as I did before, because I gained excessive weight.		.40
13	I feel anxious that I will experience problems associated with my pregnancy.		.38
15	I feel anxious that I will not be able to return to my previous size		.84
16	I am afraid that my body will always remain like this		.95
17	I think I will not be able to wear my favorite old clothes again		.87

correction recommendations were taken into consideration. In the diagram, standardized values, which yield information on how well each item represented its own implicit variable are shown.[42] After this analysis, in the model in which 12 items were explained with two factors, obtained chi square value was found to be $\chi^2=128.117$; degree of freedom (df) =50 and root mean square error (RMSEA) value .078.

In testing the fit of the model to data, chi square statistics, GFI, CFI and RMSEA values were evaluated. Chi-squate statistics of, $\chi^2/df <3$ indicates a perfect fit, while $\chi^2/df <5$ indicates an acceptable fit.[43] Goodness of fit Index (GFI) and Comparative Fit Index (CFI) values of .90 or over indicate acceptable fit.[44] Again (RMSEA) value of .10 and under indicates acceptable fit.[45] In the diagram in Figure 2, standardized values are demonstrated. None of the values between implicit and explicit variebles are over "1". Among goodness of fit values, χ^2/df was 2.56, which is under 3, GFI value was .92, CFI value .96 (good fit) and RMSEA value .078, all of which indicates acceptable fit. In conclusion, these fit index values obtained revealed that model has an acceptable fit ($\chi^2=128.117$; df = 50, p=.000; RMSEA=.078).

In confirmatory factor analysis, a hypothesis or theory established previously regarding the relation between variables is tested.[31] After exploratory factor analysis, confirmatory factor analysis carried out to corroborate two factor structure of the scale, confirmed that the scale had two factors.

Naming of Factors

After all analyses, it was established that the scale developed had had overall 12 items and factor structure was collected under two main factors. As items included in first factor encompass "perception of being a mother to-be" (perception of motherhood associated with pregnancy), while the items included in the second factor encompass "body perception of the pregnancy", (negative perception associated with the changes occurring in the body due to pregnancy) the scale was termed as "self perception scale for pregnant women".

IV. Stage; Findings On Item Reliability

In order that scale can be standardized and can produce proper information, it is expected to have two basic characteristics i.e. "reliability", which is an indicator of the constancy of measurment values and "validity" which is an indicator of the degree of accurate measurment of the characteritics which it aims to measure.[36]
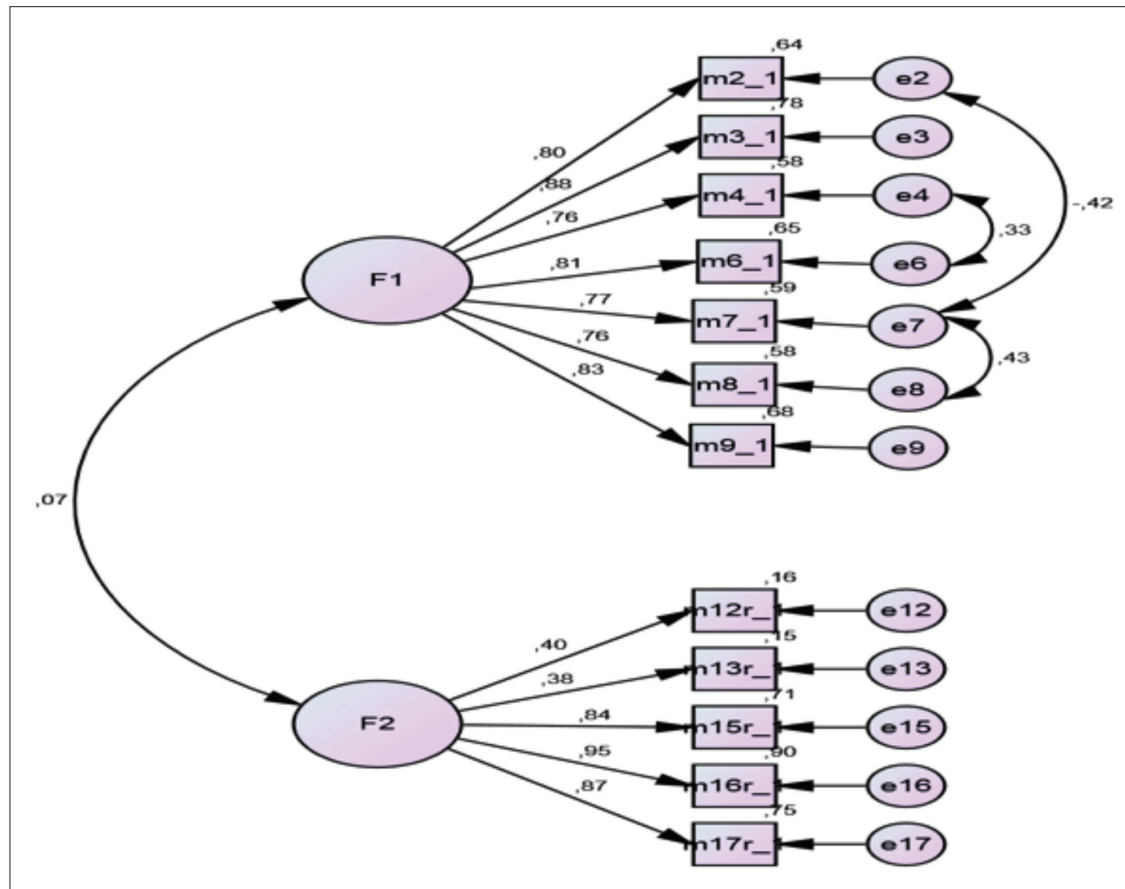
In order to determine the reliability of scale, inner con-

Fig. 2. Confirmatory factor analysis with standardized results.

sistency analysis was carried out and Cronbach Alpha value calculated. Factor 1 was found to have a Cronbach Alpha value of .86 and factor 2 value was .75 and it may be stated that the scale has adequate inner conistency.

Evaluation of the Scale

Scale has 12 items, 7 of which belongs to first factor and 5 of which to second factor (Table 1).

While the factor "perception of motherhood" 2 consists of completely positive questions, the factor "perception of body" consists of completely negative questions. In SPSS data file during evaluation period, negative statements have ben coded inversely. After correlation analysis, no statistically significant correlation was found between two factors (r=.102, p=.066).

The scale was structured as 4 Likert type (4 always 3 usuallyy 2 sometimes , 1 never) and each factor is evaluated separately. In the evaluation of perception of motherhood factor high scores indicate theat perception of motherhood is high and low scores indicate that this perception is low. The highest score that can be obtained in this factor is 28 and the lowest 7.

In the evaluation of perception of body factor, high scores indicate that perception of body is negative,while low scores indicate that it is positive. The highest possible score that can be obtained in this factor is 20 and the lowest 5.

Results

Rapid physical changes occurring during pregnancy exert positive/negative effects on body perception of pregnant women.[1] In various investigations, it has been reported that negative perception of her body by pregnant woman may lead to psychological disorders such as anxiety and depression.[5–8] For health care personnel, determination of self perception level of pregnant woman during pregnancy process and planning care accordingly is significant for prevention of probable problems. In this respect, SPSP is a beneficial and practical scale that can be employed by health care personnel offering care to pregnant women.

According to Akgül (2005) and Şencan (2005), in the adaptation of a scale to a certain culture, sample size should be at least 5–10 times as high as the number of items.[34,35] In the present study, for the scale which has 12 items, sample size was calculated as around 5.5 times as high as the number of items and reliability analysis was performed with 326 pregnant women. This method, known as item reliability analysis, evaluates the effect of scale items on overall score and reveals the relation of each item with overall scale. In order to evaluate correlation between items and overall score, a sample size between 100–2000 or a sample size 5 times as high as the number of items is warranted.[33] In the present study, sample size was 326, which is adequate for item and overall score

correlation. It has been stated that in scale development and scale adaptation studies, for reliability analysis of data collection tool, the characteristics of the sample from which data are collected should be representative of target population in which the scale will be used.[46,47]

The scale was organized as four Likert type. This format makes scoring and obtaining objective information possible.[26] As it is known, Likert type scales are based on self report by the individual.[47] In the present scale, the number of items was 12, which makes it easier to answer questions in a shorter period.

There were overall 12 items which were collected into two factors. As items in the first factor involve "perception on being a mother to-be" (Motherhood peception associated with pregnancy) while the items in second factor "negative perception of changes occurring in the body due to pregnancy" (body perception associated with pregnancy), the scale was termed as "Self perception Scale for Pregnant Women".

In the evaluation of the scale with two factors, each factor is considered separately. First factor is important for determining the adaptation status of the pregnant woman to motherhood. Perception of inadequacy in the pregnant women for motherhood is the first sign of a negative condition in mother-baby relations. Second factor reflects the perception regarding the changes occurring in body of the pregnant woman. Difficulties experienced in this area may lead to problems related to cognitive and psychological integrity of the individual.

In statistical evaluations, scale was found to be reliable and valid. For content validity, experts were consulted and for construct validity, factor analysis was carried out and inner consistency values were found to be high in factors.

As it is well known, reliability and validity has an imporatnt place in scales. Validity is the degree of measuring a characteristics aimed to be measured Validity indicates the degree of accurate measurement of a characteristics aimed to be measured by a measurement tool without confusing it with any other characteristics. As to reliability, it is stated to be sign of the consistency of values obtained in measurements made under same conditions, that is consistency between answers of the individuals to items of the scale.[32,38,46]

When construct validity was evaluated with exploratory factor analysis, it was established that factor loadings varied between .38 and .95 and that first factor explained 33.28% of overall variance while second factor explained 53.83%. Items whose factor loadings were below .30 and had loadings on more than one factor were removed from the scale. In the literaure, it has been reported that itmes whose correlation with overall score is less than 0.20 should be removed from tests.[38,47]

In the present study, according to Exploratory Factor Analyis results, the scale had 12 items collected uner two factors, i.e. perception of motherhood with 7 items and perception of Body with 5 items. Factor loadings were .86 for perception of motherhood and .75 for perception of body. These results indicate that factors of the scale have high Cronbach alpha coefficients. After EFA, two factor structure of the scale was tested with confirmatory factor analysis. After these tests, it was concluded that the scale has vailidty and then reliability analysis was carried out. Involvement of the women with thier own bodies start from adolescece period on. Positive perception of her body by the individual has a positive effect on self perception. In pregnancy process, which can be stated to be a developmental crisis period in the lives of the women, physical, psychological and hormonal changes occuring in mother to-be may influence how pregnant woman views her pregnancy and her body. In this respect, if mother to-be perceives her pregnancy and body in a positive light, this influences her and baby's health and hence community health. Therefore, evaluation of perception of pregnancy and her body by the pregnant woman is important for preventive health and counselling services. In the evaluation of the factors of the scale separately, it can be seen whether the perception of her pregnancy and body by pregnant women is positive or negative. Therefore, this measurement tool, whcih was developed to recognize the problems associated wit self perception of pregant women and to take measures beforehand, was established to be highly reliable after validity and reliability analysis.

This measurement tool can be used in pregnant women who can understand and answer questions, in health institutions where pregnant women are offered care, or by health care personnel during home visits with the aim of evaluating self perception of pregnant women. According to these evaluations, it will be possible to take precautions beforehand by being aware of the problems of pregnant women, which will contribute to pregnant woman for experiencing a psychologicallly healthy pregnancy process.

As it is known, it is important to recognize how women perceive themselves and social support systems during pregnancy and post natal period, which is also important for the health of the mother and the baby and positive intra family relations.[48]

In view of aforementioned facts, it can be stated that the present scale is a reliable and valid scale in terms of function and benefit.

Discussion

Positive perception of his/her own body by the individual has a positive effect on psychological health and self esteem. Women become involved with their bodies starting from adolescence period. Each woman in reproductive period may experience pregnany process, which is referred to as a developmental crisis in their lives. Physical, psychological and hormonal changes that may occur during pregnancy process exert an impact on the perception of preganay and her body by mother to-be. From this point of view, positive perception of her body and pregnancy by pregnant woman influences both her health and health of her baby, hence health of the community. In this context, evaluation of the perception of her body and pregnancy by pregnant woman is important for preventive health and counselling services. The evaluation of the factors of the scale separately indicates that whether the perception of pregnancy and her body by pregnant woman is positive or negative. Based upon these, it was concluded after reliability and validity analyses that this meaasurement tool developed to determine problems beforehand and to take measures early can be used in the evaluation of pregnant women.

This measurement tool can be used in all pregnant women who can answer questions, in health institutions where pregnant women are followed up or during home visits by health workers to evalute self perception of pregnant women. According to these evaluations, it will be possible to recognize problems of pregnant women and to take measures beforehand, which will help pregnant women to experience a psychologically healthy pregnancy process.

As it is known, it is important to know how women perceive themselves and social support system in pregnancy and postnatal period, which is important for the health of the mother and the baby and positive intrafamily relations.[48]

When evaluated in this context, it is thought that the scale developed in this study may contribute to investigators and clinical practice in that it is not time consuming with its few number of items.

In conclusion, the scale developed in the present study is a valid and reliable measurement tool for determining self perception level of pregnant women. It will help health personnel offering service to pregnant women to determine self perception level of pregnant women. It is assumed that the development of this scale will make it easier to carry out practical investigations on adaptation levels of pregnant women to pregnancy and their perception of motherhood. The scale can be used by health personnel working in clinics where pregnant women are followed for the evaluation of body and motherhood perception of pregnant women. It may be utilized in planning nursing practices for pregnant women with low level of perception for body and motherhood. Finally, it may also be utilized for determination of self perception of pregnant women during home visits by nursing and midwifery students within the framework of their lessons.

It may be stated that this scale may be utilized for revealing the dissatisfaction with body in pregnant women and for taking measures against problems that may arise due to negative body image. In addition, it can be assumed that it is a reliable measurment tool accurate enough to be used satisfactorily by health workers working with pregnant women (physicians, nurses, midviwes, physiotherapists, dieticians, psychologists) in the studies they will carry out.

Further studies on the issue may be planned with different samples in order to provide additional proof of the suitability of the scale to its aim.

Limitations of the Scale

Although the present scale is established to be a reliable and valid one, it may require retest.

This scale can be used solely to evaluate the perception of body and motherhood by pregnant women during pregnany process. It does not evaluate psychological or physical disorders of the pregnant woman.

Another important limitataion of the present study was that exploratory and confirmatory factor analysis, item analysis and calculation of inner consistency coefficient were carried out with the data obtained from the same data base. Therefore,it is our suggestion that further studies that carry out the aforementioned analyses with data obtained from diferent data bases should be planned.

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