

How does Alexithymia Effect Depression and Anxiety Scores in Third Trimester of Pregnancy?

Gebeliğin Üçüncü Trimesterinde Alexitimi, Depresyon ve Anksiyete Skorlarını Nasıl Etkiliyor?

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ABSTRACT

Objective: It is known that psychological factors during pregnancy are important parameters for maternal and infant health. Therefore, the aim of this study was to screen and detect alexithymia and depression and their relationship as primary outcomes to lower the risk of their possible adverse consequences over mother and infant relationship. **Material and Methods:** Between May 2020 and February 2022 302 pregnant women in the third trimester of their pregnancy who applied to our antenatal check-ups in Gynecology and Obstetrics Clinic of İstanbul Professor Doctor Cemil Taşçıoğlu State Hospital participated in this cross-sectional study. After the exclusion criteria were applied, a total of 260 pregnant women were found eligible for this study and the remaining 194 pregnant women agreed to participate in the study. The Toronto Alexithymia Scale, Beck Depression Scale and Beck Anxiety Scale questionnaire were administered to each of the participants separately. According to the results, the patients were divided into two groups according to their alexithymia scores. Patients diagnosed with alexithymia and those who were not diagnosed with alexithymia were evaluated. **Results:** Thirty-four (17.5%) patients diagnosed with alexithymia after TAS-20 evaluation were compared with one hundred and sixty pregnant women who did not have alexithymia. The anxiety and depression scores of the patients in the alexithymia group were significantly higher than the patients in the non-alexithymia group ($p<0.001$, $p<0.001$, respectively). There was a significant and strong correlation between TAS scores and BDI and BAI scores ($r:0.365$ $p<0.001$, $r:0.305$ $p<0.001$, respectively). A negative strong correlation between TAS scores and the marital status was also noted ($r:-0.439$ $p<0.001$). And a statistically significant negative correlation was also found between parity and the TAS score ($r:-0.161$ $p=0.025$) **Conclusion:** We concluded that depression and anxiety are encountered more frequently in alexithymic pregnant women. And we revealed that divorced pregnant women have higher prevalence of alexithymia in comparison to married ones. We also found a statistically significant positive correlations between the total TAS scores and the BDI and BAI scores. Finally we revealed a negative correlation between TAS scores and the marital status and the parity.

Keywords: Anxiety; depression; alexithymia; pregnancy

ÖZET

Amaç: Gebelikte psikolojik faktörlerin anne ve infant sağlığı için önemli bir parametre olduğu bilinmektedir. Bu yüzden bu çalışmanın amacı anne ve infant ilişkisi üzerindeki muhtemel kötü sonuçlarını azaltmak için gebeliğin üçüncü trimesterinde olan kadınlarda birincil sonuçlar olarak aleksitimi ve depresyonu ve birbirleriyle olan ilişkilerini taramak ve saptamaktır. **Gereç ve Yöntemler:** Bu kesitsel özellikle olan çalışmamıza Mayıs 2020 ve Şubat 2022 yılları arasında gebeliğinin üçüncü trimesterinde olan, İstanbul Profesör Doktor Cemil Taşçıoğlu Devlet Hastanesi Kadın Hastalıkları ve Doğum Kliniğimizde doğum öncesi kontrollerimize başvuran 302 gebe kadın katıldı. Dışlama kriterleri uygulandıktan sonra toplam 260 gebe bu çalışma için uygun bulundu ve geriye kalan 194 gebe çalışmaya katılmayı kabul etti. Katılımcıların her birine Toronto Aleksitimi Ölçeği, Beck Depresyon Ölçeği ve Beck Anksiyete Ölçeği anket formu ayrı ayrı uygulandı. Ardından çıkan sonuçlara göre hastalar, aleksitimi skorlarına göre iki gruba ayrıldılar. Depresyon tanıları konan ve aleksitimi tanıları konmayan hastalar değerlendirildi. **Bulgular:** TAÖ-20 değerlendirmesi sonrası aleksitimi tanıları konulan otuz dört (%17,5) hasta, aleksitimi olmayan yüz altmış gebe ile karşılaştırıldı. Aleksitimi grubunda bulunan hastalarda anksiyete ve depresyon skorları, aleksitimi olmayan grupta bulunan hastalara göre belirgin olarak daha yüksek bulundu (sırasıyla, $p<0,001$, $p<0,001$). TAS skorları ile BDI ve BAI skorları arasında belirgin ve güçlü bir ilişki vardı (sırasıyla, $r:0,365$ $p<0,001$, $r:0,305$ $p<0,001$). TAS skorları ve medeni durum arasında negatif güçlü bir korelasyon da kaydedildi ($r:-0,439$ $p<0,001$). Ve parite ve TAS skorları arasında istatistiksel olarak belirgin negatif bir korelasyon bulundu ($r:-0,161$ $p:0,025$) **Sonuç:** Depresyon ve anksiyetenin aleksitimik gebe kadınlarda daha sık karşılaşıldığı sonucuna vardık. Evlilerle kıyaslandığında boşanmış gebe kadınların daha yüksek aleksitimi prevalansına sahip olduklarını ortaya koyduk. TAS skorları ile BDI ve BAI skorları arasında istatistiksel olarak belirgin pozitif korelasyon bulduk. Son olarak TAS skorları ile medeni durum ve parite arasında negatif korelasyon olduğunu ortaya koyduk.

Anahtar Kelimeler: Anksiyete; depresyon; aleksitimi; gebelik

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Alexithymia is a personality trait in which the person can not express his/her feelings, has difficulty in defining them to others, and lives daily life logically oriented.¹ The prevalence of the condition was reported as 2-15% in the general population whereas the rate is 5.2% among the women.² The people with high alexithymia levels have more hard times to understand and assess their children's feelings. Furthermore, they can not properly teach their children how to establish control over their feelings and this results in an unhealthy mother-infant relationship.^{3,4} The etiology of alexithymia is unclear, but a few theories have been suggested. There are some biological and psychological factors, which may trigger to occur alexithymia.^{5,6}

In several studies it is concluded that depression has an intense association with alexithymia.^{6,7} Moreover, depression in the course of pregnancy is considered as a risk factor for adverse outcomes for mothers and children.⁴ On the other hand, depression incidence increases during pregnancy.^{8,9} Alexithymia predicts maternal fetal attachment with a higher effect than maternal depression and anxiety and negatively effects the communication between child and mother.⁴ It is crucial to delineate the prevalence of Alexithymia among pregnant women.

Therefore, in this study, we screened and detected alexithymia and depression and their relationship as primary outcomes to lower the risk of their possible adverse consequences over mother and infant relationship. Besides, we also searched anxiety among pregnant having Alexithymia and relationship between them as secondary outcomes. Alexithymia ratios according to the education levels, marital status and occupation were our tertiary outcomes.

MATERIAL AND METHODS

The study was conducted in accordance with the Principles of the Declaration of Helsinki and approved by our local ethics committee (Date: 14.4.2020, No: 48670771-514.10). This study had a cross-sectional design. Between May 2020 and February 2022, a number of 302 pregnant women at the gestational age between 24-36 weeks (In third trimester) attending to our prenatal follow-up visits

at obstetrics clinics of İstanbul Profesör Doktor Cemil Taşçıoğlu State Hospital were enrolled to this study. Exclusion criteria were being out of the third trimester, illiterate and having a history of psychotic diseases and taking psychoactive drugs during pregnancy, high-risk pregnancy, and mental disability. After exclusion criteria were applied a total of 260 subjects were eligible for this study, and only 194 pregnant accepted to participate in the study. Informed consent was taken from all participants. Turkish version of Twenty Item Toronto Alexithymia Scale (TAS-20), which originally developed by Bagby et al. was used in this study.^{10,11} It is a scale of 20 questions evaluating alexithymia, and each item is scored between 1 and 5. High scores indicate a high alexithymic level. In this scale, there are subgroups of difficulty in identifying feelings, difficulty in describing feelings and externally oriented thinking. Since the cutoff score of the Turkish version of the scale was 59, individuals scoring 59 and above were evaluated as alexithymic.^{12,13} In our study, as in some studies, only a general alexithymia score was calculated.¹³ The women (respondent) were divided into two groups according to the TAS-20 using the cutoff scores of < 59 as non-alexithymia and ≥ 59 as alexithymia. Meanwhile, their depression was measured using the Beck Depression Inventory (BDI) whereas anxiety was assessed via the Beck Anxiety Inventory (BAI). BDI is a self-assessment scale used to determine depressive symptoms and attitudes. It consists of 21 items; and each item is scored from 0 to 3. A high total score indicates increased severity of depression experienced by the person. The validity and reliability study of the scale developed by Beck et al. was conducted by Hisli in our country.^{14,15}

BAI is a self-assessment scale applied to evaluate the level of anxiety experienced by the person. In the scale including 21 items, each item scores between 0 and 3. The higher the total score, the higher the level of anxiety.¹⁶ The validity and reliability study in our country was done by Ulusoy et al.¹⁷

A questionnaire on the socio-demographic and obstetric data was used, and the data contains information regarding age, education level, marital status, occupation, parity, and gestational age. The participants were classified into two groups depending on the level of education: ≤ 12 years and > 12 years.

All analysis was performed using SPSS software (Statistical Package for the Social Sciences, version 16.0, SPSS Inc., Chicago, IL, USA). Kolmogorov-Smirnov test was used to evaluate the eligibility of the data to normal distribution. Descriptive statistical methods were used to evaluate frequency, percentage, mean (standard deviation (SD)), median (25th and 75th percentiles) when appropriate. Chi-square test was used for categorical variables. Student t test was applied for normally distributed data and mean (standard deviation (SD)) is used as descriptive statistical method. On the other hand Mann-Whitney U test was applied for not normally distributed data and median (25th and 75th percentiles) was used as descriptive statistical method. Spearman's correlation analysis was utilized to evaluate correlation. P-value <0.05 was considered statistically significant.

RESULTS

In our study there were 194 third trimester pregnant women and the mean age of the whole participants was 31.89±7.02 years. The median score of alexithymia with 25th and 75th percentiles was 32 (19-54). Thirty four (17.5%) patients were diagnosed as alexithymia after the assesment of TAS-20. Thirty four pregnant with alexithymia was then compared with the remaining 160 women with no alexithymia (Table

1). Between the two groups, there was no statistical difference in terms of age, education level, parity, occupation and gestational age whereas a significant statistical difference was detected regarding to marital status (p<0,001). There were 19 participants who were single and all of them was divorced during the course of pregnancy before attending the trial. 14 (73.7%) of these single patients were among the alexithymic population in our study.

Anxiety and depression scores in the Alexithymia group were significantly higher than that in no Alexithymia group (p<0.001, p<0.001, respectively). Depression and anxiety scores are noted between 1 and 51 as minimum and maximum values among the No Alexithymia patients and the median values with 25th and 75th percentiles were 8(4-12) and 8(5-12), respectively. On the other hand, in Alexithymia group, the same values were 22(11-33) and 27(7-33) for anxiety and depression, respectively.

There was a significant and strong positive correlation between the total TAS scores and the BDI and BAI scores (r:0.365 p<0.001, r:0.305 p<0.001 respectively). A negative strong correlation between TAS scores and the marital status was also noted (r:-0.439 p<0.001). Meanwhile, a statistically significant negative correlation was also found between parity and the TAS score (r:-0.161 p=0.025) (Table 2).

TABLE 1: Subjects' characteristics.

	No alexitimia (n: 160)	Alexitimia (n: 34)	p value
Age (Mean±SD)	31.91±6.77	33.64±7.96	0.051 ¹
Depression score (median (25 th -75 th))	8 (4-12)	27(7-33)	<0.001 ²
Anxiety score (median (25 th -75 th))	8(5-12)	22(11-33)	<0.001 ²
Gestational age (weeks) (Mean±SD)	30.93±3.24	31.26±3.09	0.47 ¹
Parity (n(%))			
First pregnancy	41 (89.1)	5 (10.9)	0.174*
≥1	119 (80.4)	29 (19.6)	
Education level (n(%))			
<12	119 (82.1)	26 (17.9)	0.798*
≥12	41 (83.7)	8 (16.3)	
Marital status (n(%))			
Single	5 (26.3)	14 (73.7)	<0.001*
Married	155 (88.6)	20 (11.4)	
Occupation (n(%))			
House wife	81 (80.2)	20 (19.8)	0.385*
Worker	79 (84.9)	14 (15.1)	

¹Student t test, ²mann whitney u test, *chi-square test

TABLE 2: Correlation between alexithymia scores and the variables

	Alexithymia score	
Beck depression score	r	0.365
	p	<0.001
Beck anxiety score	r	0.305
	p	<0.001
Parity	r	-0.161
	p	0.025
Education level	r	0.004
	p	0.96
Marital status	r	-0.439
	p	<0.001
Age	r	-0.033
	p	0.644
Gestational age	r	0.084
	p	0.247
Occupation	r	0.04
	p	0.584

DISCUSSION

In our cross-sectional study we primarily concluded that there is a strong correlation between TAS scores and depression, besides there is also significant difference between patients with and without alexithymia in terms of depression.

Our results were compatible with some studies that have shown an association between alexithymia and a number of psychological problems.^{4,18,19} In an explorative study it is revealed that higher maternal alexithymic traits associate with lower maternal sensitivity and more hostile maternal caregiving behavior.³ According to another trial, maternal fetal relationship was negatively associated with maternal anxiety and alexithymia and was positively associated with social support.⁴

Depending on our study, it may be possible that women with alexithymia had hard times using words to understand and express their own feelings, moreover they may have difficulties in understanding their children's feelings as well. Thus, when women have higher scores of difficulty in identifying a feeling, difficulty in describing a feeling and externally oriented thinking, they may be more likely to suffer from depression.

However contrary to our report, in a trial from Iran, alexithymia prevalence was reported as 50%.²⁰ This was much more higher than our finding of alexithymia prevalence. The reason for the lower rate of alexithymia in our study was probably because the study sample did not include women who had a history of depression before pregnancy. There might be lack of understanding of the TAS questions. And the participants might hesitate to answer the questions due to the predominant cultural perspectives or social reasons. The findings show that the prevalence of alexithymia may vary in women with different cultural backgrounds and the importance of asking all pregnant women about their feelings so that supportive care can be given.

There are some limitations to our study. We have a considerably small sample size to reflect the universe since the alexithymia prevalence may differ in various populations having different backgrounds. Our results didn't give any causative relationship. In other words it can not reveal if alexithymia causes depression or vice versa. Our study had a cross-sectional design which may require support from stronger study designs like prospective randomised ones.

Alexithymia and depression should be screened and detected to lower the risk of their possible adverse consequences over mother and infant relationship. Alexithymia patients should be supported and treated appropriately in order to establish a healthy future infant and mother attachment. Health care providers should be educated being focused on the importance of the issue and screening programmes should be established and conducted. Pregnant women should be not evaluated obstetrically only, but also be assessed psychologically and referred to the psychiatry outpatient clinic if necessary.

CONCLUSION

We concluded that depression and anxiety are encountered more frequently in alexithymic pregnant women. And we revealed that divorced pregnant women have higher prevalence of alexithymia in comparison to married ones. We also found a statistically significant positive correlations between the

total TAS scores and the BDI and BAI scores. Finally we revealed a negative correlation between TAS scores and the marital status and the parity.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or mem-

bers of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Erhan Aktürk, Başak Cıngıllıoğlu; **Design:** Erhan Aktürk, Arzu Yurci; **Control/Supervision:** Erhan Aktürk, Melike Eren; **Data Collection and/or Processing:** Erhan Aktürk, Simten Genç; **Analysis and/or Interpretation:** Erhan Aktürk, Başak Cıngıllıoğlu; **Literature Review:** Erhan Aktürk, Başak Cıngıllıoğlu; **Writing the Article:** Erhan Aktürk, Simten Genç; **Critical Review:** Erhan Aktürk, Arzu Yurci; **References and Fundings:** Erhan Aktürk, Melike Eren; **Materials:** Erhan Aktürk, Simten Genç.

REFERENCES

- Luminet O, Nielson KA, Ridout N. Cognitive-emotional processing in alexithymia: an integrative review. *Cogn Emot.* 2021;35(3):449-87. [[Crossref](#)] [[PubMed](#)]
- Kokkonen P, Karvonen JT, Veijola J, Läksy K, Jokelainen J, Järvelin MR, Joukamaa M. Prevalence and sociodemographic correlates of alexithymia in a population sample of young adults. *Compr Psychiatry.* 2001;42(6):471-6. [[Crossref](#)] [[PubMed](#)]
- Ahrnberg H, Korja R, Scheinin NM, Nolvi S, Kataja EL, Kajanoja J, Hakanen H, Karlsson L, Karlsson H, Karukivi M. Maternal Alexithymic Traits Are Related to Lower Maternal Sensitivity and Higher Hostility in Maternal Caregiving Behavior-The FinnBrain Birth Cohort Study. *Front Psychol.* 2021;12:704036. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
- Ierardi E, Bottini M, Facchinetti M, Crugnola CR. Maternal Anxiety, Depression, Alexithymia, and Social Support: Association With Maternal-Fetal Attachment in Pregnancy. *Int J Childbirth* 2022;12:67-75. [[Crossref](#)]
- Yürümez E, Akça ÖF, Uğur Ç, Uslu RI, Kılıç BG. Mothers' alexithymia, depression and anxiety levels and their association with the quality of mother-infant relationship: a preliminary study. *Int J Psychiatry Clin Pract.* 2014;18(3):190-6. [[Crossref](#)] [[PubMed](#)]
- Bonnet A, Bréjard V, Pasquier A, Pedinielli JL. Affectivité et alexithymie: deux dimensions explicatives des relations entre symptômes dépressifs et anxieux [Affectivity and alexithymia: two dimensions explicative of the relationship between anxiety and depressive symptoms]. *Encephale.* 2012;38(3):187-93. French. [[Crossref](#)] [[PubMed](#)]
- Tolmunen T, Lehto SM, Heliste M, Kurl S, Kauhanen J. Alexithymia is associated with increased cardiovascular mortality in middle-aged Finnish men. *Psychosom Med.* 2010;72(2):187-91. [[Crossref](#)] [[PubMed](#)]
- Verreault N, Da Costa D, Marchand A, Ireland K, Dritsa M, Khalifé S. Rates and risk factors associated with depressive symptoms during pregnancy and with postpartum onset. *J Psychosom Obstet Gynaecol.* 2014;35(3):84-91. [[Crossref](#)] [[PubMed](#)]
- Koleva H, Stuart S, O'Hara MW, Bowman-Reif J. Risk factors for depressive symptoms during pregnancy. *Arch Womens Ment Health.* 2011;14(2):99-105. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
- Bagby RM, Taylor GJ, Parker JD. The Twenty-item Toronto Alexithymia Scale-II. Convergent, discriminant, and concurrent validity. *J Psychosom Res.* 1994;38(1):33-40. [[Crossref](#)] [[PubMed](#)]
- Bagby RM, Parker JD, Taylor GJ. The twenty-item Toronto Alexithymia Scale-I. Item selection and cross-validation of the factor structure. *J Psychosom Res.* 1994;38(1):23-32. [[Crossref](#)] [[PubMed](#)]
- Güleç H, Yenel A. 20 Maddelik Toronto Aleksitimi Ölçeği Türkçe Uyarlamasının Kesme Noktalarına Göre Psikometrik Özellikleri. *Klin Psikiyatr Derg.* 2010;13:108-12.
- Taycan O, Özdemir A, Erdoğan Taycan S. Alexithymia and Somatization in Depressed Patients: The Role of the Type of Somatic Symptom Attribution. *Noro Psikiyatr Ars.* 2017;54(2):99-104. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
- Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psychiatry.* 1961;4:561-71. [[Crossref](#)] [[PubMed](#)]
- Hisi N. Beck Depresyon Ölçeği'nin bir Türk örnekleminde geçerlilik ve güvenilirliği. *Psikoloji Dergisi.* 1988;6:118-22.
- Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. *J Consult Clin Psychol.* 1988;56(6):893-7. [[Crossref](#)] [[PubMed](#)]
- Ulusoy M, Şahin NH, Erkmen H. Turkish version of the Beck Anxiety Inventory: Psychometric properties. *J Cognitive Psychother.* 1998;12:163-72.
- Şahin B, Özçetinkaya Erdoğan S, Cura Şahin G, Karlı P, Kara OF, Hatırmaz Ş, Tinelli A. Nausea and vomiting during pregnancy: a possible correlation with obsessive compulsive disorder and alexithymia. *J Obstet Gynaecol.* 2022;42(5):929-34. [[Crossref](#)] [[PubMed](#)]
- Kleanthi G, Maria G. Alexithymia, Stress and Depression in Infertile Women: a Case Control Study. *Mater Sociomed.* 2021;33(1):70-4. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
- Monavar Gilanifar, Mouloud Agajani Delavar Alexithymia In Pregnant Women: Its Relationship With Depression ASEAN Journal of Psychiatry. 2016;17(1).