

## Investigating the difference of alexithymia between addicted and non-addicted women

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### Abstract

***Introduction:** Alexithymia is a state of difficulty in emotion regulation. In other words, the inability for cognitive processing of emotional information and regulating emotions is called Alexithymia. It is associated with many mental and physical disorders and*

personality traits. This study aimed to compare alexithymia between addicted and non-addicted women.

**Method:** This cross-sectional study was conducted in the Bojnurd in year of 2013. 39 addicted women and 40 non-addicted women were selected. Data were collected through Toronto alexithymia scale (TAS-20). TAS-20 contains three sub-scales of difficulty identifying feelings (DIF), difficulty describing feelings (DDF) and externally-oriented thinking (EOT). Data were analyzed by multivariate analysis of covariance (MANCOVA) using SPSS21 software. The significant level was considered 0.05.

**Results:** The MANOVA on the three subscales of TAS-20 showed a significant difference between the groups ( $p < 0.001$ ). There was a significant difference between groups in DIF and DDF subscales (respectively  $p = 0.001$  and  $p < 0.001$ ), but the mean of EOT was not significantly different between two groups ( $p = 0.209$ ).

**Conclusion:** Addicted and non-addicted women have significant differences in the level of alexithymia. So alexithymia can be associated with female drug situation.

**Keywords:** alexithymia, addiction, women.

### **Introduction:**

The United Nations Office on Drugs and Crime (UNODC) estimated that between 172 to 250 million people in the world have used illegal drugs, at least once a year. According to the UNODC Iran has one of world's highest rates of heroin and opium users. Based on these statistics of every 17 people, one person is addicted to these substances and 20 percent of 15-60 year olds in Iran are somehow involved in drug abuse (Drugs & Crime, 2010).

Drug use is one of the most serious obstacles to the development of societies. The relationship between substance use and addictive behavior with other distortions such as domestic violence, child abuse, increased divorce rates and spreading contagious diseases such as AIDS and hepatitis, extends its levels of harmfulness and highlights the need for paying a special attention to dealing with this destructive phenomenon. Studies have been presented several risk factors for this disorder. Which among them, high levels of family conflict, academic problems, comorbidity of mental disorders such as depression and personality disorders, substance use by peers or parents, impulsivity and early onset of smoking, can be pointed out (Sadock & Sadock, 2011). In addition to the mentioned factors, the significant role of emotional problems such as inability to control or regulate emotions in general, and alexithymia in particular, can be mentioned.

Although at first alexithymia was presented as a deficiency in cognitive processing and emotional regulation in psychosomatic patients, but today, it's known as a normal personality trait which is distributed among all members of society (G. J. Taylor, 1994). Studies have shown that high levels of alexithymia are connected with a wide variety of psychosomatic disorders such as rheumatoid arthritis, cardiovascular disease and breast cancer (Helmers & Mente, 1999) and psychiatric disorders such as depression (Hintikka, Honkalampi, Lehtonen, & Viinamäki, 2001), anxiety (Berthoz, Consoli, Perez-Diaz, & Jouvent, 1999), neuroticism (Espina, 2003), alcoholism and substance abuse, lifestyles with mobility lack, malnutrition and poor eating habits (Helmers & Mente, 1999).

Among psychiatric disorders associated with alexithymia, substance abuse disorder has attracted the great deal of attention. People with higher emotional distress, are more likely to use drugs and alcohol. They often have emotions and feelings that cannot escape from. They do not have adequate knowledge of their emotions, so they do nothing for their lack of control over their emotional life (Tschann et al., 1994).

Krystal believes that alexithymia as an emotional dysfunction makes some people prone to drug dependence. The emotions of addict people are childish and pre-verbal, and their damaged cognitive capacity leads to an inability to interpret depression and anxiety (19). As a result, the conflict between the individual and the environment increases and he/she would be frustrated in the facing emotions (to the (Ghalehban & Besharat, 2011)). Thorberg et al (2009) study showed a direct relationship between alcohol consumption and high levels of alexithymia (Thorberg, Young, Sullivan, & Lyvers, 2009). In another study cocaine-dependent patients had higher alexithymia scores than the control group (Keller & Wilson, 1994). This study aimed to compare alexithymia in addicted and non-addicted women.

### **Method:**

This is a cross-sectional study carried out on female addicts referred to Methadone Maintenance Therapy (MMT) clinics of Bojnurd (in northeast Iran). Sample size was determined based on a pilot study. Sample size estimation was based on mean comparison of each subscale of TAS-20 between addicted and non-addicted groups obtained from pilot study with  $\alpha = 0.05$  and Power of Test = %80. Consequently, sample size was estimated to be 32 individuals in each group. However, this study was conducted on 39 addicted and 46 non-addicted (control group) females.

First, the addicted subjects were selected randomly from MMT clinics and then non-addicted subjects were selected and matched with addicts in age, education and marital status. In order to find non-addicted cases, addicted cases were asked to introduce a non-addicted woman among their relatives, friends, or acquaintances similar to themselves in terms of demographic features; age (5 years younger or older than the addicted); education (at a same educational grade with the addicted); marital status (married).

The subjects were asked to complete Demographic Questionnaire and the Toronto Alexithymia Scale (TAS-20). All the participants signed a written consent for participation in the study. Names of the participants were not concluded in the questionnaire and their personal information was made sure to remain confidential and result analysis was carried out in groups. They could also leave the study whenever they intended to.

**Toronto alexithymia Scale (TAS-20):** This 20-point scale was introduced by Bagby, Parker and Taylor (1994). It has three subscales which evaluate difficulty identifying feelings (DIF, 7 items); difficulty describing feelings (DDF, 5 items) and externally-oriented thinking (EOT, 8 items). Higher scores in TAS-20 indicate greater severity of alexithymia (Bagby, Parker, & Taylor, 1994). The alpha coefficient obtained using the TAS-20 in an Iranian sample was 0.74 for difficulty identifying feelings, 0.61 for difficulty describing feelings and 0.50 for externally-oriented thinking (Ghorbani, Bing, Watson, Davison, & Mack, 2002). Mohammad reported the reliability of the scale in Iranian sample using the split-half and test-retest 0.74 and 0.72 respectively, and the validity of the scale 0.85 (Mohammad, 2001). For scoring TAS-20, Modestin, Furrer and Malti consider Scores of 60 and above as alexithymic, and scores below 52 as non-alexithymic (Modestin, Furrer, & Malti, 2004). But Muller, Alpers, Reim and Sub consider scores of 60 and above as more severe alexithymia and scores below 52 as less severe alexithymia (Muller, Alpers, Reim, & Sub, 2004).

### **Statistical Analysis**

Statistical analysis was performed using independent t-test, multivariate analysis of variance (MANOVA) and multivariate analysis of covariance (MANCOVA) for adjust the effect of age, and age at marriage, and education. The analysis was performed using SPSS 21 software. The significant level was considered 0.05.

**Results:**

In this study, 39 subjects were addicted and 40 were non-addicted. The mean age of the addicted group was  $32.5 \pm 7.2$  years and that of non-addicted group was  $30.1 \pm 7.2$  years. The difference between mean ages was not statistically significant ( $p = 0.15$ ). Mean score of alexithymia in each of the three sub-scales in addicted group were higher than non-addicts (Table 1). Multivariate analysis of variance based on three sub-scales showed that alexithymia is significantly higher in addicted women (Wilks'-Lambda Group = 0.756, P-value  $< 0.001$ ). Then a comparison of each subscale between two groups showed a significant difference between two groups in DIF and DDF subscales (respectively  $p = 0.001$  and  $p < 0.001$ ) but the mean of EOT subscale was not significantly different between two groups ( $p = 0.209$ ).

Comparing alexithymia in these two groups adjusted for age, age at marriage and education with MANCOVA showed that the difference observed in alexithymia between the two groups is merely the result of drug addiction; and Age ( $p$ -value = 0.269), age at marriage ( $p$ -value = 0.601) and education (0.342) in the two groups had no significant association with alexithymia.

Table 1) Mean distribution of alexithymia's subscales in

Alexithymia subscales	Group		P-value
	addicted	Non-addicted	
Difficulty identifying feelings	23.9±5.0	19.7±5.6	0.001
Difficulty describing feelings	16.1±3.8	12.9±3.8	<0.001
Externally-oriented thinking	22.4±4.6	21.2±3.7	0.209

**Discussion:**

This study showed that alexithymia is significantly higher in addicted women in comparison to non-addicted women. The mean of alexithymia scores in all three subscales of TAS-20 in addicted women was greater than non-addicted women. The mean difference was statistically significant in DIF and DDF subscales but not in EOT subscale. These findings are consistent with results of Hamidi et al (2010) study which showed that all three subcomponent of alexithymia in addicts and normal individuals were significantly different (Hamidi, Rostami, Farhoodi, & Abdolmanafi, 2010). The findings also are consistent with Krystal (1988) (Krystal, 1988), Lindsay & Ciarrochi (2009) (Lindsay & Ciarrochi, 2009) and Ghaleban (1387) (Ghalehban & Besharat, 2011) studies which found similar results.

To explain the difference between addicts and non-addicts in alexithymia, It can be said that people with alexithymia misinterpret physical symptoms of emotional arousal, express their emotional distress through physical complaints and they seek therapeutic measures just for treating physical symptoms (G. J. Taylor, Parker, Bagby, & Acklin, 1992), for these reasons it is likely for them to have the tendency towards drug addiction.

Alexithymic people have undifferentiated feelings and these feelings comes with an active arousal which remains and do not disappear; and this causes disruption of the autonomic nervous system and the immune system. Such arousal that comes with alexithymia is finally causes signs of physical ailments (Lumley, Mader, Gramzow, & Papineau, 1996)

and depression (Devine, Stewart, & Watt, 1999). Finally, it is possible that in order to reduce these symptoms and reduce anxiety and depression occur with high alexithymia, people abuse substances.

Alexithymia makes some people vulnerable for substance dependence (Krystal, 1988; G. Taylor & Taylor, 1997). Addictive drugs are used to avoid negative emotions. Accordingly, Cook (1991) argues that powerful experiences which reinforce the addiction are those through which the person can distance him/herself from the negative emotional situations (Cook, 1991). In this regard, Jeammet (1994) showed that consumption of psychoactive substances, such as self-medication, is in order to reduce anxiety and depression (Pierrehumbert et al., 2002). Alcohol consumption can be a way to appease the people with alexithymia in stressful situations. As a result, alcohol consumption facilitates people's emotional and verbal connection, and a pleasant experience of alcohol use can eventually lead to alcohol dependence (Uzun, 2003). People with alexithymia might be trying to get rid of negative feelings through actions such as eating, taking stimulant drugs, and impulsive behaviors. A defect in regulating emotions, can explain the co-morbidity of alexithymia with eating disorders, substance abuse, impulsive behavior, acting out and pathological gambling (Rose, 2002).

The self-medication hypothesis suggests that people use substances and drugs in order to deal with their negative emotions (Wills, Vaccaro, & McNamara, 1992). This shows that people with different pathology may be prone to substance abuse (to the (Ryngala, 2006)).

#### **Further studies:**

A number of studies about stability of alexithymia have confirmed this structure as a stable personality trait, which indicates a defect in cognitive processing of emotional information, (for example (Saarijärvi, Salminen, & Toikka, 2001; Salminen, Saarijärvi, Toikka, Kauhanen, & Äärelä, 2006)). In contrast to these traits-centered approach a bunch of studies have questioned the stability of alexithymia have introduced it as a state, a consequence of personal distress (for example (Honkalampi, Hintikka, Saarinen, Lehtonen, & Viinamäki, 2000)). Some researchers have called secondary alexithymia. Therefore the direction of causality between addiction and alexithymia cannot be determined. Whether people with alexithymia are drawn to the drug use or addicts will experience personal distress and become alexithymic. So, we suggest to researchers to design and implement studies to determine the direction of causality between addiction and alexithymia.

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