The Impact of Alexithymia and Perceived Social Support on Suicidal Probability of Drug Abusers' Patients.

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Abstract

Background: Alexithymia can cause emotional disturbances and dysregulation, which increases the risk of addictive behaviors and suicidal thoughts in drug abuse patients, which in turn exacerbates emotional dysregulation, and creates a vicious cycle that is difficult to break. Perceived social support can reduce the incidence of suicidal ideation and increase personal self-esteem through the use of social support. Aim of study: to explore the impact of alexithymia and perceived social support on suicidal probability among drug abusers' patients. **Subjects and Methods** : The study was conducted at addiction clinic in the outpatient clinics of Zagazig university hospitals using descriptive correlational design on137 drug abusers' patients .Data were collected using A structured interview questionnaire**,** Drug Use Disorder Identification Test, Toronto Alexithymia Scale ,Suicide Probability Scale and Scale of Perceived Social Support**. Results:** 82.5% of drug abuse patients had alexithymia, 69.3%had moderate level of suicidal risk, 97.8%had drug related problems, and 82.5% were drug dependent. Suicidal probability increased with alexithymia (p=0.014), lower perceived social support (p=0.0001), drug –related problems (p=0.005) and drug dependents (p=0.0001). Treatment duration is positive correlated with suicidal risk (r=0.341), while negative correlated with perceived social support (r=-0.209). Period of addiction is positive correlated with alexithymia (r=0.179).Multivariate analysis explained drug abuse and alexithymia (DDF) dimension were positive predictors of suicide probability .Conversely, perceived social support and alexithymia (EOT) dimension were negative predictors. **Conclusion**: The majority of the patients have alexithymia and are drug addicts, with a moderate level of suicidal risk and perceived social support. Suicidal risk is associated with drug abuse and alexithymic patients, but not with perceived social support. **Recommendations**: A psychological intervention program to improve emotional awareness and perceived social support is recommended to prevent drug abuse and suicidal probability. As well, emotion-focused intervention strategies for patients to reduce alexithymia.

Key words: Alexithymia, perceived social support, suicidal probability, drug abuse

Introduction

The DSM 5 accepts "substance use disorder" as a diagnosis category for people who have problems with psychoactive drugs. (**American Psychiatric Association, 2013**). Psychoactive substance dependence is a brain disease that involves behavioral, social, and environmental factors. This dependency has an impact on the individual by altering levels of consciousness and behavior. It is distinguished by the search for and frequent use of substances that result in psychological dependence (**Smith,2018**). Multiple substance misuse was reported in 57.5 percent of the cases studied in Assiut University, with tramadol being the most often abused drug 32.5 percent (**AbddelMoneim etal., 2020**). Another study discovered that 6.5 percent of university students admitted to using drugs at some point in their lives, with percentages of 5.5 percent, 10.7 percent, and 5.2 percent among

medical, practical, and theoretical students in Egypt, respectively (**Khafagy etal., 2021**).

According to Taylor (1984), Alexithymia is a condition marked by a decreased ability to recognize, describe, and clarify one's own emotions, as well as a tendency to externalize sensations and perspectives, may be related to various factors of emotional dysregulation in substance users. Emotional dysregulation has been widely linked with alexithymia in substance use disorder (SUD) and/or alcohol use disorder (AUD) (**Morie etal., 2016**). Several factors have been described to explain the biological causes of alexithymia in drug abuse, ranging from abnormal hypothalamic pituitary-adrenal axis working associated with chronic stress to a lack of interoceptive and emotional awareness, which may hinder proper emotion regulation and lead to an individual using substance abuse as a coping

strategy to relieve distress. (**Brewer, Cook & Bird 2016**)

Alexithymia is a personality trait, not a unique diagnosis of mental disease. More studies suggest that alexithymia is a risk factor for a wide range of medical problems, involving substance misuse, drug dependence, depression, and an increase in suicide ideation and behavior. (**Palma-Alvarez et al., 2021**)

A positive substantial correlation between alexithymic features and craving, the severity of the conditions, and related obstacles confirms the link between alexithymia and addiction (**Thorberg et al., 2011a**). Taylor et al. (1997) claim that the presence of alexithymia as a risk factor for SUDs can be explained by considering essential construct components (such as immature self-awareness and poor emotional cognitive regulation). Other risk factors, including as drug expectations, negative affectivity, insecure attachment, executive function, and personality disorders, may also play a role. (**De Carli et al., 2016**).

Alexithymic people may experience unpredictable and uncontrollable emotions as a result of cognitive difficulties in recognizing and processing sensations, and they may seek to treat depressive or anxiety symptoms produced by alexithymia by using drugs and alcohol (**Stewart et al., 2002; Besharat etal., 2014**). As a result, it could operate as an "antidote" to alexithymia, supporting individuals in self-regulating these disruptive emotions and conveying feelings that would never be expressed without. (**Taylor, 2000; Teixeira, 2017**).

Patients who are addicted are commonly described as having difficulty understanding and managing their emotions in interpersonal situations, these characteristics that are really frequent in alexithymic people. (**Torrado etal.,2013**).These doubts are heightened by the argument over how to evaluate the concept in order to distinguish between primary and secondary alexithymia and associated consequences (**Parolin etal., 2018**). According to scientific and clinical studies from a developmental framework, alexithymia has been connected to psychosocial and environmental factors present throughout childhood and adolescence, such as bad quality of early parental relationships (**Thorberg et al. 2011**)

Suicide is a serious public health problem that accounts for 1.4 percent of all fatalities globally. Psychiatric disorders, such as depression and substance abuse disorders, are the main causes of suicide (**Bachmann, 2018**). Suicidal ideation is defined as "planning to end one's own life by engaging in behavior." Suicidal thoughts and suicide attempts both share risk factors such as helplessness, social withdrawal, apprehension, depression, impulsive behavior, and substance abuse (**Klonsky et al., 2016**). In Egypt, there is no suicide data bank, which leads to an underestimation of the suicide problem, Because the differences in populations, study designs, and measures across studies, the ability to assess the extent to which risk varies across different types of substance use disorders is inhibited (**Bohnert et al., 2017**).

Drug users are usually classified as a high-risk population for suicide behavior, since drug use can negatively affect people's physical and mental health, as well as produce issues like cognitive neurological disorder, depression, and anxiety. (**Sharikova etal., 2018; Conner etal., 2019**). Suicidal ideation was detected in 38.3 percent of tramadol cases, and suicidal behavior was reported in 26.6 percent of Egyptian cases, according to previous research findings (**Mehrez etal.2021**).

Cohen and Wills (1985) and **Sarason etal.,(1987**) explained that Social support is an asset that can be obtained from one's social networks and encompasses instrumental, emotional, informational, and social companionship. Can be further subdivided into received and perceived social support. Perceived social support points to persons' perception or satisfaction of the support from others in their social network. Perceived social support, as a subjective sensation, has been demonstrated to have a greater impact on mental health than received social support. (**Deng etal., 2021**)

Importantly, reports of perceived social support have consistently exhibited a stronger favorable influence on health than reports of actual received social support, which refers to one's anticipated availability to prospective social support. Social support is linked to better addiction treatment outcomes and protects against the development of alcohol and substance use disorders (ASUD) (**Rapier, McKernan &**

Stauffer 2019). Some researchers suggest that one of the reasons for drug misuse is an unhealthy social environment. Increased social support can help people stopped using drugs by buffering them from the negative impacts of cravings (**Creswell, Cheng & Levine, 2015**).

Social support can help people cope with stressful situations and is a valuable protective factor, according to social support theory. Studies have shown that perceived social support can reduce the incidence of suicidal ideation and increase personal self-esteem through the use of social support (**Kleiman & Riskind, 2013**). An increase in total social connectivity and a change in the structure of social networks from substance-using peers to non-using peers characterize the transition from addiction to recovery, which indicating a significant shift in social identity (**Bathish etal., 2017**). Suicide ideation is linked to perceived social support. This suggests that a high degree of perceived social support can lower the risk of developing suicidal ideation (**Naila and Takwin ,2018**).

Significance of the study

Addiction and substance abuse as a social problem has the potential to disrupt social organizations and order. It also results in fundamental changes in a society's economic, social, political, and cultural aspects. According to Fund for Drug Control and Treatment of Addiction (**FDCTA, 2018**) the percentage of drug abuse in Egypt is 10.4 percent independently, substance use raises the risk of suicidal behavior (**Conner etal., 2019**). One of the psychological factors associated with substance abuse is alexithymia. Alexithymia not only considered an obstacle to achieving mental health but also affects the outcomes of psychological drug rehabilitation. Also, the development of alexithymia was associated with an elevated suicide risk in SUDs. As well as, perceived social support may be played protective role in suicide prevention. Thus the study was conducted to explore the role of alexithymia and perceived social support on suicidal probability among SUDs.

Aim of the Study

The aim of this study to explsore the impact of alexithymia and perceived social support on suicidal probability among drug abusers' patients. Through the following objectives:

1. Estimate the prevalence of alexithymia and suicide probability in drug abusers' patients.
2. Determine the level of perceived social support in drug abusers' patients.
3. Explain if alexithymia predictor of suicidal risk in those patients.
4. Establish the link between alexithymia and suicidal risk and perceived social support in drug abusers' patients.

Research questions:
1. What is the prevalence of alexithymia and suicide risk in drug abusers' patients?
2. What is the level of perceived social support in drug abusers' patients?
3. Does alexithymia predictor of suicidal probability in drug abusers' patients?
4. What are the impact of alexithymia and perceived social support on suicidal probability among drug abusers?

II- Subjects and Methods

2.1. Research Design:-

The descriptive correlational design was used in this study.

2.2. Study Setting:

The study was conducted at addiction clinic in the outpatient clinics of Zagazig university hospitals. The clinic provides services for drug abuse patients which include diagnosis, treatment, and perform medical examinations to determine the amount of drug abused. As well as, provide therapeutic sessions and consultations without accommodations to rehabilitate the addicted patients psychological and behavioral. The working hours are from 10 am to 2 pm for three days per week.

2.3. Subjects:

A purposive sample consisted of 137 drug abusers' patients from addiction clinic present at outpatient clinics of Zagazig University Hospitals, according to the following *inclusion criteria*:

(1) Age: between18 and 45 years.
(2) The following SUDs were included: cannabis, opioid, sedative, hypnotics and stimulants.
(3) Accept to participate in the study.

Exclusion c*riteria*: Patients with comorbid psychiatric disorders or substance induced disorders.

2.4. Sample size:

Based on the association between alexithymia and suicidal ideation was 0.2372 (**Karjouh etal., 2021**),at confidence level 95% , and power of test 80%,the sample was calculated to be 137 patients. Formula of calculating sample size is as follows: Total sample size = N = $[(Z\alpha+Z\beta)/C]2 + 3$.

The standard normal deviate for $\alpha = Z\alpha = 1.9600$
The standard normal deviate for $\beta = Z\beta = 0.8416$
$C = 0.5 * \ln[(1+r)/(1-r)] = 0.2418$

2.5. Tools of data collection:-

Tool I: A structured interview questionnaire: the researchers created it to obtain the necessary data for the study. It was divided into two parts:

Part 1: Demographic characteristics of the studied drug abusers' patients:

Data on the demographic characteristics of the study sample, such as age, residence, educational level, occupation, marital status, and income.

Part 2: addiction history of the studied drug abusers' patients:

This part involved questions about addiction history such as; age at onset of addiction, period of addiction ,type of drug abuse and period of treatment.

Tool II: Drug Use Disorder Identification Test (DUDIT)

Is a screening instrument adopted from (**Berman etal ., 2005**) that consists of 11 items for identifying drug intake patterns and problems in general and clinical populations..

Scoring the (DUDIT):

DUDIT is graded on a five-point Likert scale of 0 1 2 3 4, with items 10 and 11 being graded on a three-point scale of 0, 2, 4. The DUDIT score is calculated by putting all of the item scores together, generating a maximum score of 44 points. In the original Swedish version of the questionnaire, cutoffs for screening drug-related disorders ($\geq$6 for male) and drug dependence ($\geq$25 points) were defined.

Tool III: Toronto Alexithymia Scale (TAS-20):

This scale was adopted by (**Bagby etal ., 1994**) to measuring alexithymia. Consisting of 20 items that are scored on a 5- point likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement. It includes three

dimensions: difficulties in identifying feelings (DIF), difficulties in describing feelings (DDF) and externally orientated thinking (EOT).

Scoring the (TAS-20) Scale:

Scores of ≥ 61 indicate alexithymia, scores ≤ 51 indicate non-alexithymia, and 52-60 indicate potential alexithymia.

Tool IV: Suicide Probability Scale (SPS):

This scale was developed by **Cull and Gill (1982)** to assess the behaviors and attitudes of people at risk of suicide. It was made up of 36 points classified into four subscales; hopelessness (12 points), suicide ideation (8 points), negative self-evaluation (9 points), and hostility (7 points).

Scoring the (SPS) Scale:

This scale was rated into 4-points Likert scale ranging from (1) none to (4) all of the time. The entire score was ranged from 36 to 144, with a high score indicates a greater possibility of suicide. The risk of suicide is categorized into 3 levels as follow: Severe when the overall score is (75-100), moderate when the overall score is (50-70), mild when the overall score is (25-49), and the score of (0-24) presents in a normal person with no suicidal risk.

Tool V: Multidimensional Scale of Perceived Social Support(MSPSS): Developed by **Zimet etal., (1988)** the scale contains 12 items, and a 7-point Likert scale measures each item (1 = Strongly Disagree and 7 = Strongly Agree). Classified into three subscales namely significant other subscale, family subscale and friends subscale .each subscale has 4 items.

Scoring the (MSPSS) Scale:

- To determine the mean score, use the following formula: Subscale of Significant Other: Add items 1, 2, 5, and 10 together, then divide by four. Subscale for Families: Add items 3, 4, 8, and 11 together, then divide by four. Subscale of Friends: Add up items 6, 7, 9, and 12, and then divide by four. Total Scale: Add all 12 items together, then divide by 12.

- In this approach, any mean scale score between 1 and 2.9 is considered low support; a score between 3 and 5 is considered moderate support; and a score between 5.1 and 7 is considered high support.

2.6. Preparatory phase:

The researchers reviewed the literature and prepared the data collection tool including the socio demographic and clinical history, Drug Use Disorder Identification Test, as well as The

Toronto Alexithymia Scale, Suicide Probability Scale, and Scale of Perceived Social Support.

2.7. Content validity:

A panel of three experts in Psychiatric Mental Health Nursing from the Faculty of Nursing and Psychiatric Medicine from the Faculty of Medicine at Zagazig University evaluated both of the study's tools after they were translated for clarity, applicability, and content validity, and they proposed some changes that were made.

2.8. Content reliability:

The reliability test was performed using Cronbach's Alpha, and the tools appeared to be reliable, with the Drug Use Disorder Identification Test (r =0.97), The Toronto Alexithymia Scale (r = 0.83), Suicide Probability Scale (r=0.87), and Scale of Perceived Social Support (r=0.92) indicating high internal consistency.

2.9. Pilot study:

Before conducting the main study, a pilot study was conducted on 10% of the patients (14 cases) to validate the tools. The piloted study were later excluded from the main study sample, and the final form of the tools was them obtained and the time needed for completing each tool was estimated.

2.10. Fieldwork:

Once consent was obtained, the researchers attended at the addiction clinic 2:3 days weekly and met the doctor and nurses to explain the goal of this study. Then started to meet each patient individually in a waiting room. The patients were selected based on inclusion criteria. The average number of interviewed patients was between 6-8 patients per week. The study's aim was explained to each patient, and invited him to join after being informed of all rights. Following the participants' agreement to participate, the researchers began the interview using data collection tools. The questionnaire was read, explained, and choices were recorded by the researchers. The total time required to complete the questionnaire sheet ranged between 30 and 45 minutes. The fieldwork occurred between the 1 st of November 2020 to the end of March 2021. The difficulty in which patients understood the questions and expressed their feelings was one of the most significant obstacles encountered during data collection. Besides that, due to the presence of their family, several patients were hesitant in their

comments. Furthermore, female patients were excluded from the study due to their non-attendance at the clinic.

2.11. Administrative and Ethical Considerations:

After explaining the study's purpose, an official letter from the Faculty of Nursing at Zagazig University to the director of the psychiatric department in the outpatient clinics to obtain the consent for data collection. Each patient user gave informed oral permission; all ethical issues were taken into consideration during all phases of the study

2.12. Statistical Design:

All data collected, tabulated, and statistically analysed using IBM SPSS statistics for windows, version 23.0 IBM Corp., Armonk, NY: USA. The mean, SD, and (range) were used to describe quantitative data, while absolute and relative frequencies were used to express qualitative data (percentage). The Shapiro Walk test was used to verify for normality in continuous data. The Chi-square test was used to compare the percentages of category variables. Pearson's correlation coefficient was used to determine the relationship between various study variables. The (+) sign indicates direct association, while the (-) sign indicates inverse correlation. Numbers close to 1 suggest strong correlation, while values near 0 indicate weak correlation. All tests were two sided. P-value < 0.05 was considered statistically significant p-value < 0.001 was considered statistically highly significant and p-value ≥ 0.05 was considered statistically insignificant.

Multilinear regression:

Situations frequently occur in which we are interested in the dependency of a dependent variable on independent variable formally, the model for multiple linear regression, given n observations, is

$Y = a + \beta1*X1 + \beta2*X2 + \beta3*X3$

Y= the variable that we are trying to predict

X = the variable that are using to predict

a= the intercept (Constant)

β = coefficient of x, represent the mean change in the dependent variable) for one unit of change in the predictor variable (independent) t test =test of significant

III. Results:

Table (1) shows that the age of substance abuse patients ranged from 18-44 years with

mean 29.3±6.8 years and more than half of them <30years. About 45.3%had secondary education, living in rural areas 55.5% and majority of them had private wok 73.0%.As regards social status, less than two thirds 59.1%were married, and had sufficient income 56.2%.

Table (2) indicates that more than a half of patients 56.2%were ≥ 20 years old when they started drug abuse intake with mean 20.8±6.4year.As well as, more than a half 51.8% their period of addiction was ≥ 7 years old with mean8.2±6.3 years. As regards types of drug abuse, 45.3% used cannabis, 41.6% used heroin, and only2.2% used many substances. Also, 52.6%of patients their period of treatment was ≥2 months with mean 4.2±2.4months.

Table (3) and **Figures 1-3** displays that the majority of substance abuse patients were alexithymic 82.5% with mean score 64.5±7.9, and more than half 53.3% had moderate level of perceived social support with mean score 53.4±17.2 **.**

As for suicidal Probability ,69.3%of addicted patients had moderate level of suicidal risk .Only 8% had sever level of suicide risk .As well, the great majority of patients 97.8% had drug-related problems ,and 82.5% had drug dependents with mean score 29.3±7.3

Table (4) points to a statistically significant relation between patients' total suicidal probability and their alexithymia (p=0.014),perceived social support (p=0.0001), drug –related problems (p=0.005) and drug dependent (p=0.0001).It is evident that the percentages of severe level suicidal risk of drug abuse patients were highest among alexithymic patients, lower perceived social support and drug-related problems or dependence.

Table (5) demonstrates a statistical significant relations between patients' suicide risk level and their occupation (p= 0.0001) and period of

treatment (p=0.002). It can be noticed that the percentages of patients with severe suicidal ideations were highest among those with no work and having period of treatment more than 2 months.

Table (6) indicates that patients' alexithymia and its dimension had high statistical significant positive correlations with drug abuse (r=0.564) and suicide probability score(r=0.327). Meanwhile, patients' suicide probability and its subscales had high statistical significant positive correlations with drug abuse (r=0.493), and alexithymia score(r=0.327) from one side and a high statistical significant negative correlation with patients' perceived social support (r=-0.506) from the other side. As for perceived social support, there were a high statistical significant negative correlations with alexithymia (DIF) dimension(r=-0.375), and patients' suicide probability score(r=-0.506) and its subscales .While, a high statistical significant positive correlation with alexithymia (EOT) dimension (r=0.275).

Table (7) displays that patients' age had statistically significant weak negative correlations with drug use disorders (r=-0.206). Conversely, their period of addiction had statistically significant positive correlation with alexithymic patients (r=0.179). As well, duration of treatment had statistical significant positive correlation with suicide probability (r=0.341). While, statistical significant negative correlation with patients' perceived social support (r=-0.209).

In the multivariate analysis (**Table 8**), the statistically significant independent positive predictors of suicide risk were drug use disorders and alexithymia (DDF) dimension .Conversely, perceived social support and alexithymia (EOT) dimension were negative predictors. The model explains 54.6% of the variations in this score.

Table (1): Socio- demographic characteristics of studied drug- abuse Patients (n=137).

Variables	n	%
Age per years		.
<30	75	54.7
≥30	62	45.3
Mean ±SD	29.3±6.8	
Range	18-44	
Education		.
Illiterate	36	26.3
read and write	24	17.5
secondary	62	45.3
university	15	10.9
Residence		.
Rural	76	55.5
Urban	61	44.5
Occupation		.
employer	13	9.5
private work	100	73.0
no work	24	17.5
Social status		.
married	81	59.1
divorced	3	2.2
single	53	38.7
Income		.
sufficient	77	56.2
insufficient	60	43.8

Table (2): Addiction profile of studied drug –abuse patients (n=137).

Variables	n	%
Age at onset of addiction		.
<20	60	43.8
≥20	77	56.2
Mean ±SD	20.8±6.4	
Range	10-38.	
Period of addiction (year)		.
<7	66	48.2
≥7	71	51.8
Mean ±SD	8.2±6.3	
Range	0.6-23.	
Types of drug		.
- Cannabis	62	45.3
-tramadol and tamol	15	10.9
- heroin	57	41.6
- many types	3	2.2
Period of treatment		.
<2 month	65	47.4
≥2 month	72	52.6
Mean ±SD	4.2±2.4	
Range	1-10	

Table (3): Prevalence of   alexithymia, social support, suicide probability, Drug - related problem, drug dependent among studied patients (n=137).

Variables	n	%	Mean ±SD range
Alexithymia			
- alexithymia	113	82.5	64.5±7.9
-possible alexithymia	15	10.9	44-87
-no alexithymia	9	6.6	
Perceived Social support		.	53.4±17.2
- high	44	32.1	15-84
- moderate	73	53.3	
- low	20	14.6	
Suicide probability			84.7±17.4
- severe suicide risk	11	8.0	49-118
- moderate suicide risk	95	69.3	
- mild suicide risk	31	22.6	
Drug related problem		.	
- Yes	134	97.8	
- No	3	2.2	29.3±7.3
Drug dependent		.	5-40
- Yes	113	82.5	
- No	24	17.5	
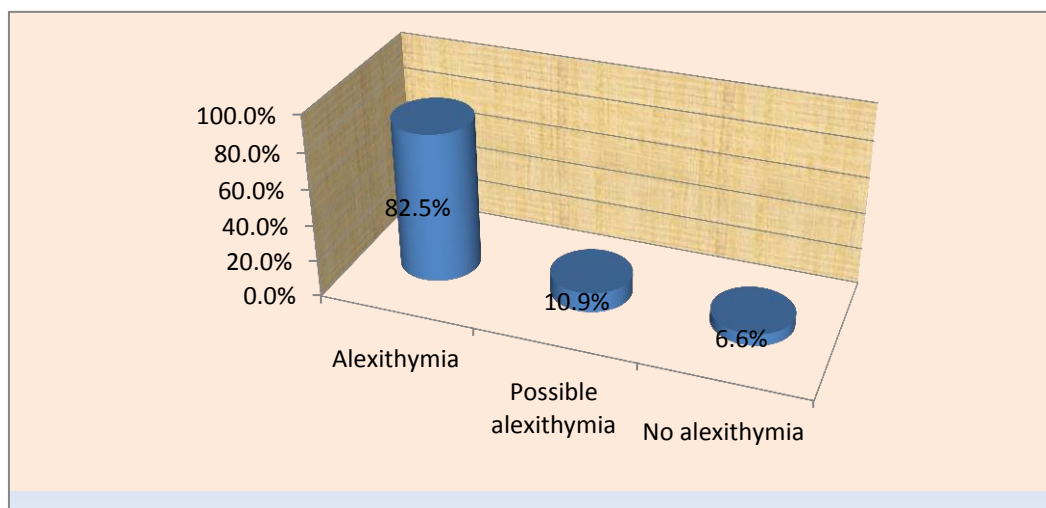
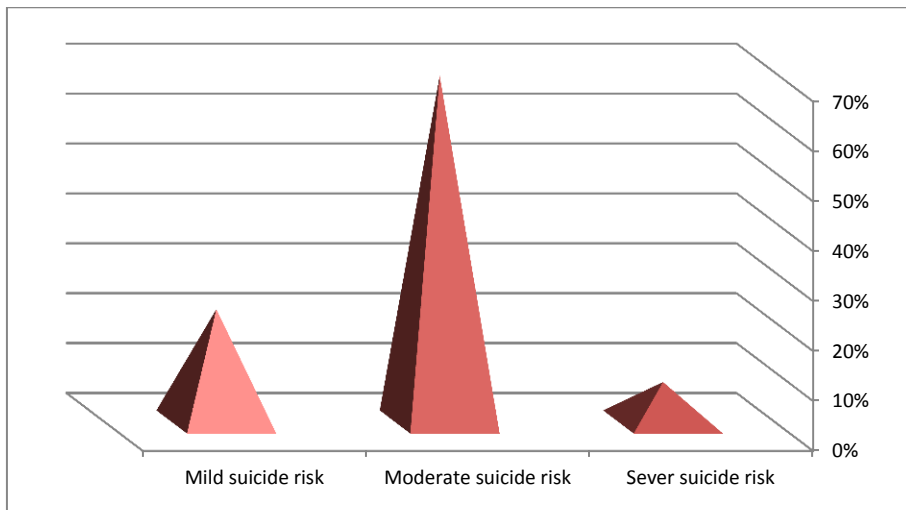**Figure 1**: prevalence of alexithymia among drug abuse patients (137)

Figure 2: prevalence of suicidal probability risk among drug abuse patients (137)
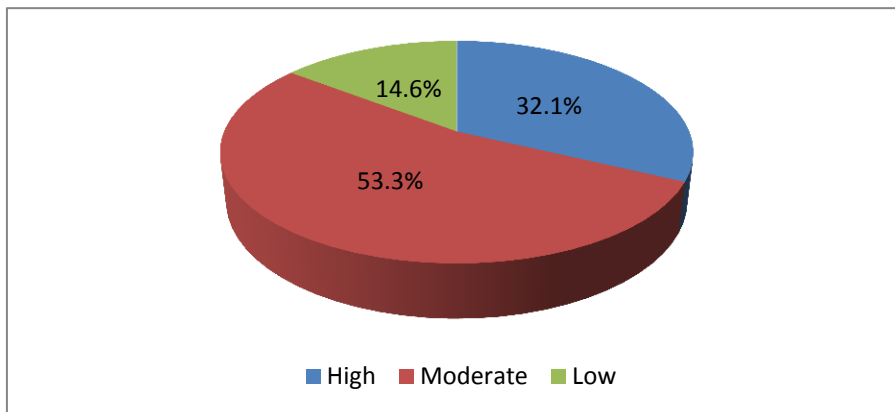

Figure 3: levels of perceived social support among drug abuse patients (137)

Table (4): Relation between patients' Suicide level and Alexithymia level, Social support level, drug related problem and drug dependent (n=137)

Variables	Suicidal probability level						n	χ^2	p
	severe suicide risk		moderate suicide risk		mild suicide risk				
	No.	%	No.	%	No.	%			
Alexithymia level -alexithymia -possible alexithymia - no alexithymia	11 0 0	9.7 .0 .0	80 12 3	70.8 80.0 33.3	22 3 6	19.5 20.0 66.7	113 15 9	12.6	0.014*

Perceived Social Support level
  -high
  -moderate
  -low
	.
	2
	5
	4
		.
		4.5
		6.8
		20.0
			.
			18
			61
			16
				.
				40.9
				83.6
				80.0
					.
					24
					7
					0
						.
						54.5
						9.6
						.0
							44
							73
							20
								41.7	0.0001*

Drug related problem -yes -no	. 11 0	. 8.2 .0	. 95 0	. 70.9 .0	. 28 3	. 20.9 100.0	134 3	10.5	0.005*

Drug dependent
  -Yes
  -no
	.
	11
	0
		.
		9.7
		.0
			.
			86
			9
				.
				76.1
				37.5
					.
					16
					15
						.
						14.2
						62.5
							113
							24
								27	0.0001*

χ^2 = Chi square test   *significant p<0.05   non significant p>0.05

Table (5): Relation between patients' Suicide level, their demographic, and addiction characteristics (n=137)

Variables	Suicidal probability						n	χ²	p
	severe suicide risk		moderate suicide risk		mild suicide risk				
	No.	%	No.	%	No.	%			
Age per years	.	.	.	.	.	.			
<30	3	4.0	56	74.7	16	21.3	75	4.2	0.13
≥30	8	12.9	39	62.9	15	24.2	62		
Education	.	.	.	.	.	.			
-Illiterate	4	11.1	27	75.0	5	13.9	36		
-read and write	3	12.5	19	79.2	2	8.3	24	10	0.092
-secondary	4	6.5	37	59.7	21	33.9	62		
-university	0	.0	12	80.0	3	20.0	15		
Residence	.	.	.	.	.	.			
-Rural	7	9.2	49	64.5	20	26.3	76	1.5	0.39
- Urban	4	6.6	46	75.4	11	18.0	61		
Occupation	.	.	.	.	.	.			
- employer	0	.0	3	23.1	10	76.9	13		
-private work	8	8.0	74	74.0	18	18.0	100	25	0.0001*
- no work	3	12.5	18	75.0	3	12.5	24		
Social status	.	.	.	.	.	.			
married	8	9.9	54	66.7	19	23.5	81		
divorced	0	.0	3	100.0	0	.0	3	2.2	0.701
single	3	5.7	38	71.7	12	22.6	53		
income	.	.	.	.	.	.			
sufficient	8	10.4	47	61.0	22	28.6	77	5.7	0.057
insufficient	3	5.0	48	80.0	9	15.0	60		
Age at onset of addiction	.	.	.	.	.	.			
<20	4	6.7	47	78.3	9	15.0	60	4.2	0.12
≥20	7	9.1	48	62.3	22	28.6	77		
Period of addiction	.	.	.	.	.	.			
<7	3	4.5	50	75.8	13	19.7	66	3.2	0.32
≥7	8	11.3	45	63.4	18	25.4	71		
Types of drug	.	.	.	.	.	.			
- cannabis	6	9.7	38	61.3	18	29.0	62		
- tramadol and tamol	0	.0	12	80.0	3	20.0	15	5.6	0.47
- heroin	5	8.8	42	73.7	10	17.5	57		
- many types	0	.0	3	100.0	0	.0	3		
Period of treatment	.	.	.	.	.	.			
<2 month	3	4.6	39	60.0	23	35.4	65	12.2	0.002*
≥2 month	8	11.1	56	77.8	8	11.1	72		

χ² = Chi square test   *significant p<0.05   non significant p>0.05

Table (6): Correlation matrix between DUIDT, Alexithymia scale: Difficulty identifying feelings (DIF), Difficulty describing feelings (DDF), Externally oriented thinking (EOT). Suicide Probability Scale: Hopelessness, Suicidal ideation, negative self- evaluation, hostility and Perceived Social Support.

variable	drug use disorder identification(DUIDT)		Alexithymia scale		Suicidal score		Social support	
	r	p	r	p	r	p	r	p
• **TOTAL Alexithymia scale**	.564**	.0001			.327**	.0001		
-Difficulty identifying feelings	.488**	.0001			.415**	.0001	-.375**	.0001
- Difficulty describing feelings	.307**	.0001			.338**	.0001	.048	.578
-Externally oriented thinking	.198*	.020			-.201*	.018	.275**	.001
• **TOTAL Suicide Probability Scale**	.493**	.0001	.327**	.0001			-.506**	.0001
-Hopelessness	.330**	.0001	.111	.198			-.555**	.0001
-Suicidal ideation	.333**	.0001	.162	.059			-.649**	.0001
-negative self-evaluation	.267**	.002	.253**	.003			-.505**	.0001
-hostility	.269**	.001	-.001-	.994			-.628**	.0001
• **TOTAL Perceived Social Support**	.099	.248	-.114	.185				
-Other subscale	.146	.088	.146	.089	-.372**	.0001		
-Family subscale	-.074	.389	-.127	.140	-.41**	.0001		
-Friend subscale	-.137	.111	-.124	.147	-.401**	.0001		

(r) correlation coefficient   **p<0.05 significant**
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table (7): Correlation matrix between DUIDT, Alexithymia scale, Suicidal score, social support, age, education, period addiction and Duration treatment

variable	Drug use disorder identification (DUIDT)		Alexithymia scale		Suicidal score		Social support	
	r	p	r	p	r	p	R	p
Age	**-.206***	**0.016**	0.068	0.433	-.023	0.793	0.073	0.395
Education	-.16	0.061	0.003	0.973	-.072	0.404	0.069	0.421
Period of addiction	-.117	0.172	**.179***	**0.037**	0.09	0.297	0.014	0.867
Duration treatment	-.051	0.554	0.055	0.521	**.341****	**0.0001**	**-.209 ***	**0.014**

(r) correlation coefficient   **p<0.05 significant**
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table (8): Multivariate linear regression for predictors of patients' suicide probability Score

Predictors	Unstandardized Coefficients		t	Sig.	R	R Square
	B	Std. Error				
(Constant)	78.47					
-Difficulty describing feelings	1.466	.378	3.879	.0001		
- externally oriented thinking	-0.876	.280	-3.128-	.002	0.739	0.546
-perceived Social support	-0.429	.068	-6.350-	.0001		
- DUIDT	0.997	.173	5.757	.0001		

Model ANOVA: F= 22.1, p=0. 0001, R2 = 0.546 variables excluded from modal are, age , difficulty identifying feelings, period of addiction.

Discussion:

As regards addiction history of studied patients, the current study showed more than half of them were ≥twenty years old at the onset of drug abuse, with a mean age of 20.8± 6.4years, and more than half of them had a period of drug abuse of ≥ seven years, with a mean duration of 8.2±6.3 years. It could be because this age group is characterized by youth's recklessness, impulsiveness, carelessness, and curiosity, which makes them more vulnerable to drug abuse. This

result consistent with **Deng etal., (2021)** in Chinese drug users who found The average time spent using drugs was near to ten years, with mean 9.2±6.6 years. As well, **Shahin., etal (2018)** in Egypt, who reported that the duration of substance use in patients ranged from 1 to 15 years. While, According to the study by **Abol etal., (2019)** in Egypt , fifty percent of recovering substance-abusing women began using drugs between the ages of 15 and 20 years old, and 46.7 percent of the cases were dependent on drugs for more than 10 to 15 years. The duration of abuse ranged from 1 to 30 years for all participants, with a mean duration of 9.5±6.6 years. Also, **Souto etal., (2019)** in Portugal**,** stated The age at which substance use began ranged from seven to forty years (mean age=17.3 years, SD=5.26).On the other hand, **Karjouh etal., (2021)** in Moroccan, stated that regarding the age at first substance use, more than half of addicts were between the ages of 10 and 15 when they first used drugs.

In addition, more than two-thirds of the patients in this study used cannabis, less than two-thirds used heroin, ten percent used tramadol, and only 2.2 percent used a combination of substances. In this study, cannabis was the most commonly used substance among patients. These drugs mostly used in Egypt .In the same context, **Karjouh etal., (2021)** who study alexithymia, suicidal ideation and behavior in Moroccan psychoactive substance users, found cannabis was the highest prevalence with 86%, followed by tobacco, and alcohol. Similarly, **Souto et al., (2019)** who studied alexithymia among long-term drug users in Portugal, found the most widely utilized substances were cannabis/hashish (47.7percent), alcohol (33percent), and heroin (11.4percent). This finding contradicts the findings of **Shahin et al. (2018)**, who discovered that Tramadol was the most commonly used substance in a sample of Egyptian substance users, accounting for 30% of the total. While 25 percent used heroin, 7.5 percent used cannabis, and 37.5 percent used more than one substance. Similarly, **Abol etal., (2019)** discovered that in Egypt, benzodiazepines were the most commonly used substance (32.7 percent), followed by opiates (29.5 percent) and alcohol (8.1 percent).

However, the current study found the great majority of patients had drug related problems, and were drug dependent. This is because more than half of the sample had a long history of drug use. This result is in accordance with the findings of **Abol et al., (2019)** in Egypt, who found that the majority of cases had severe drug and alcohol use, with no participants having mild drug and alcohol use. In addition, **De Berardis etal., 2019)** in Italy discovered that the majority of recovering substance-dependent women had moderate to severe drug use. On contrary a study done by **Atia and Ahmed (2020)** which found that more than one-third of studied patients had severe levels of drug abuse in Egypt.

The present study found the majority of addicted patients have alexithymic traits .The possible explanation for that many patients may develop cognitive and affective deficits in perceiving, differentiating, and expressing their own emotions as a result of psychoactive substance imbalances. In some conditions, alexithymia can be used as a defense mechanism by addicts who have been overwhelmed by their terrible sensations to the point of exaggeration, or who do not feel their emotions at all. (**Haviland etal., 1988**). Furthermore, **Khantzian (1990)** asserts that addicts become dependent on drugs as a result of enormous difficulties in modulating, controlling, and conveying affections (**Teixeira, 2017**). This finding is similar with the findings of **Karjouh etal., (2021)** in Morocco, who discovered that 72.7 percent of substance-addicted individuals had alexithymia. In the same line, **Souto etal., (2019)**, who studied alexithymia among long-term drug users in Portugal, found that more than 51.1 percent of the people were alexithymic, indicating a high prevalence of emotional awareness deficits.

Moreover, **Parolin et al., (2016)** found an increased prevalence of alexithymia in substance–addicted patients, but the majority of patients were opioids. In addition, **Morie etal.,(2016)** explained that alexithymia may inhibit treatment success because patients who have difficulty identifying and explaining emotional states may be unable to regulate these states adequately or realize their relationship to drug initiation or maintenance.. As well, **Lyvers, Hinton& Gotsis (2014)** stated alexithymia is more common in people who have substance use disorders. Alexithymia is also commonly observed in participants undergoing drug abuse treatment.

Similarly, **Thorberg et al., (2009)** indicated that the prevalence is typically considered to be

between 43.5 and 67 percent, despite a recent study claiming that it is closer to 30–49 percent(**Cruise, 2017**). On contrary , **De Berardis .,etal (2020)** in Italy, who study alexithymia ,resilience ,somatic sensations and their relationships with suicide ideation in drug naïve patients , found that one-third of patients were positive for alexithymia , and explained this due to the relative lower mean age of the sample. Because it is well known that alexithymia is associated with a more advanced age. In addition, **Cui etal., (2021)** in china, reported Alexithymia personality characteristics were discovered in twenty-three percent of males in compulsory detoxification facilities, which is much higher than the general population's occurrence.. Also, Alexithymia affects between 35 and 43 percent of teenage substance abusers (aged 14–25). (**Dorard et al., 2017; Parolin et al., 2017**).

As regard the relation between alexithymia and drug abuse and period of addition, the present study found a high statistically significant positive correlation between patients' alexithymic characteristics and drug abuse and period of addiction. It could be because alexithymic people may use drugs to express their feelings and relieve stress, as a result of their cognitive inability to recognize their emotions. So that, determining whether alexithymia is a distinct feature of substance use disorders (SUDs) is difficult (**Shorin,1998**) .This result consistent with **Thorberg et al.,(2011a**) who discovered the strong desire, disorder severity, and related challenges all have a significant positive connection with alexithymic features. Alexithymia could be a reaction or a symptom of a drug problem. As noted by (**deHaan et al., 2014**), if alexithymia is a stable personality trait can it be considered a risk factor for substance abuse and thus addressed in treatment, but research findings on the stability of alexithymia are conflicting. Alexithymia has been defined as a secondary and situational reaction to negativity, anxiety, and depression. (**De Carli et al., 2017**).

Nevertheless, **Parolin etal., (2018**) Who investigated the specificity of alexithymia in drug-addicted inpatients versus healthy people and people with psychiatric illnesses (behavioral and emotional disorders) in Italy, both clinical groups had higher alexithymia scores than non-clinical subjects, but the differences were not significant. As a result, despite numerous studies

indicating alexithymia and addiction have a direct link (i.e., as a potential cause), alexithymia may not be definitively linked to SUD or another separate disorder. It could instead be linked to the broader concept of psychological distress. As a result, the connection between alexithymia and drug addiction is unknown (**Teixeira, 2017**). Furthermore, **Hao (2016)** emphasized that alexithymia influences not just drug addicts' interpersonal abilities but also the findings of psychological drug rehabilitation.

As for patients' perceived social support, the present study showed more than two thirds of addicted patients had moderate level perceived of social support. Limited perceived social support from family and peers toward drug users is due to social discrimination and cultural stigmatization. This result in consistent with a study done by **De Berardis .,etal (2019)** in Italy, found the majority of recovering substance-abusing women had low social competence and a limited to fair level of social support during their recovery.. Another study explained more than half of the cases had severe troubles in their social relationships as a result of substance dependence in Egypt (**Abol etal., 2019**).similarly, **Deng etal., (2021)** who study suicide attempts and perceived social support among Chinese drug users, reported that perceived social support shows the highest dispersion .However, **Cui etal., (2021)** who studied the relationship between alexithymia, social support, and length of methamphetamine use in China and found Patients who had been addicted to methamphetamine for a long time expressed less subjective social support than those who had been addicted for a short time, the length of methamphetamine use is considerably inversely associated to subjective social support.

Results of this study explained that more than two thirds of addicted patients had moderate risk of suicidal probability, and only eight percent had severe suicide probability. The possible explanation for that depressive symptoms are common among substance-abusing individuals in treatment, and there are also a number of significant stresses (relationship loss, loss of work, health and financial problems) that put them at a higher risk for suicidal ideation. These results agree with **Shahin., etal (2018)**who explained that when compared to controls, patients with substance use disorders (SUD) had a greater

risk of suicide. Furthermore, empirical investigations in China found that lifetime suicidal ideation and suicide attempts were 58.9percent and 34.2 percent, respectively, among methadone-maintained patients. (**Xu etal .,2017; Dragisic etal ., 2015**) .Also, Suicidal ideation was found in 31.5 percent of male and 21.3 percent of female drug users undergoing compulsory institutional drug treatment. (**Chen etal., 2018 ; Huang, 2017**)..Similarly, **Darke etal., (2010)** found suicidal ideation and suicide attempts were estimated to be as high as 55% and 32%, respectively, among illicit drug users. As well, **Atia and Ahmed (2020)** reported the most of studied patients had suicidal thoughts. But, less than half had mild risk in suicide probability.

The primary aim of this study was to explore the impact of alexithymia and perceived social support on suicidal probability among substance abusers, the current study discovered a high statistically significant positive correlation between total alexithymia and its dimensions (difficult identifying (DIF) and describing feelings (DDF) and patients 'suicidal risk. Meanwhile, the alexithymia dimension (EOT) had a negative correlation with suicide risk. Multivariate analysis confirms this. Addicts who are unable to regulate and identify their emotions may be predisposed to suicidal ideation as a result of their emotional disturbance and interpersonal difficulties. These results in accordance with **Karjouh etal., (2021**) in Morocco, explained that suicide thought, suicide behavior and depression rates were substantially higher among substance abusers with alexithymia than in those who did not have alexithymia. In the same line, **De Berardis etal., (2017)** which supported alexithymia's role in provoking suicidal thoughts and behaviors in the general population and alcoholism .In addition, in an alcohol-dependent outpatient population, **Ghorbani et al. (2017)** observed a relationship between alexithymia and suicidality, specifically suicidal ideation and attempts, as well as high levels of alexithymia in those who committed suicide versus those who did not. Furthermore, multiple research examining the function of alexithymia in suicidality found that difficulties in understanding and expressing emotions may be linked to both

depression and suicide in diverse populations. (**Goerlich-Dobre et al., 2015**). Nevertheless, **Teixeira, (2017**) who study alexithymia and drug addiction, mentioned the longitudinal studies which explored the relationship among alexithymia, drug addiction and associated psychopathology, these resulted considered alexithymia to be more than a side effect of depression or withdrawal. On the other hand, studies showed no link between alexithymia and non-suicidal self-injury history (NSSI) (**Verrocchio et al., 2010**).Also, (**Sakuraba et al., 2005**) reported there was no difference in alexithymia levels between alcoholics with high and low suicidal ideation (SI), and alcoholics with high or low SI had greater alexithymia levels than controls.

As for the impact of perceived social support on suicidal probability among addicted patients, the present study found a highly statistically significant negative association between suicidal probability and perceived social support in addicted patients. This is supported by multivariate analysis. It could be from limited social support which received from family and friends, as well as the guilt and shame associated with drug use, added to that stigma. All of these factors may be a reason for exacerbate suicide ideation among drug abusers. On the same line, **Miller, (2015)** indicated a higher risk of suicide attempts was linked to a smaller percentage of perceived parental support for adolescents. As well, **Kleiman and Riskind, (2013)** demonstrated that perceived social support can improve self-esteem and lower suicidal ideation in college students. However, **Deng etal., (2021)**who study suicide attempts and perceived social support among Chinese drug users , and it was discovered that social support had an indirect effect on drug users' suicide attempts by lowering depression and improving self-esteem.

As regarding the relation between alexithymia and social support, the present study found a high statistical significant negative correlation between (DIF) alexithymia dimension and patients' perceived social support. However, there is a significant positive correlation with the (EOT) alexithymia dimension. This might be due to when addicted patients exhibit poor in emotion regulation and

identification are more likely to prone in interpersonal difficulties which influence on interaction, communication and social functioning. In the same context, **Heaven et al., (2010)**; **Afshari, (2019)** explained that due to their difficulties understanding, expressing, and managing emotional states, people with alexithymia are more likely to have insecure social and private relationships, and they are more likely to be influenced by addiction. Also, **Zeng, Myers and lancman, (2018)** demonstrated that alexithymia has been linked to an increase in interpersonal conflicts, a decrease in perceived social support, a reduction in social connections, and a decrease in social skills, all of which reduce the ability to be usually resilient .**Wells et al., (2016)** which stated that individuals with high levels of alexithymia are less likely to feel supported by others in their social context.

Our results indicated that duration of treatment was positively and significantly correlated with suicidal probability. However, there is a negative correlation with perceived social support. This meant that increases in duration of patients' treatment ,results in decreases perceived social support and increases suicidal ideation .This result agree with **Ma etal ., (2019**) who found after enrollment in compulsory treatment clinics, the rate of suicidal thoughts was higher than before (24.6 percent vs. 16.4%).. In the same context, **Yuodelis-Flores and Ries, (2015)** who reported substance-dependent individuals had an elevated risk for suicide, especially when entering into treatment. As well, **Zhou, (2017)** stated that Chinese patients getting methadone maintenance treatment who had a lower perception of social support were more likely to stop treatment. Improving drug addicts' social support may be beneficial in reducing the harmful impacts of internal stigma on mental health and well-being, as well as increasing the success rate of drug withdrawal. **Birtel etal., (2017).**

Also, the present study found positive association between patients' suicidal risk and their occupation specific to those who have no work. It could be from symptoms associated with drug abuse as recurrent absenteeism from work, lack of productivity, insufficient attention and concentration, exhaustion at

work. This result in accordance with **De Berardis.,etal (2019)** who reported substance dependent was accompanied by occupational deterioration ranging from moderate to mild degrees in all cases. On the same line, **Becker and Duffy, (2002)** stated that substance addiction has a definite negative impact on one's ability to work. and to cope in the society, but there is a lack of research about which levels would clearly hinder job performances. As well, (**Massah et al., 2018**) stated that, the National Survey on Drug Use and Health (2011) shown a significant relationship between unemployment and substance abuse as addiction was higher among the unoccupied population. On contrary, **Abddel Moneim, et al., (2020)** in Egypt, found high prevalence of substance abuse within free workers (e.g. mechanists and technicians).

However, the present study showed that drug use disorder and (DDF) alexithymia dimension were independent positive predictors. While, perceived social support and (EOT) alexithymia dimension were negative predictors of the suicidal probability score; the suicidal ideation score increasing with drug abuse and patients' difficult describe feelings, and decreasing with social support. This finding indicated that strong connectedness as social support a preventive effect in reducing suicidal ideation from becoming more serious .The finding is in congruence with **Deng etal. (2021)** demonstrated that alexithymia specific (DIF) dimension and low resilience were significant predictors of increased suicide ideation. Similarly, previous studies confirms the results (**De Berardis.,etal 2019**; **Loas etal., 2016**).Also, **Naila and Takwin,(2018)** in Indonesia ,found suicide ideation is significantly reduced by perceived social support. However, **Liu etal., (2017)** found males and rural areas have a greater suicide rate and a lower decreasing trend than females and urban areas . As well, **Klonsky et al., (2016)** stated recognized risk variables (parental psychopathology, early adversity, traumatic events, chronic medical illnesses, and mental disorders) account for 62.4 percent of variation in predicting suicidal thoughts. In addition, **Palma-Alvarez et al., (2021)** emphasized that many medical effects, including substance use disorder, addictive

behaviors, depression, and the emergence of suicidal ideation and actions, have been a negative predictors to alexithymia.

Conclusion and Recommendation:

In conclusion, the majority of the patients have alexithymia and are drug addicts, with a moderate level of suicidal risk and perceived social support. Suicidal risk is associated with drug abuse and alexithymic patients, but not with perceived social support. Suicidal risk is positively correlated with treatment duration, while perceived social support is negatively correlated. Furthermore, the period of addiction is positively related to alexithymia. A psychological intervention program to improve emotional awareness and perceived social support is recommended to prevent drug abuse and suicidal ideation. As well, Emotion-focused intervention strategies for patients to reduce alexithymia.

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