

# Correlation between depressive symptoms and quality of life in users of psychoactive substances

CORRELAÇÃO ENTRE SINTOMAS DEPRESSIVOS E QUALIDADE DE VIDA DE USUÁRIOS DE SUBSTÂNCIAS PSICOATIVAS

RELACIÓN ENTRE LOS SÍNTOMAS DEPRESIVOS Y LA CALIDAD DE VIDA EN LOS USUARIOS DE SUSTANCIAS PSICOATIVAS

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## ABSTRACT

**Objectives:** To evaluate the correlation between the presence of depressive symptoms and quality of life in users of psychoactive substances from Psychosocial Attention Centers in Mato Grosso. **Method:** A cross-sectional analytical study, conducted in Psychosocial Attention Centers, with 109 users. The instruments used were: Medical Outcomes Study 36, Beck Depression Inventory, socio-demographic variables and the use of psychoactive substances. A Tukey analysis and a Spearman correlation were conducted with a significance level of  $\alpha < 0,05$ . **Results:** The most affected domains of quality of life were emotional, social and mental health aspects, besides the strong correlation between depressive symptoms and quality of life. **Conclusion:** The use of psychoactive substances and the presence of symptoms significantly interfere in the life of users, which can compromise the motivation to the treatment, negatively affecting the quality of life in this population.

## DESCRIPTORS

Substance-related disorders  
Depression  
Quality of life  
Mental Health Services  
Psychiatric nursing

## RESUMO

**Objetivos:** Avaliar a correlação entre a presença de sintomas depressivos e a qualidade de vida em usuários de substâncias psicoativas dos Centros de Atenção Psicossocial de Mato Grosso. **Método:** Estudo transversal analítico, realizado nos Centros de Atenção Psicossocial, com 109 usuários. Foram utilizados os instrumentos Medical Outcomes Study 36, Inventário de Depressão de Beck, variáveis sociodemográficas e do uso de substâncias psicoativas. Foi realizada a análise de Tukey e correlação de Spearman com nível de significância de  $\alpha < 0,05$ . **Resultados:** Os domínios mais afetados da qualidade de vida foram aspectos emocionais, sociais e de saúde mental, além de forte correlação entre sintomas depressivos e qualidade de vida. **Conclusão:** O uso de substâncias psicoativas e a presença de sintomas interferem significativamente na vida dos usuários, o que pode comprometer a motivação para o tratamento, afetando negativamente a qualidade de vida desta população.

## DESCRITORES

Transtornos relacionados ao uso de substâncias  
Depressão  
Qualidade de vida  
Serviços de Saúde Mental  
Enfermagem psiquiátrica

## RESUMEN

**Objetivo:** Evaluar la relación de los síntomas depresivos y la calidad de vida en los usuarios de sustancias psicoactivas de los Centros de Atención Psicossocial de Mato Grosso. **Método:** Estudio transversal analítico realizado en los Centros de Atención Psicossocial con 109 usuarios. Se utilizaron los Instrumentos: Medical Outcomes Study 36, el Inventario de Depresión de Beck, de variables sociodemográficas y del uso de sustancias psicoactivas. Se realizó el análisis de Tukey y la correlación de Spearman con nivel de significancia de  $\alpha < 0,05$ . **Resultados:** Los dominios más afectados de la calidad de vida fueron los aspectos emocionales, sociales y de salud mental, además de una fuerte correlación entre los síntomas depresivos y la calidad de vida. **Conclusión:** El uso de sustancias psicoactivas y la presencia de síntomas depresivos interfieren significativamente en la vida de los usuarios, lo que puede comprometer la motivación para el tratamiento, afectando negativamente la calidad de vida de esta población.

## DESCRITORES

Trastornos relacionados con sustancias  
Depresión  
Calidad de vida  
Servicios de Salud Mental  
Enfermería psiquiátrica

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## INTRODUCTION

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During a long time, the abusive behavior of substances that alter the cerebral functioning causing modifications in the mental state, denominated as psychoactive substances (PAS), was treated with punitive actions for being considered a *moral failure or lack of willpower*<sup>(1)</sup>. However, in the last two decades, with the progressive development of scientific studies, the approach started to be done in a preventive and therapeutic way, as it was comprehended as a serious health problem, affecting diverse areas of life of an individual, with direct or indirect repercussions in the quality of life (QL)<sup>(2-4)</sup>.

The QL refers to the individual subjective perception of diverse aspects involving physical capacity, functional ability, emotional, social and economic aspect, intellectual function and general health state perception<sup>(5)</sup>.

Internationally and in Brazil, different instruments have been used to assess the QL in diverse populations. Within them, the MOS SF-36 (The Medical Outcomes Studies 36- Item Short-Form), which assess the health related QL and it was translated and validated in Brazil in 1997<sup>(6)</sup>, and the WHOQOL (World Health Organization Quality of Life) elaborated by the World Health Organization to assess the general QL<sup>(7)</sup>.

Thus, facing the proliferation of investigations about QL from the 1980s, a study conducted to describe the profile of those publications in Brazil found the fulfillment and applicability of those instruments in different populations, with older patients, chronic diseases patients, but few studies investigating PAS users were found<sup>(8)</sup>.

The use of PAS negatively interferes in QL of users affecting directly the psychological, environmental and physical self-evaluation aspects<sup>(2)</sup>. In addition, the high prevalence of psychiatric disorders in this population, confirming the chronic use of PAS as a constituting a triggering factor or as consequence of psychiatric frameworks, especially related to humor disorders and depressive mood<sup>(9)</sup>.

Although the scientific literature had discussed harms caused by the use of PAS<sup>(10-12)</sup>, studies about the use of those and QL have been conducted internationally, majorly between users of injectable drugs, opioids and/or in substitution programs (methadone), noting that the use affects QL, with more losses to emotional, mental health and social functioning aspects<sup>(3-4,13)</sup>.

In Brazil, studies with this population are still scarce, especially those referred to correlate the use of PAS, QL and depression in general users, as well as in users during treatment in Psychosocial Attention Centers for alcohol and other drugs (CAPS-ad). This fact is reiterated by a study that investigated the scientific production about the CAPS during the period of 1998 and 2008,

identifying a gap in relation to the PAS users and, within those, most of them (73.9%) were conducted in the regions south and southeast, leaving the need of studies in other regions of Brazil<sup>(14)</sup>.

Considering that chemical dependence brings innumerable losses in all life spheres of an individual<sup>(10-11)</sup>, that the presence of a comorbidity, as depression, can aggravate and make it difficult the recovery process, affecting directly the quality of life and, still, that there is lack of data about the theme in the mid-west region, we believe that results can contribute to the improvement of political strategies directed to attend this population, aiming a higher adherence to treatment.

Facing the hypothesis of depressive symptoms having an important impact in the QL of SPA users, this study aims to assess the correlation between the presence of depressive symptoms and the quality of life in users of psychoactive substances in Psychosocial Attention Centers in Mato Grosso State.

## METHOD

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### *Ethical Aspects*

This study was approved by the Ethics in Research Committee of the Universidade Federal de São Paulo, under the registration 0556/07 and the participant's signature of the Free and Informed Consent Term.

### *Study design, location and period*

A cross-sectional, observational, descriptive and analytical study, developed in the Psychosocial Attention Centers for Alcohol and Other Drugs (CAPS ad) of four cities in the state of Mato Grosso: Cuiabá/capital, Várzea Grande, Rondonópolis and Barra do Garças, during the period of 2009 to 2011.

### *Population and sample*

The population was constituted by users followed in the CAPS ad from the four cities considered. The sample was obtained by random stratified sampling of CAPS ad, proportional to the mean size of the users' population that were in treatment in the CAPS ad on the past 10 months. Thus, considering a confidence of 95%, a sample error of 5%, a proportion of 0.5 and an increase of 20% for losses, the sample totalized 109 users in the four CAPS ad.

It is important to note that in this population, the observed users in a set month had also the possibility of being observed in the following months. For this reason, the average number of individuals per month was used, instead of the total number in each city, as it is usual in the sampling practice.

Inclusion criteria: users with 18 years old or older using illicit PAS.

## Procedures

The data collection was after a pilot test, which showed the applicability of the instruments. The interviews were done individually, in a reserved environment, during a mean time of 40 to 50 minutes, by previously trained researchers.

Three instruments were used: 1) Questionnaire composed by socio-demographic data and regarding the use of PAS during life, nowadays, and in its first use; 2) QL by the Medical Outcomes Study 36 – Item Short-Form Health Survey<sup>(6)</sup>, a multi-dimensional instrument that assess health related QL, translated, adapted and validated in Brazil in 1997, composed by 36 items, divided in 8 scales or domains: functional capacity; physical aspects; pain; general health state; vitality; social aspects; emotional aspects and mental health. The scores varies from zero (worse health status) and 100 (best health status); 3) Beck Depression Inventory<sup>(15)</sup> (BDI), that investigates the presence of depressive symptoms. The scale is composed by 21 items, including symptoms and attitudes in four levels of intensity (0,1,2,3). To define the study cut-point, in accordance with the literature, specific scores for non-diagnosed samples with affective disorders are considered, in which values smaller or equal to 15 classified the individuals as normal (without the presence of symptoms); 16 to 20 as dysphoria (sudden, transient changes of mood) and superior to 20, suggestive of depression<sup>(16)</sup>.

## Statistical analysis of results

The data processing was done with the statistical programs Statistical Package for Social Sciences (SPSS), version 15.0 and MINITAB version 15. Descriptive techniques and inferences were used. In the descriptive part, percentages, position measures and variation were used; in the inferential part, multiple analysis of variance was used. To compare the difference between the means of domains, the Tukey's test for paired comparisons and the Spearman correlation was used, with a significance level of  $\alpha < 0,05$ , in both techniques.

## RESULTS

In Table 1, it can be observed the average age of users (29.8 years), with predominance of the male gender (84.4%), single marital status (55.0%), and most of them had completed basic education (42.2%), and occupation (66.1%).

The data presented in Table 2 show the most used PAS during life: marijuana (85.3%), base paste (77.0%) and cocaine (70.6%). Regarding the actual use, the base paste (31.2%), followed by marijuana (30.3%) and cocaine (8.3%) were the most used. The first drug used in their lives was marijuana (74.3%).

**Table 1** – Distribution, in percentage values, of the socio-demographic characteristics of users of psychoactive substances, CAPS ad. – Mato Grosso, 2011

User's characteristics	(n=109)	%
Age ( $\bar{x} \pm DP$ )	29.8±7.8	
Gender	Male	92 84.4
	Female	17 15.6
Marital Status	Single	60 55.0
	Married	38 34.9
	Divorced	11 10.1
Education Level	Incomplete basic education	30 27.5
	Complete basic education	46 42.2
	Complete high school	30 27.5
	Complete higher education	3 2.8
Occupation	Possess	72 66.1
	Do not possess	37 33.9

**Table 2** – Distribution, in percentage number of the PAS type used during life, nowadays and in the first use among PAS users from CAPS ad. - Mato Grosso, 2011

Psychoactive Substance	(n=109)	%*
Use in life	Marijuana	93 85,3
	Base paste	84 77,0
	Cocaine	77 70,6
	Inhalants	32 29,4
	Crack	17 15,6
	Ecstasy	6 5,5
	LSD	3 2,7
Current use	Base paste	34 31,2
	Marijuana	33 30,3
	Cocaine	9 8,3
First use in life	Marijuana	81 74,3
	Cocaine	13 11,9
	Base paste	10 9,2
	Solvent	5 4,6

\* The percentages do not totalize 100% due to the fact that users reported the use of more than one PAS in all categories.

The lower scores observed were in the emotional aspects domain and the higher in the functional capacity. To verify if the mean of the SF36 domains were statistically different, a multivariate analysis of variance (ANOVA) was used. From this analysis, it was verified the statistical difference between the scores means of the SF36 ( $p < 0.001$ ). To verify which means were different, a multiple comparison with the Tukey method, and the different letters in the column 2, Table 3, indicate the domains as statistically different in a 5% level.

Regarding the presence of depressive symptoms it was observed that 37.6% of users, presented a suggestive cut-point for depression and 12.8% symptoms of dysphoria.

We can observe in Table 5 a strong correlation between the BDI and the SF36 for all domains ( $p$ -values $<0.05$ ), being vitality and mental health the ones which highlights.

**Table 3** – Descriptive statistics of the SF-36 domains of PAS users, CAPS ad. – Mato Grosso, 2011

SF36 Domains	$\bar{x} \pm EPM$
Functional capacity	86.47 $\pm$ 1.64 A**
Physical aspect	66.06 $\pm$ 3.33 B**
Pain	62.23 $\pm$ 2.66 B**
General health status	65.59 $\pm$ 2.06 B**
Vitality	66.19 $\pm$ 2.17 B**
Social aspects	60.72 $\pm$ 2.85 B**
Emotional aspects	44.32 $\pm$ 3.99 C**
Mental health	60.22 $\pm$ 2.25 B**

\*\*The capital letters (A, B and C) indicate the domains which presented in average differences statistically significant, through the Tukey test at a 0,05 level.

**Table 4** –Beck Depression Inventory (BDI) descriptive statistics of the PAS users., CAPS ad. – Mato Grosso, 2011

Beck Depression Inventory	(n=109)	%
Depression	41	37.6
Dysphoria	14	12.8
Normal	54	49.6
<b>Total</b>	<b>109</b>	<b>100.00</b>

**Table 5** – Spearman correlation coefficients between the SF-36 domains and BDI. CAPS ad. – Mato Grosso. 2011

Dimension	Beck Depression Inventory*	p**
Functional capacity	-0.463	<0.001
Physical aspect	-0.465	<0.001
Pain	-0.446	<0.001
General health status	-0.557	<0.001
Vitality	-0.596	<0.001
Social aspects	-0.541	<0.001
Emotional aspects	-0.301	0.001
Mental health	-0.714	<0.001

\*Spearman correlation coefficient (p).

\*\*p = p-value associated to the Spearman correlation test (p).

## DISCUSSION

The findings of the present study, in relation to the average age of users, are similar to the means obtained in other studies, as well as the high prevalence of PAS among the male users<sup>(11,16)</sup>. The pattern analysis of alcohol and drugs consumption in a representative sample of the Brazilian urban population demonstrated a significant difference in some moment of life in males in relation to females<sup>(11)</sup>. In this context, studies about the prevalence and incidence of PAS use, although the divergences in the consumption patterns within countries, it is common to report males as major consumers<sup>(17)</sup>.

Although there is a social prejudice in relation to any substance dependency, women are still more stigmatized in comparison to men. More aggressive stereotypes are attributed to them, a tendency to promiscuity and failures in following their family role. Besides all changes in social roles of men and women, this stereotype is still present, making the access of those women to treatment difficult. This way, women are generally under-represented in therapeutic centers<sup>(18)</sup>.

In our sample, in relation to marital status, single and divorced people formed a 65.14% percentage, that is, a big proportion reported as not having a partner or a stable relationship. A study demonstrating the risk factors for drugs consumption, specially the abusive consumption, emphasized that among other variables, marital status was an important aspect to be considered<sup>(19)</sup>, a fact that was re-affirmed in a tobacco dependency and QL investigation, in which, within the social problems, the ones related to partners overcame the others<sup>(20)</sup>.

These findings allow hypothesizing that PAS users have a higher difficulty in keeping a stable marital relationship, in consequence of the behavior triggered by the use, making affective relationships unstable. This situation is grounded as the partners share an environment full of conflicts, threats, disqualification and jealousy, reflecting in distance and hopelessness<sup>(21)</sup>. It is valid to highlight a study with caregivers and chemical dependent individuals, conducted in Mato Grosso State in 2010, aiming to evaluate the burden of care that found most of caregivers as wives, and those presented depression symptoms and lack of sexual interest, which was the most contributing factor to this situation<sup>(22)</sup>, confirming the difficulty to live with this adverse situation.

In accordance with the level of education, there was a predominance of users who only completed basic education. The low level of education within PAS users can be attributed, within other factors, to the lack of motivation and the discontinuity of investment in education, interrupting early education activities. Studies show that low school performance is associated with heavy use of alcohol and other drugs, with possibility to cause neuropsychological alterations with learning loss, causing low performance, leading to low self-esteem and interruption of academic activities<sup>(19)</sup>.

The low level of education, allied with the fact of a third of the study population had referred to have none occupation at the moment of the research, calls attention to the lack of professional qualification and low insertion in the job market, interfering in the perspective of social reinsertion.

In relation to PAS, the inhalants (denominated solvents, as *loló*, *lança-perfume* and others) are the most used substances in Brazil. Thus, in the south of the country the marijuana assumes this position<sup>(19)</sup>, an evident fact in this study in which the higher proportion of users referred to marijuana as the most used PAS. A study conducted in Rio de Janeiro-RJ, corroborates with this finding, pointing to marijuana as the most used illicit drug, with a 77.8% prevalence, followed by crack/cocaine, with 58.6%<sup>(23)</sup>. The easy access to drugs, as well as the low cost and, still, the fact of marijuana being considered a less aggressive drug and with less social stigma, can contribute to the increase of its use.

A study discussing the extent of damage from the use of marijuana found that within those who experimented

the substance, an average of 10% became daily users and 20 to 30% will consume it weekly<sup>(12)</sup>. Although the cerebral alterations from the use of marijuana are more subtle when compared to other PAS, it does not mean the non-existence and relevance of it. Therefore, as the consumption can cause damages, within them the mental disorders<sup>(12)</sup>, the subject is particularly important to the mental health team in the planning and implementation of care.

In the present study, the base paste was the second most used PAS during life, appearing in first place for actual use within the users in treatment. The base paste of cocaine (PBC) is common in the Brazilian regions north and mid-west, it is handcraft prepared in improvised laboratories especially to keep its low cost. Many toxic substances are added to it, provoking an adulteration in it with high concentration of those toxic products<sup>(24)</sup>, exposing the users to many diverse organic and psychiatric damages.

It is important to note that users reported the continuity of PAS use during the data collection. This situation can be related to the non-priority of total abstinence as basic premise to the treatment in the service, an actual policy assumed by the CAPS ad, of Damage Reduction. In this perspective, the results are sought in a long term period, the abstinence is a consequence and the attention is focused on the damages caused by drugs and not in the drug itself. In this matter, it is believed to have more incentive to treatment, besides the possibility of an active posture from the user regarding the continuity of the use or not, that is, a self-responsibility during the therapeutic process.

The results related to the first drug used in life allow inferring that in similarity to other investigations, in this study there was a predominance of marijuana. A national research in 2008 pointed that 80.1% of interviewed people used marijuana in their first time consuming PAS, and from those 79.6% had it from friends, family members or people they knew<sup>(11)</sup>. The initial use of any PAS aims to aspects as social acceptance, challenging norms, and desire to feel the substance effect within others. Independently of the motive for its use, it normally starts during adolescence, intensifying the demand for preventive programs for this age group<sup>(25)</sup> aimed to the reduction of damages from the early use, propitiating better conditions of QL.

The use of PAS and QL have been discussed in its majority in American studies, showing that within PAS users, lower scores of QL when compared to the general population and with other patients with chronic diseases<sup>(4,13)</sup>.

In Brazil, the results are not different. A study from Pelotas-RS verified a significant association between lower scores of QL and the use of alcohol and/or other drugs. In our study population, the QL scores were considerably lower in comparison to QL scores from the general population from this city<sup>(26)</sup>, reinforcing the negative influence of the PAS use in the subjective perception of QL.

Considering the QL as a subjective outcome, it should be assessed by different domains. In this study, the most compromised domains were the emotional, mental and social aspects. Similar results were obtained in an investigation in Canada, comparing the QL of patients in severe medical conditions and opiates users, especially for the social, emotional aspects, energy and vitality and, still, limitations caused by mental disorders<sup>(3)</sup>.

In the last decade, the occurrence of mental disorders and the PAS use have been largely recognized in the psychiatric clinic, with emphasis for depressive symptoms<sup>(27)</sup>. This way, the evident depressive symptoms in more than one third of the study sample are in accordance with the findings obtained for this population, in which the percentages were 35.0%<sup>(19)</sup> and with a variation of 30 to 50.0%, respectively<sup>(27)</sup>.

The depressive symptoms have been the most studied within the psychiatric disorders in relation to quality of life<sup>(28)</sup>, and it was observed in the present study a strong correlation between the depressive symptoms and all QL domains. This correlation results in the QL decline of users as depression increases the pain sensation and the functional capacity, decreases the quality of the social relationships and makes the adherence to the treatment harder<sup>(29)</sup>.

We observed the domains strongly correlated with depression symptoms were mental health, involving psychic alterations, as well as the feeling of sadness, anxiety and others, and the vitality domain, referred to energy for routine activities, disposition and the relationship with the will to transform decisions in actions. This identification allow the planning of strategies more directed with focus in individual needs, aimed to facilitate the adherence to treatment and recovery, propitiating the restart of activities of body care, leisure, social activities and others.

It is important to emphasize that although the literature shows evidence of the correlation between depression and QL, nowadays, it has been discussed if the QL concepts and depression are overlapped or distinct<sup>(28)</sup>, due to both being based in a theoretical model of well-being, that depression can cause negative influence in the perception of QL and, still, that QL evaluates psychopathological aspects, as depressive symptoms<sup>(28,30)</sup>.

On the other hand, there is evidence that QL of depressed individual are not only associated to the presence of depressive symptoms, but there is also different psychosocial variables, suggesting that depression and QL are correlated concepts, but distinct<sup>(30)</sup>.

Even when facing questions referred to its theme that seem to be still inconclusive, there is a consensus in the literature that the association between depression and quality of life represent an impact in the individual's live, being relevant the comprehension of the applicability of the quality of life concept in health care, as well as the methodological limitations involved in the study of this measure<sup>(28)</sup>.

The obtained data in the study reaffirm the hypothesis of the presence of depressive symptoms having an important impact in the quality of life. Thus, the assessment of quality of life seem to be a relevant outcome, because its multidimensionality is potentially capable to detect the magnitude and the broadness of compromise that depression imposes<sup>(28)</sup>.

It is important to note that our study design does not allow the establishment of causal relationships. Therefore, longitudinal studies can be done aiming to establish with more clarity the relationship between depression and QL.

The study findings reaffirm the need for efforts within the multi professional team, for the whole evaluation of the user, as well as for the diagnostic elucidation, aiming adequate therapeutic institutions to attend the symptoms and improve the QL.

It is important to highlight that in Brazil, and more specifically in Mato Grosso State, studies of attention services to PAS users using evaluation translated and validated scales are scarce. Therefore, few limitations should

be considered, as the bibliographic search which showed a reduced number of studies conducted with this instrument, for this population, and within the few found studies, a major part of them were international, making the comparison with our population difficult as they are from another reality. For this reason, we searched for studies with PAS users with other methodologies, aiming to obtain a parameter to analyze the data.

## CONCLUSION

We found scores indicating the QL concerning of PAS users, as well as a strong correlation with depression symptoms. These data contribute with the direction of nursing and multi professional interventions, showing the need to recognize earlier depression symptoms that compromise therapeutic effectiveness, which makes the adherence to treatment difficult and affect negatively the QL of users. The recognition of those symptoms, as well as its correlation with QL, makes possible the implementation of actions directed to individual and collective needs, consequently, an improvement in QL.

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