

The relationship between alexithymia and general symptoms of pregnant women

MONAVAR GILANIFAR^{1,2}, MOLOUD AGHAJANI DELAVAR^{3,4}

¹Islamic Azad University Sari Branch, Sari, Iran

²Ayatollah Rouhani Hospital, Babol University of Medical Sciences, Babol, Iran

³Infertility and Reproductive Health Research Center, Health Research Institute & Department of Midwifery

⁴Babol University of Medical Sciences, Babol, Iran

Introduction. Alexithymia is related to poor emotion regulation strategies as well as higher rates of somatic disorders. The aim of the present study was to assess the relationship between alexithymia and the general symptoms experienced by the pregnant women.

Material and Methods. In a cross-sectional study, a total number of 350 pregnant women, attending the antenatal clinics, were randomly selected. A standardized Toronto Alexithymia Scale (TAS-20) was used to elicit responses from participants with alexithymia. The general symptoms scores were measured using the Iranian version of the Symptom Checklist-90-Revised, 90 items. The statistical associations between alexithymia and the general symptoms were then investigated through liner regression.

Results. A total number of 186 of pregnant women with alexithymia were compared with the 164 cases without alexithymia. The high scores on Total Toronto Alexithymia Scale-20 and the difficulties to identify feelings emerged as major predictors for the current psychopathology on all SCL-90-R subscales. The difficulty in describing feelings features of alexithymia is positively associated with interpersonal sensitivity and paranoid ideation, but it is inversely associated with the phobic anxiety dimension.

Conclusion. This study showed that the pregnant women with difficulty in describing feelings features of alexithymia are likely to show a broad range of psychopathology. Therefore, it is necessary to emphasize the benefits of specific psychotherapeutic techniques to improve self-differentiation so that we can reduce the likelihood of mental illnesses in pregnant women.

Keywords: Alexithymia; Symptom Checklist-90-Revised; Toronto alexithymia; Pregnancy.

INTRODUCTION

Alexithymia is a multi-dimensional personality trait that includes a set of characteristics difficulty in identifying emotions, difficulty to describe feelings with words, and externally oriented cognitive style [1]. The prevalence of alexithymia was reported to be 27.9% in pregnant women in Iran [2]. Pregnancy and parenting have been identified as pivotal events in a woman's life with a variety of bio-psycho-social events [3]. Alexithymia has a negative impact on the quality of the mother-infant relationship [4], as it can help create children's psychosocial development. The twenty Toronto scale (TAS-20) has been used as a self-reported instrument to identify individuals with alexithymia. The cause of alexithymia is unknown, though several theories have been proposed. There are several factors from biological to psychological, which may cause individuals to develop alexithymia [4-6]. Some studies have shown that depression has a strong link with the development of alexithymia [6, 7]. Depression during pregnancy is a risk factor for

adverse outcomes for mothers and children [8]. In addition, there is an increased risk of depression during pregnancy [9-13]. In a study from Iran, the total depression prevalence was 16% [3]. Thus, alexithymia and depression have been the targets for intervention in pregnant women. Little information is available about alexithymia as well as the general symptoms in pregnant women. It is important to assess the association between alexithymia and the general symptoms, experienced by pregnant women. We hypothesized that pregnant women with alexithymia would have different symptoms and manifestations when compared with those without alexithymia, and that its subscales; difficulty in identifying feelings (DIF), difficulty in describing feelings (DDF) and externally oriented thinking (EOT), could be associated to a specific symptom.

MATERIAL AND METHODS

A random sampling method was used in this study for a total number of 425 pregnant women

with gestational age of 12-36 weeks, receiving prenatal services from obstetrics clinics in Babol, Iran. Having gone through random sampling, 350 (82.3%) respondents agreed to participate in the study. Informed written consents were obtained from all women participating in this study. The collection and publication of these data was approved by the Research Ethics Committee of Islamic Azad University Sari Branch, Sari, Iran. In addition this study was funded by Islamic Azad University (grant number 20820701931073).

The exclusion criteria included individuals with a history of psychotic problems or the use of psychoactive drugs during pregnancy, high-risk pregnancy, or mental retardation. Furthermore, those who were mentally-retarded or illiterate were excluded from the study.

The twenty Toronto scale (TAS-20), a self-report instrument, was used to measure the three dimensions of alexithymia (the difficulty in describing and identifying feelings (DIF), the difficulty in describing feelings (DDF), and focusing on external experiences (EOT).

The Iranian version of TAS-20, originally developed by Bagby *et al.*, was used in this study [14, 15]. The scoring was done in accordance with the 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha of the Iranian version of TAS-20 in our samples, aspects of the difficulty in describing and identifying feelings, difficulty in describing feelings and focusing on external experiences were 0.77, 0.73, 0.69 and 0.65, respectively. The minimum and maximum scores were between 20 and 100. Subjects were divided into two groups according to their TAS-20 scores, alexithymia (TAS-20 total score ≥ 52) [15], and non-alexithymia (TAS-20 total score < 51).

Meanwhile, their general symptoms were measured using the Iranian version of the Symptom Checklist-90-Revised, 90 items in this study. Each respondent was given the SCL-90-R and was informed to answer by indicating the statement which stated the best of her experiencing the listed symptoms over the past week. The Cronbach's alpha of the Iranian version of SCL-90-R for our samples was calculated to be 0.89. The scoring procedure was based on a 5-point Likert scale from 1 (no problem) to 5 (very serious). The minimum and maximum scores were between 0 and 39. The respondents were categorized into nine groups according to 9 symptom scales: somatization, Obsessive-compulsive, Interpersonal sensitivity, Depression, Anxiety, Hostility, Phobic anxiety,

Paranoid ideation, and Psychoticism. The higher scoring of SCL-90-R meant a worse psychology disorder.

A questionnaire on the socio-demographic and obstetric data was used. The data contained information regarding age, education level, marital age, occupation, income, and gestational age, and parity. The subjects were divided into three groups according to their levels of education: ≤ 12 years and > 12 years. The women were divided into 3 economic groups by household income for the previous year: Less than 600,000, 600,000 to 1 million, 1 to 2 million, 2 million Tomans and more per month (Tomans = 0.03 USD).

Variables were tested for normality through SPSS version 16.0, Chicago, IL, USA. Independent t-test and chi-square were used to compare variables between-groups. Linear regression analyses were performed using the sub-scores of the SCL-90-R as dependent variables. P-value of 0.05 or less was considered statistically significant.

RESULTS

The current study included 350 pregnant women with a mean age of 269 ± 5.3 years. The prevalence of alexithymia was 46.9% among the respondents. A total number of 186 pregnant women with alexithymia were compared with the 164 other participants without alexithymia. Age, gestational age, and number of pregnancy were the same between the two groups. Only a significant difference was seen in the education levels of women. The women with alexithymia had fewer years in education. ($p = 0.0001$) (Table 1).

There were significant differences in alexithymia and its subscales' scores, the difficulties identifying feelings, difficulties in describing feelings and externally orientated thinking feature of alexithymia, between the two groups. The women with alexithymia showed a significant increase on obsessive-compulsive ($P = 0.001$), interpersonal sensitivity ($p = 0.004$), depression ($P = 0.0001$), anxiety ($p = 0.049$), phobic anxiety ($p = 0.006$), paranoid ideation ($p = 0.007$), and psychoticism ($p = 0.021$). There were no significant differences in somatization and hostility between the women with and without alexithymia (Table 2).

The linear regression analyses revealed that the education of the pregnant women only emerged as a weak predictor for "obsessive-compulsive". High scores on Total Toronto Alexithymia Scale-

20 and difficulties identifying feelings emerged as a major predictor for current psychopathology on all SCL-90-R subscales. A weak prediction of “interpersonal sensitivity”, “paranoid ideation” and “phobic anxiety” and also a moderate prediction of “depression” were found by high scores on difficulty

in describing feelings. Somatization, obsessive-compulsive, anxiety, hostility, psychoticism were not predicted by difficulty in describing feelings. In addition, none of the SCL-90-R subscales were predicted by externally orientated thinking feature of alexithymia (Table 3).

Table 1
Characteristics of pregnant women (n = 350)

	No Alexithymia (N =164) Mean ± SD	Alexithymia (N = 186) Mean ± SD	P-value
Age (years)	27.3±4.9	26.5±5.6	0.168
Current gestational age (weeks)	26.1±7.4	27.0±7.2	0.267
Education level in years	12.5±2.4	11.5±2.2	0.0001
Pregnancy number	1.8±0.8	1.7±0.8	0.429

Table 2
Results of Toronto Alexithymia Scale-20 and Symptom Checklist-90-R among pregnant women (n = 350)

	No Alexithymia (N =164)			Alexithymia (N = 186)			P-value
	Median	Minimum	Maximum	Median	Minimum	Maximum	
Toronto Alexithymia Scale-20							
Total Score of alexithymia	44.0	25.0	51.0	61.0	52.0	81.0	0.0001
Difficulty in identifying feelings (DIF)	12.5	7.0	24.0	23.0	11.0	35.0	0.0001
Difficulty in describing feelings (DDF)	10.0	5.0	21.0	16.0	8.0	24.0	0.0001
Thinking with external orientation (EOT)	20.0	11.0	32.0	23.0	12.0	33.0	0.0001
Symptom Checklist-90-R							
Somatization	4.0	0	24.0	6.0	0	24.0	0.060
Obsessive-compulsive	7.0	0	36.0	12	0	36.0	0.001
Interpersonal sensitivity	11.0	0	37.0	14.5	0	39.0	0.004
Depression	7.0	0	34.0	12	1.0	36.0	0.0001
Anxiety	14.0	1.0	42.0	16	1.0	45.0	0.049
Hostility	6.0	0	39.0	8	0	40.0	0.134
Phobic anxiety	5.0	0	24.0	8	0	23.0	0.006
Paranoid ideation	10.0	0	48.0	16	2.0	52.0	0.007
Psychoticism	4	0	32.0	7	0	32.0	0.021

Table 3
Relationship of alexithymia and demographic variables with 9 symptom dimensions in pregnant women (n = 350) (simple regression analyses)

Predictor	SCL-90-R Subscale																	
	Somatization		Obsessive-compulsive		Interpersonal sensitivity		Depression		Anxiety		Hostility		Phobic anxiety		Paranoid ideation		Psychoticism	
	β	t	β	t	β	t	β	t	β	t	β	t	β	t	β	t	β	t
Age (years)	0.01	0.18	0.016	0.30	0.034	0.63	0.05	0.95	0.02	0.37	0.03	0.56	-0.01	-0.17	0.07	1.31	-0.019	0.35
gestational age (weeks)	-0.01	-0.03	0.02	0.39	-0.03	-0.59	-0.04	-0.74	-0.04	-0.722	-0.00	-0.06	-0.04	-0.69	-0.01	-0.25	0.01	0.15
Education (years)	-0.09	-1.61	-0.14	-2.57*	-0.07	-1.31	-0.04	-0.75	-0.06	-1.08	-0.06	-1.08	-0.05	-0.99	-0.09	-1.61	-0.06	-1.15
Gravidity	0.02	0.42	0.04	0.70	0.01	0.25	-0.01	-0.11	-0.01	-0.22	0.03	0.49	0.02	0.32	0.3	0.51	-0.04	-0.81
Toronto Alexithymia Scale-20																		
Total TAS*	0.13	2.45*	0.21	3.99***	0.20	3.75***	0.21	4.00***	0.12	2.16*	0.12	2.18*	0.18	3.34**	0.19	3.56***	0.14	2.69**
DIF†	0.17	3.16*	0.25	4.70***	0.21	3.99***	0.23	4.43***	0.17	3.21**	0.14	2.57*	0.19	3.62***	0.22	4.23***	0.15	2.84**
DDF‡	0.07	1.26	0.12	2.32	0.12	2.30*	0.16	2.93**	0.09	1.62	0.08	1.55	-0.13	2.53*	0.14	2.58*	0.10	1.88
EOT§	0.001	0.17	0.4	0.78	0.07	1.28	0.03	0.62	-0.6	-1.07	0.01	0.11	0.03	0.56	0.01	0.11	0.04	0.73

*Total TAS; Total Toronto Alexithymia Scale-20, † DIF; Describing and identifying feelings, ‡DDF; Difficulty in describing feelings, §EOT; externally orientated thinking, * p<0.05, **p<0.01, ***p<0.0001

DISCUSSION

The aim of this study was to investigate the association between alexithymia and levels of

psychopathology in a sample of pregnant women. Our results showed that pregnant women with alexithymia reported higher total score in all 9 symptoms domain of SCL-90-R. In addition, the

regression analysis showed that alexithymia was positively associated with SCL-90-R scores. Consistent with the results of previous research [16-18], our findings also suggest that the difficulties identifying feelings feature of alexithymia were predictive for any of the SCL-90-R scores. There is a possible conceptual explanation for the association between the difficulties identifying feelings feature of alexithymia and the general symptoms experienced by the pregnant women. Individuals who have difficulty describing their feelings due to their predisposition to emotional dysregulation in their relationships will find emotional confusion [19, 20]. Thus, it can be hypothesized that specific psychotherapeutic techniques may help the alexithymic women [21].

Grabe *et al.* reported that externally oriented thinking was not predictive for any of the SCL-90-R scores. Our results also supported these findings. Also, we found that difficulty in describing feelings features of alexithymia was positively associated with interpersonal sensitivity and paranoid ideation, but it was inversely associated with phobic anxiety dimension. This result is not consistent with findings from a study suggesting that describing feelings features of alexithymia was not predictive for any of the SCL-90-R scores. It is not easy to understand the reason for this unexpected finding. This could mainly be due to the fact that alexithymia in pregnant women remains an understudied topic. In addition, several studies showed that there was no significant relationship between alexithymia and the negative general symptoms [22, 23]. Future prospective research is needed to explore the

association between alexithymia and the development of mental illnesses.

Concerning the role of education level of pregnant women, the linear regression analysis showed that education can act as a moderator for the association between alexithymia and obsessive-compulsive.

Due to the fact that this study used a cross-sectional design, it was not able to make a causal inference. However, the use of appropriate cross-sectional data made a valuable initial step in identifying relations between alexithymia and the general symptoms. Conducting prospective research integrating the role of alexithymia as a risk factor for mental disorder with other groups is an urgent necessity for the replication of these findings.

In conclusion, the results of this study indicated that the pregnant women with difficulty in describing feelings features of alexithymia were likely to show a broad range of psychopathology. Also the women with difficulty in describing feelings features of alexithymia showed more interpersonal sensitivity and paranoid ideation symptoms. Therefore, it is necessary to emphasize the benefits of specific psychotherapeutic techniques to improve self-differentiation so that we can reduce the likelihood of mental illnesses in pregnant women.

Acknowledgement. The authors acknowledge the assistance of Babol University of Medical Sciences, Ayatollah Rouhani Hospital, ShahidYahyaNezhad Hospital, and Iranian pregnant women for their participation in this study.

Conflict of Interest. The authors declare that the study was conducted in the absence of any commercial and study sponsor or financial relationships that could be construed as a potential conflict of interest.

Introducere. Alexitimia este legată strâns de strategii disfuncționale de reglare a emoțiilor precum și cu un număr mare de tulburări somatice. Obiectivul studiului a fost de a analiza relația dintre alexitimie și simptomele generale la pacientele însărcinate.

Materiale și Metode. A fost realizat un studiu transversal, un număr de 350 de femei însărcinate fiind selecționate la întâmplare dintre pacientele care veneau la control. Alexitimia a fost evaluată utilizând scala Toronto pentru alexitimie (TAS-20). Simptomele generale au fost analizate utilizând versiunea iraniană a scalei de evaluare a simptomelor (Symptom Checklist-90 revised, SCL-90-R) ce conținea 90 de itemi. Asocierile statistice dintre alexitimie și simptomele generale au fost evaluate folosind regresie liniară.

Rezultate. Au fost comparate 186 de gravide cu alexitimie cu 164 de gravide fără alexitimie. Scorurile înalte găsite la analiza scalei TAS-20 și dificultățile în identificarea emoțiilor s-au asociat cu scoruri din subscala SCL-90-R. Dificultatea în exprimarea emoțiilor s-a asociat pozitiv cu ideatie paranoidă însă negativ cu dimensiunea fobico-anxioasă.

Concluzii. Studiul a demonstrat că femeile însărcinate cu dificultăți în descrierea emoțiilor prezintă un spectru larg de manifestări psihopatologice. Așadar, este necesar să subliniem beneficiile tehnicilor psihoterapeutice pentru a reduce riscul dezvoltării bolilor mentale la femeile însărcinate.

Correspondence to: Dr. Moloud Aghajani Delavar, Infertility and Reproductive Health Research Center, Health Research Institute & Department of Midwifery, Babol University of Medical Sciences, Babol, Ganjafrouz, Iran, Tel: +98-11-32360714, E-mail: moloodaghajani@yahoo.com

REFERENCES

- PICARDI A., PASQUINI P., CATTARUZZA MS., GAETANO P., BALIVA G., MELCHI CF., *et al.* Only limited support for a role of psychosomatic factors in psoriasis: Results from a case-control study. *J Psychosom Res.* 2003; **55**(3):189-96.
- GILANIFAR M., DELAVAR MA. Alexithymia in pregnant women: its relationship with depression. *ASEAN Journal of Psychiatry.* 2016; **17**(1):35-42.
- DUNKEL SCHETTER C., TANNER L. Anxiety, depression and stress in pregnancy: implications for mothers, children, research, and practice. *Curr Opin Psychiatry.* 2012; **25**(2):14-18.
- YURUMEZ E., AKCA OF., UGUR C., USLU RI., KILIC 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.
- FUKUNISHI I., KAWAMURA N., ISHIKAWA T., AGO Y., SEI H., MORITA Y., *et al.* Mothers' low care in the development of alexithymia: a preliminary study in Japanese college students. *Psychological reports.* 1997; **80**(1):143-6.
- BONNET A., BRÉJARD V., PASQUIER A., PEDINIELLI JL. Affectivity and alexithymia: Two dimensions explicative of the relationship between anxiety and depressive symptoms. *Encéphale.* 2012; **38**(3):187-93.
- TOLMUNEN T., LEHTO SM., HELISTE M., KURL S., KAUKANEN J. Alexithymia is associated with increased cardiovascular mortality in middle-aged Finnish men. *Psychosom Med.* 2009; **72**(2):187-91.
- LEIGHT KL., FITELSON EM., WESTON CA., WISNER KL. Childbirth and mental disorders. *Int Rev Psychiatry.* 2010; **22**(5):453-71.
- RUBERTSSON C., WICKBERG B., GUSTAVSSON P., RADESTAD I. Depressive symptoms in early pregnancy, two months and one year postpartum-prevalence and psychosocial risk factors in a national Swedish sample. *Arch Women's Ment Health.* 2005; **8**(2):97-104.
- VERREAULT N., DA COSTA D., MARCHAND A., IRELAND K., DRITSA M., KHALIFE S. Rates and risk factors associated with depressive symptoms during pregnancy and with postpartum onset. *J Psychosom Obstet Gynaecol.* 2014; **35**(3):84-91
- DUDAS RB., CSATORDAI S., DEVOSA I., TOREKI A., ANDO B., BARABAS K., *et al.* Obstetric and psychosocial risk factors for depressive symptoms during pregnancy. *Psychiatry Res.* 2012; **200** (2-3):323-8.
- 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.
- LANCASTER CA., GOLD KJ., FLYNN HA., YOO H., MARCUS SM., DAVIS MM. Risk factors for depressive symptoms during pregnancy: a systematic review. *Am J Obstet Gynecol.* 2010; **202** (1):5-14.
- 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.
- 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.
- KIM JH., LEE SJ., RIM HD., KIM HW., BAE GY., CHANG SM. The relationship between alexithymia and general symptoms of patients with depressive disorders. *Psychiatry investigation.* 2008; **5**(3):179-85.
- HONKALAMPI K., SAARINEN P., HINTIKKA J., VIRTANEN V., VIINAMAKI H. Factors associated with alexithymia in patients suffering from depression. *Psychotherapy and psychosomatics.* 1999; **68**(5):270-5.
- GRABE HJ., SPITZER C., FREYBERGER HJ. Alexithymia and personality in relation to dimensions of psychopathology. *The American journal of psychiatry.* 2004; **161**(7):1299-301.
- LE HN., RAMOS MA., MUNOZ RF. The relationship between alexithymia and perinatal depressive symptomatology. *J Psychosom Res.* 2007; **62**(2):215-22.
- HONKALAMPI K., HINTIKKA J., TANSKANEN A., LEHTONEN J., VIINAMAKI H. Depression is strongly associated with alexithymia in the general population. *J Psychosom Res.* 2000; **48**(1):99-104.
- FUKUNISHI I., KIKUCHI M., TAKUBO M. Changes in scores on alexithymia over a period of psychiatric treatment. *Psychological reports.* 1997; **80**(2):483-9.
- MAGGINI C., RABALLO A., PELIZZA L., PAINI M., CROCI R. Subjective experience of language impairment and psychopathology in schizophrenia. *Psychopathology.* 2003; **36**(1):17-22.
- TODARELLO O., PORCELLI P., GRILLETTI F., BELLOMO A. Is alexithymia related to negative symptoms of schizophrenia? A preliminary longitudinal study. *Psychopathology.* 2005; **38**(6):310-4.