Assessment and Associations between Quality of Life and Risk of Suicide

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Abstract
This study aimed to verify the extent to which the levels of quality of life are related to and influence suicide risk indices. A descriptive, correlational, quantitative research was performed. A non-probabilistic sample was used which was composed of 11,863 Brazilian participants all over 18 years old, who responded to the Risk Assessment Suicide Scale (RASS) and the World Health Organization Quality of Life BREF Instrument (WHOQOL-BREF), and whose data were analyzed by using descriptive statistics, the Spearman correlation and multiple linear regression using the Statistical Package for Social Sciences (SPSS). The results identify negative, moderate and significant correlations between the constructs, and that the domains of quality of life influence 47.8% of the variations in the suicide risk indices, confirming that the psychological domain is the most relevant within the explanatory model created. The conclusion is that there is a the need for public policies to improve the quality of life and prevent suicide.
Keywords: quality of life; suicide; suicide prevention; health promotion.

Avaliações e Associações entre Qualidade de Vida e Risco de Suicídio

Resumo
Este estudo objetivou verificar em que medida os níveis de qualidade de vida se relacionam e influenciam os índices de risco de suicídio. Realizou-se uma pesquisa descritiva, correlacional, de abordagem quantitativa. Contou-se com uma amostra não probabilística composta por 11.863 participantes – brasileiros e maiores de 18 anos, que responderam à *Risk Assessment Suicide Scale* (RASS) e ao *Word Health Organization Quality of Life Instrument Bref* (WHOQOL-bref), cujos dados foram analisados por meio de estatística descritiva, correlação de Spearman e regressão linear multivariada pormeio do *Statistical Package for Social Science* (SPSS). Os resultados identificam correlações negativas, moderadas e significativas entre os construtos; e que os domínios de qualidade de vida influenciam em 47,8% as variações nos índices de risco de suicídio, constatando que o domínio psicológico é o mais relevante dentro do modelo explicativo criado. Conclui-se a necessidade de políticas públicas para melhoria da qualidade de vida e prevenção de suicídio.
Palavras-chave: qualidade de vida, suicídio, prevenção do suicídio, promoção de saúde.

Evaluaciones y asociaciones entre calidad de vida y riesgo de suicidio

Resumen
Este estudio objetivó comprobar hasta qué medida los niveles de calidad de vida se relacionan e influyen en las tasas de riesgo de suicidio. Se realizó una investigación descriptiva, correlacional y cuantitativa. Hubo una muestra no probabilística compuesta por 11.863 participantes brasileños mayores de 18 años, que respondieron a la *Risk Assessment Suicide Scale* (RASS) y al *Word Health Organization Quality of Life Instrument Bref* (WHOQOL-bref), cuyos datos fueron analizados mediante estadística descriptiva, correlación de *Spearman* y regresión lineal multivariante en *Statistical Package for Social Science* (SPSS). Los resultados identifican correlaciones negativas, moderadas y significativas entre los constructos; y que los dominios de calidad de vida influyen en un 47,8% en las variaciones de los índices de riesgo de suicidio, encontrando que el dominio psicológico es el más relevante dentro del modelo explicativo creado. Estos hallazgos revelan la necesidad de políticas públicas para mejorar la calidad de vida y prevenir el suicidio.
Palabras clave: Palabra clave: calidad de vida; suicidio; prevención del suicidio; promoción de la salud.

Introduction

In recent years, an international research movement has grown with an interest in measuring and understanding quality of life (QoL) indices in different contexts (Bonnín et al., 2019; Bourdel et al., 2019; Gilbert, 2018; Kehoe et al., 2019; Kruithof, Haagsma, Karabatzakis, Cnossen, & Munter, 2018; Mark et al, 2019; Suárez, Tay, & Abdullah, 2018; Valles-Colomer et al., 2019). An interest in the determinants of their

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own QoL has also been awakened in the population (Ottaviani et al., 2016).

The concept of QoL most adopted by the literature is that from the World Health Organization (WHO, 1995). QoL is understood from the individual's perception of their position in life, in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns. In positive psychology, the definition of quality of life is similar to the understanding of subjective well-being. This concept is an assessment of cognitive and emotional components such as affects, self-efficacy beliefs, autonomy, emotional and intellectual skills, adaptation, and experiences (Diener, Suh, Lucas, & Smith, 1999).

However, among academics, there are controversies about the concept of QoL (Bonnín et al., 2019; Melo, Sampaio, Souza, & Pinto, 2015; Melo, Vasconcelos Filho, Teófilo, Costa, Ramos, & Filho, 2018; Minayo, Hartz, & Buss, 2000; Suárez, Tay, & Abdullah, 2018). The way it is approached and measured is determined according to the scientific and political interest of each research area. As a consequence, its indicators are multidimensional, being broad and varied, addressing the subject's satisfaction in several aspects of their life, such as physical disposition, mental health, income, spirituality, security, social bonds, and is a subject that is difficult to understand due to its complexity (Carvalho, 2013). Therefore, assessing QoL through pre-established indicators is not an easy task, since it is essential not only to understand how the subject perceives their existence, but also to understand that perceptions can lead them to a positive or negative conclusion about their way of life (Haraldstad et al., 2019).

The interactions between the different indicators that constitute QoL can influence, and be influenced, by the desire to stop living, to die, or to end one's own life, since these are defined based on how the individual perceives their position in life (Lira, Avelar, & Bueno, 2015; Minayo, Hartz, & Buss, 2000; Sutter & King, 2012).

The literature shows that QoL is also positively correlated with resilience, that is, low QoL rates are associated with changes in coping skills in stressful situations and have been associated with several risk behaviors, including the use of alcohol and other drugs, as well as violent and aggressive behaviors (Melo et al., 2015; Melo et al., 2018; Oliveira, Santos, & Furegato, 2017). In addition, individuals may respond with declining satisfaction with life, presenting suicidal ideation and attempted suicide (Abuabara, Abuabara, & Tonchuk, 2017; Hasan, 2017).

Although QoL and suicide are two themes often treated in isolation in the literature, both go hand in hand, or are even intertwined, because, according to Berzins and Watanabe (2012), talking about suicide is also talking about life and QoL. Therefore, there is an urgent need for more expressive studies on the subject, to understand the relationship between (quality of) life and death. It is possible to identify the concrete relationship between the indicators and subjective elements that corroborate a positive or negative perception about life, contributing effectively to the prevention of future suicidal ideation (Ottaviani et al., 2016).

Suicide is an imperative theme in society, and demonstrates an expressive number of 800 thousand deaths per year in the world (Gondim et al., 2017; Teismann et al., 2018). In order to better understand the dimension of the problem, suicide rates have already surpassed the number of deaths from both homicides and HIV together in recent decades, being notably the second leading cause of violent death in the world, behind only traffic accidents. The data confirm that every 40 seconds a person commits suicide, occurring in that same period 20 failed attempts. That is, in addition to the actual and registered suicide cases, there are still attempts, which are 10 to 20 times more frequent (Botega, 2014; Nunes, Pinto, Lopes, Enes, & Botti, 2016). Numbers that can be even more alarming, when considering the cases that are not reported or are under-reported, due to the professional's omission or by family request (Franco et al., 2017; Fukumitsu & Kovács, 2016; Machado & Santos, 2015).

It is configured as a public health problem worldwide, signaling the urgency of developing precise strategies for preventing and controlling the phenomenon, developing effective care actions for patients who have already made attempts or who demonstrate some type of suicidal ideation (Associação Brasileira de Psiquiatria [ABP], 2014; Fukumitsu & Kovács, 2016). Only then can new attempts be avoided, since as the literature points out that, having sought to previously commit suicide, there is a considerable risk of carrying out other future attempts of the act (Shahnaz, Bagley, Simkhada, & Kadri, 2017; Turecki et al ., 2019; Jang et al., 2020).

Considering that the factors that lead the subject to contemplate suicide are multiple, it is known that the subjective experience is not limited to an individual

process and is not only social, but interrelated within a multidimensional dynamic (Santos, Silva, Pires, Ramos, & Sougey, 2017). Subjectivity actively reflects the opinions, beliefs, feelings, desires and expectations that the subject has towards the world, based on a reality that is legitimately private, reflecting their own and non-material values, such as love, happiness, solidarity, social insertion and personal fulfillment (Ottaviani et al., 2016). The subject's experience, their conceptions, expectations and judgments about their life describe their level of satisfaction, solidifying their perception of the QoL they have, which may or may not corroborate suicidal behavior (Abrutyn, Mueller, & Osborne, 2020; Barboza, Brazil, & Conceição, 2016; Gutierrez, Sousa, & Grubits, 2015; Safarpour et al., 2020; Turecki et al., 2019).

Amid the scarcity of global literature on the relationship between QoL and suicide, Barros (2013) offers important contributions on the subject. In a survey of adolescents aged 12 to 18 years in the city of Recife (PE, Brazil), he found a correlation between satisfaction with one's own life and suicidal ideation / suicidal behavior. The results showed that suicidal ideation is related to depressive symptoms, presenting an absolute score for life satisfaction, results similarly found in international surveys (Melhem et al., 2019; Korkmaz, Korkmaz, & Çakar, 2019). It was identified that the risk of suicidal ideation is 24 times higher in students who have a moderate or severe level of depressive symptoms. Young people relatively dissatisfied with life had a risk of suicidal ideation 1.87 times higher than young people who said they were satisfied. It was also observed that being partially dissatisfied with the family corresponds to a 2.45 times greater risk of suicidal ideation, while being less satisfied with oneself represented an increase of almost 3 times.

In a similar study on the relationship between life satisfaction and suicide, Santos, Ulisses, Costa, Farias and Moura (2016), in a survey conducted in the city of Fortaleza (CE, Brazil), found that life satisfaction was correlated positively with an attraction to life and negatively with the repulsion to life and attraction to death. In short, there was a negative correlation between quality of life and its factors (physical health, socioeconomic status, good mental health, social support, meaning of life) and risk of suicide, indicating that high levels of QoL are associated with low risk indices of suicidal ideation (Alves et al., 2016; Bamonti, Lombardi, Duberstein, King, & Orden, 2016; Melo, Sampaio, Souza, & Pinto, 2015; Costanza, Prelati, & Pompili, 2019; Oliveira et al ., 2018; Wilchek-Aviad & Malka, 2016; Liu, Usman, Zhang, Raza, & Gul, 2019).

In a more recent survey of 203 adolescents in Taiwan, which sought to assess the relationship between QoL, suicide and school bullying, the authors concluded that negative events in an individual's life can cause stress that results in suicidal behavior. The study also pointed out that if individuals have a higher QoL, despite being bullied at school, they are less likely to develop suicidal behaviors, with the QoL presenting itself as a protective condition against suicide (Chen, Ho, Hsiao, Lu, & Yen, 2020).

In view of the need to deepen the discussion on life and death, to identify the factors that influence the risk of suicide and support decision-making on prevention and preventative actions, this research aims to verify the extent to which the quality of life indices are related to and influence suicide risk indices.

From the theoretical framework raised, three hypotheses were structured: H1 - there are negative and significant correlations between risk of suicide and the QoL domains, indicating that higher QoL rates are associated with lower suicide risk rates; H2 - the domains of quality of life are presented as predictive variables of suicide risk; H3 - the psychological domain is the variable with the greatest predictive power between the QoL domains, as it involves questions of the meaning of life and psychiatric symptoms.

Method

Type of Study

This is a descriptive and correlational research, carried out through a survey via the internet throughout Brazil.

Sample

It was a non-probabilistic, convenience sample, composed of 11,863 participants, who were Brazilians over 18 years old, regardless of sociodemographic data. Most participants were women (*f* = 8,470; 71.40%), single (*f* = 7,595; 64%), white (*f* = 5,277; 44.50%), catholic (*f* = 3796; 32%), had incomplete higher education (*f* = 4,556; 38.40%), employed (*f* = 4,383; 36.90%), and with monthly income below one thousand Brazilian reals (*f* = 4,245; 35.80%) (see Table 1).

Instrument

In regard to the instruments used, the participants first answered a sociodemographic questionnaire

Table 1.
Sample Sociodemographic Data

Gender			
Male		Female	
f = 3,393; 28.60%		*f* = 8,470; 71.40%	
Marital Status			
Single	Married	Civil Union	Others
f = 7.595; 64,00%	*f* = 1.655; 14,00%	*f* = 1.176; 9,90%	*f* = 1.437; 12,10%
Ethnicity			
White	Black	Mixed-race	Others
f = 5.277; 44,50%	*f* = 1.156; 9,70%	*f* = 4.704; 39,70%	*f* = 1.437; 12,10%
Religion			
Catholics	Agnostic	Protestant Christian	Others
f = 3.796; 32,00%	*f* = 1.931; 16,30%	*f* = 2.651; 22,30%	*f* = 3.484; 29,40%
Education			
Completed high school	Incomplete high school	Completed higher education	Post-Graduation
f =3.189; 26,90%	*f* = 4.556; 38,40%	*f* = 2.007; 16,90%	*f* = 1.776; 15,00%
Work			
Employed	Unemployed	Autonomous	Others
f = 4.383; 36,90%	*f* = 4.076; 34,40%	*f* = 1.133; 9,60%	*f* = 2.271; 19,10%
Monthly earnings (Br$)			
Less than 1,000	1,000 to 2,999	Other values	Unknown/ not given
f = 4.245; 35,80%	*f* = 3.887; 32,80%	*f* = 1.918; 16,20%	*f* = 1.813; 15,30%

containing questions about gender, marital status, ethnicity, religion, education, current occupation and income. Then, a scale that evaluates QoL and a scale that evaluates the risk of suicide were applied.

To check QoL, the Portuguese version of the World Health Organization Quality of Life BREF scale (WHOQOL-BREF), validated in Brazil by Fleck et al. (2000), was applied. This scale is comprised of 26 items ($\alpha = 0.91$), the WHOQOL-BREF is answered on a Likert response scale that varies from 1 to 5. Questions 1 and 2 assess the self-perception of QoL (here called item 1) and satisfaction with health (here called item 2). The other 24 items are grouped into four domains: physical (consisting of 7 items; $\alpha = 0.84$), psychological (6 items; $\alpha = 0.79$), social relationships (3 items; $\alpha = 0.69$) and environment (8 items; $\alpha = 0.71$) (Fleck et al., 2000).

To check the suicide risk indices, the Risk Assessment Suicide Scale (RASS) was used, validated by Fountoulakis et al. (2012), which aims to assess the risk of suicide, and can be used both on the general population and on psychiatric patients. It consists of 12 items ($\alpha = 0.79$), nine positive and three negative, requiring the inversion of positive items for their assessment with a Likert response scale, ranging from "Not at all / Never" (0) to "Many times / Too much" (3). For the assessment, it is considered that the higher the score on the scale, the higher the suicide risk indices. The scale has a total suicide risk index based on the sum of all 12 items and also 3 factors: intention, life and history. The "Intention" factor ($\alpha = 0.85$) is composed of items 5, 6, 7 and 8, and refers to the respondent's intention to commit suicide. The "Life" factor ($\alpha = 0.69$), composed of items 2, 3, 4, 9 and 10, measures the perception of living. Finally, the "History" factor ($\alpha = 0.52$), composed of items 11 and 12, seeks to verify episodes of suicide during life.

These are two internationally recognized instruments both in the field of assessing the risk of suicide and in relation to the assessment of QoL. As the

literature points out, the Risk Assessment Suicide Scale (RASS) is a reliable and valid instrument that can be instrumental in assessing suicide risk in the general population, as well as in mental patients (Fountoulakis et al., 2012). The World Health Organization Quality of Life BREF instrument (WHOQOL-BREF), as pointed out by Kluthcovsky and Kluthcovsky (2009), is an instrument widely used to assess QoL in Brazil and in countries on the Asian, European and American continents.

Procedures

Considering the ethical aspects related to research involving human beings, this study was approved by the Research Ethics Committee of the University of Fortaleza, with reference No. 1.356.319. Thus, using an online forms platform, namely google forms, the instruments were made available on the internet together with the Informed Consent Form - ICF, with the information recorded and kept in the institution's data center for six months. The dissemination took place through social networks (facebook), televised reports, magazines and online digital portals to reach interest groups and people of interest in general. It is also noteworthy that the ethical aspects required by Resolution No. 466/12, 510/16 of the National Health Council were respected.

Data analysis

Data analyzes were performed with the aid of the statistical package Statistical Package for Social Sciences (SPSS) version 22, divided into three stages. First, the profile of the sample was drawn up using descriptive statistics (frequency, percentage and measurements of central tendency, and dispersion).

In the second stage, initially, a normality test was performed to check which tests would be most suitable for further analysis. Then, correlation analyzes were performed between the total suicide risk index ($\alpha = 0.79$) and the QoL items and domains (item 1; item 2; physical domain, $\alpha = 0.84$; psychological domain, $\alpha = 0.79$; social relations domain, $\alpha = 0.69$; and environment domain, $\alpha = 0.71$), using parameters structured by Dancey and Reidy (2020), in which a correlation between 0,1 to 0,3 is considered weak; 0,4 to 0,6 is considered moderate; and a correlation of 0,7 to 1 is considered strong.

Finally, in the third stage, two analyzes of multiple linear regression were performed. The first was performed considering the QoL domains as independent variables and the total suicide risk index being the dependent variable. Subsequently, another multiple linear regression was performed, with the items that form the psychological domain, the independent variables, and the total suicide risk index being the dependent variable.

Results

Initially, a normality test was performed to check the data distribution. It was found that in all variables the data do not follow a normal distribution ($p < 0{,}001$), indicating that non-parametric tests are more appropriate.

Subsequently, a Spearman correlation test was performed to understand the relationship between the QoL scale factors using the WHOQOL-BREF questionnaire and the total suicide risk index using the RASS scale. It was possible to verify a negative, weak and significant correlation between the total suicide risk index and item 2 (satisfaction with health) ($\varrho = -0{,}335$ **; $p < 0{,}001$). When correlating the total suicide risk index with item 1 (self-perception of QoL) ($\varrho = -{,}440$ **; $p < 0{,}001$), physical domain ($\varrho = -{,}512$ **; $p < 0{,}001$), social relationships domain ($\varrho = -{,}470$ **; $p < 0{,}001$) and the environment domain ($\varrho = -{,}412$ **; $p < 0{,}001$), it was possible to verify negative, moderate and significant correlations. Regarding the correlation between the total suicide risk index and the psychological domain, it was possible to find a negative, strong and significant correlation ($\varrho = -{,}708$ **; $p < 0{,}001$) (Dancey & Reidy, 2020).

The correlations found indicate that the higher the QoL indices, the lower the suicide risk indices (see table 2). Such results corroborate the first hypothesis raised, confirming that there are negative and significant correlations between risk of suicide and the QoL domains.

Subsequently, in order to verify the influence of the QoL facets on the variation in the suicide risk indices, a multiple linear regression analysis was performed, with simultaneous insertion of the variables (*Enter* method), with the facets of the quality of life WHOQOL-BREF scale (item 1, item 2, physical domain, psychological domain, social relations domain, and environment domain) the independent variables, and the total suicide risk index as a dependent variable. We sought to analyze the assumptions of multiple linear regression: multicollinearity (all VIF found in an interval of 1,53 and 2,65 being considered acceptable); absence of serial autocorrelation in residues (Durbin Watson: 1,99); and the

normal distribution of residual values was graphically verified, as well as the presence of homoscedasticity (Corrar, 2014; Fávero & Belfiore, 2017).

The analysis resulted in a statistically significant model [F (6,11856) = 1809,240; p < ,001]. From this model, critical values were calculated with 6 (glm) and 11856 (glr) degrees of freedom, where the critical values are 2,11 (p = 0,05) and 2.82 (p = 0,01), respectively (Field, 2018).

Thus, considering the critical values, the variables entered showed statistical significance (p <0,05) and explained 47.8% (R^2 = ,478) of the variations in the suicide risk indices, with the exception of the social relations domain (β = -,017; T = -1,963, p>,050), which presented unsatisfactory statistics for the model. It was found that the psychological domain is the most relevant within the model (β = -0,629; T = 58,542, p < ,001), followed by the physical domain (β = -0,068; T = 6,893, p < ,001), self-perception of QoL (Item 1) (β = -0,060; T = -6,725, p <0,001), environment domain (β = 0,036; T = 4,013, p <,001) and satisfaction with health (Item 2) (β = ,026; T = 3,169, p < ,005) (see table 2). It is understood that five of the six QoL factors were variables that predict suicide risk indices, that is, influential for variations in suicide risk indices. It is noteworthy that the psychological factor was the most expressive within the model.

The results of this multiple linear regression partially corroborate the second hypothesis raised, indicating that the QoL domains are predictors of suicide risk, with the exception of the social relationships domain, which presented unsatisfactory statistics when considering critical values. The findings confirm the third hypothesis, considering that the psychological domain had greater predictive power among the QoL domains.

To go deeper into the results, we sought to perform another analysis of multiple linear regression, with stepwise insertion, using the items that form the psychological domain (Item 5 - How much do you enjoy life?; Item 6 - To what extent do you think your life makes sense?; Item 7 - How much can you concentrate?; Item 11 - Are you able to accept your physical appearance?; Item 19 - How satisfied are you with yourself?; and Item 26 - How often do you have negative feelings such as moodiness, despair, anxiety, and depression?), the independent variables and, as a dependent variable, the total suicide risk index. The assumptions of multiple linear regression were verified: multicollinearity (all VIF found at an interval of 1,42 and 2,19 being considered acceptable); absence of serial autocorrelation in residues (Durbin Watson: 1,98); and the normal distribution of residual values was also graphically verified, as well as the presence of homoscedasticity (Corrar, 2014; Fávero & Belfiore, 2017).

As a result, a statistically significant model was found [F (5,11857) = 2795,770; p < ,001]. From this model, critical values were calculated with 5 (glm) and 11857 (glr) degrees of freedom, where the critical values are 2.22 (p = 0,05) and 3.04 (p = 0,01), respectively, making it possible to maintain all variables in the model (Field, 2018).

Considering the critical values, the variables entered showed statistical significance (p <0,05), with a determination coefficient explaining 54.1% (R^2 =,541) of the variations in the suicide risk indices. In terms of relevance, Item 6 (To what extent do you think your life makes sense?) explained 44,3% of the model, Item

Table 2.
Correlation and Multivariate Linear Regression between Suicide Risk and factors of QoL

Total Suicide Risk Indices (VD)			
Factors of QoL (VI)	Spearman correlation	Linear Regression	
		β standardized	T
Item 1. Self-perception of QoL	-,440**	-,060	-6,725**
Item 2. Satisfaction with health	-,335**	,026	3,169*
Physical domain	-,512**	-,068	-6,893**
Psychological domain	-,708**	-,629	-58,542**
Social relations domain	-,470**	-,017	-1,963
Environment domain	-,412**	,036	-4,013**

** = Significance level <0.001; * = Significance level <0.05

Table 3.
Multiple Linear Regression Psychological Domain (VI) and Total Suicide Risk Indices (VD)

Total Suicide Risk Indices (VD)			
Items of Psychological domain (VI)	R^2(%)	Linear regression	
	β	T	
Item 6. To what extent do you think your life is meaningful?	44,3%	-,438	-51,146**
Item 26. How often do you have negative feelings such as moodiness, despair, anxiety, and depression?	8%	-,269	-34,647**
Item 19. How satisfied are you with yourself?	1,3%	-,120	-13,049**
Item 11. Are you able to accept your physical appearance?	0,5%	-,090	-12,155**
Item 5. How much do you enjoy life?	0,0%	,025	3,085*

** = Significance level <0.001; * = Significance level <0.005

26 (How often do you have negative feelings such as moodiness, despair, anxiety, and depression?) explained 8%, Item 19 (How satisfied are you with yourself?) explained 1.3%, Item 11 (Are you able to accept your physical appearance?) explained 0,5%. Item 5 (How much do you enjoy life?), despite having a significant standardized coefficient (p <0,001), did not show variations in the determination coefficient (see table 3). It is concluded that the themes that form the psychological domain, such as the meaning of life, psychiatric disorders, satisfaction with oneself and self-esteem are relevant to influence variations in suicide risk indices.

Discussion

The results of the correlations and regression between the QoL factors and suicide risk demonstrate a significant relationship between QOL and suicide risk, indicating that the subject's life experience, their perceptions, hopes and judgments about their own life can affect their level of satisfaction, corroborating negatively or positively with the risk of suicide. It was found that negative perceptions about QoL and health, as well as their domains, may indicate a higher risk of suicide. Data that corroborate the research by Barros (2013), which highlights that young people less satisfied with QoL have a risk of suicidal ideation 1.87 times higher than satisfied young people. These numbers rise when there is dissatisfaction with oneself, with almost three times more chance of suicide.

This data mentioned above also corroborate the research by Oliveira et at. (2018), who found that suicidal ideation rates are associated with issues related to quality of life factors, such as psychiatric symptoms, physical illnesses and low socioeconomic levels. The results of the second linear regression, which point to the item of quality of life associated with psychiatric symptoms as a predictor of suicide risk, is similar to the research by Alves et al. (2016), who, through quantitative research, with 605 users of public health services in Alagoas, found that mental disorders such as depression, anxiety, hypomania, social phobias, obsessive compulsive disorder, post-traumatic stress and other psychiatric diagnoses are related to suicide risk. In this sense, Melhem et al. (2019), state that to reduce the risk of suicide it is necessary to monitor and treat the symptoms of depression.

Another relevant issue found in the study was the influence of the meaning of life on the suicide risk indices. Similar results were found in the research by Wilchek-Aviad and Malka (2016) who, in a survey of 450 participants, found negative correlations between meaning of life and suicidal tendencies, that is, the higher the indices of meaning of life, the lower the risks of the subject committing suicide. Also in the study by Liu et al. (2019), who, in a survey of 687 participants, concluded that meaning of life is an influential variable for suicidal ideation. Such results indicate that the meaning of life is a protective factor against suicidal ideation, exactly as indicated by Costanza et al. (2019), in their review of articles published between 1980 and 2019 on international scientific publication platforms.

Melo et al. (2015), also emphasize that spirituality and religiosity are strongly associated with QoL, since they act as a support in coping with adverse situations, and are closely correlated with mental health, operating as a protective factor against suicide, since

spirituality is also associated the meaning of life (Bamonti et al., 2016).

The data in this study are worrisome, since people have considered death as a possible alternative for solving their problems, generating numerous negative consequences for the social and family environment, as well as for society in general. Therefore, monitoring the poor QoL indices of a certain group or population can identify suicidal ideation or behavior early (Jang et al., 2020; Barros, 2013). Thus, the use of reports of life satisfaction in suicide prevention programs can be promising.

Machado and Santos (2015) argue that it is important that there is greater promotion of mental health in favor of better QoL rates and mitigation of suicide risks, by promoting concrete debates on this topic, favoring greater knowledge in the social, academic and professional environments, and thus enabling preventive attitudes and care practices against prejudices and stigmas related to people who try to kill themselves. The importance of conducting more qualitative and longitudinal research is emphasized, in order to obtain depth in understanding the beliefs of different subjects about the relationship between QoL and suicide.

As a study limitation, the verticality of data collection and the sample limitation are recognized as there are no selection criteria. It is suggested that other studies should be carried out, with different methodological approaches, in specific groups of different cultures, involving variables not covered here, enriching the literature, and aiding public policies, in order to increase the quality of life of citizens and preventing, as much as possible, suicides.

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