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Factors associated with common mental disorders and use of psychiatric drugs in cancer outpatients

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ABSTRACT

Background: Considering the high incidence of cancer in Brazil and worldwide, the high prevalence and relevance of Common Mental Disorders (CMD) in the treatment of cancer patients, and the use of psychiatric drugs without reliably proven effectiveness, studies that contemplate this topic are needed to understand and provide rationale for the treatment of CMD in these individuals.

Objectives: This study identified prevalence and factors associated with Common Mental Disorders (CMD) and psychotropic use in cancer outpatients.

Method: This is a cross-sectional study with descriptive correlational design. It was developed in the chemotherapy sector of a hospital specialized in cancer. The tools used were: Self Reporting Questionnaire (SRQ-20) and structured questionnaires.

Findings: Among 403 respondents, CMD prevalence was 31.5% and psychotropic use was 25.8%. CMD were associated with gender, education, family income, psychotropic use and cancer surgery. Psychotropic use was associated with gender, employment status, cancer surgery, treatment period and other physical health conditions. Logistic regressions showed CMD were associated with gender and other physical health conditions; psychotropic use was associated with gender, employment status and other conditions.

Introduction

The physical and psychological changes caused by cancer, since the diagnosis, are clear and of great impact, causing suffering and many changes in patient's life (Souza et al., 2013). Consequently, a significant proportion of individuals with cancer may have psychological suffering and develop mental disorders (Nakash et al., 2014). Among the most common mental disorders are affective disorders, mainly depression and anxiety (Nakash et al., 2014). Such disorders have been designated in the literature as Common Mental Disorders (CMD) (Goldberg & Goodyer, 2005). In addition to depressive and anxiety disorders, depression, anxiety disorders and somatoform symptoms are also included in this definition, but do not perfectly fit in the current diagnostic criteria (Bener, Dafeeah, Chaturvedi, & Bhugra, 2013; Walters, Buszewicz, Weich, & King, 2011). To facilitate the discussion based on the current CMD paradigm, in this study we have adopted the most comprehensive definition of CMD, which includes depression and anxiety and patients with borderline symptoms.

In this regard, the literature shows a high prevalence of CMD in cancer patients. Studies identified prevalence of CMD in cancer patients from 18.4% to 38.2% (Mitchell et al., 2011; Singer, Das-Munshi, & Brahler, 2010). The high CMD prevalence appears to be observed worldwide, since a multicenter study in 13 countries identified an 18.4% prevalence of CMD in cancer patients in the family setting (Nakash et al., 2014).

Not unlike other countries, studies in Brazil with cancer outpatients identified CMD as the most prevalent psychiatric disorder (Chaves, Pinto, Lourenço, & Mari, 2005; Osório, Lima, & Chagas, 2015).

Although the literature shows alarming data related to mental health of cancer patients, as evidenced earlier, studies indicate failures in the diagnostic, and, consequently, in the treatment of CMD in patients with cancer (Fallowfield, Ratcliffe, Jenkins, & Saul, 2001; Nakash

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et al., 2014).

Worryingly, the presence of CMD in cancer patients seems to be predictive of prognostic outcomes, as the literature indicates that they may increase the chance of mortality in these patients (Batty, Russ, MacBeath, Stamatakis, & Kivimäki, 2017; Goodwin, Zang, & Ostir, 2004; Hamer, Chida, & Molloy, 2009; Lloyd-Williams, Shiels, Taylor, & Dennis, 2009).

Furthermore, the difficulty in detecting and treating CMD puts the results of therapies against cancer at risk, decreases the quality of life of the patients and increases the healthcare costs (Zabora, Brint, Curbow, Hooker, & Piantadosi, 2001).

In addition to the possible non-identification of mental disorders and the consequent lack of a treatment that is suitable to the conditions that affect mental health, there is also the gap related to the access to services and drugs associated to treatment of these conditions (Ell et al., 2005).

Although the CMD treatment includes non-pharmacological approaches, the therapy using psychiatric drugs has turned into an important mode of control of CMD symptoms (Algar & García, 2016; Bottino, Fráguas, & Gattaz, 2009; Caruso, Grassi, Nanni, & Riba, 2013; García & Algar, 2016; Thekdi, Trinidad, & Roth, 2015).

In cancer patients, the literature indicates that the use of these drugs is greater than in the general population. In the research by Desplenter et al. (2012), with > 7000 individuals with cancer, psychiatric drugs were prescribed in 6 months after the initial diagnosis of cancer to 1066 (14.6%) cases vs. 161 individuals (1.1%) in the control group.

Despite the prescription of treatment with psychiatric drugs, there are few data in the literature on the effectiveness of these drugs in patients with cancer. A recent systematic review study identified that, despite the impact of CMD on individuals with cancer, the studies available are scarce and of poor quality (Cheng, 2017).

In addition, the factors associated with the use of these drugs are also little studied. Considering the high incidence of cancer in Brazil and worldwide, the high prevalence and relevance of CMD in the treatment of cancer patients, and the use of psychiatric drugs without reliably proven effectiveness, studies that contemplate this topic are needed to understand and provide rationale for the treatment of CMD in these individuals. Thus, the present study aimed to identify the prevalence and factors associated with CMD and the use of psychiatric drugs in cancer outpatients in a national reference hospital for cancer treatment in Brazil.

Method

This is a cross-sectional study with descriptive correlational design developed in the chemotherapy sector of a hospital specialized in cancer, located in the State of São Paulo – Brazil, a private charity institution of non-profit nature, which provides assistance to cancer patient (including health promotion, cancer prevention and treatment and rehabilitation), coupled with education and research. It provides care to patients from all over the country through the Unified Health System (SUS). The research site is a reference for the treatment of cancer in Brazil, and performs an average of 3913 procedures per month.

The randomized sampling process stratified by service sector was adopted. The 50% CMD prevalence was used, as it was used in the study by Lima et al. (2008). The additional parameters used for the calculation were the level of significance of 95% and 5% relative error.

The study inclusion criteria were: 18 years of age or more, to be able to communicate verbally in Portuguese and to be receiving intravenous chemotherapy at the study site. The exclusion criteria were: difficulty of communication, for example, inability to speak or major hearing impairment. The data were collected in the period from September 2015 to February 2016.

The collection of socio-demographic variables and those related to health history and the use of psychiatric drugs was oriented by structured questionnaires.

To identify the prevalence of CMD, the validated Brazilian version of the Self Reporting Questionnaire (SRQ-20) was used (Mari & Willians, 1986; Gonçalves, Stein, & Kapczinski, 2008. The cut-off points from the SRQ-20 were to answer "yes" to eight or more questions, so, this was considered a screened case.

For data analysis, the statistical associations between the dependent variables, CMD and the use of psychiatric drugs, and independent variables (gender, education, marital status, religion, employment status, family income, primary cancer site groups, treatment time, oncologic surgery, other physical health conditions, chronic use of non-psychotropic medication) were assessed. For the univariate analysis, the Chi-square test was performed, with the possibility of accepted association when the "p" found was less than or equal to 0.05. Then, in multivariate analysis, logistic regression models were developed in order to verify the impact of independent variables on dependent variables. All the explanatory variables that presented $p < 0.05$ in univariate analysis were included in the models, along with the variables that, although they did not present significant associations, were strongly related to dependent variables according to the literature, as well as those that had no multicollinearity problems. The appropriateness of the models was verified by the Hosmer-Lemeshow test. The analyses were performed using STATA software version 13 and R version 3.3 for all comparisons, a significance level of 5% was adopted (alpha = 0.05).

The study was approved by the *Comitê de Ética em Pesquisa* (Research Ethics Committee) - Protocol number 44785515.0.0000.5393. All participants were given detailed information prior to signing the Consent Form (*Termo de Consentimento Livre e Esclarecido - TCLE*) as per Resolution 466/12 of Brazilian National Health Council (*Conselho Nacional de Saúde - CNS*).

Results

A total of 403 patients with ages 18–89 participated in the research. The sample was composed mostly by women ($n = 245$; 60.8%), by individuals over 40 years of age ($n = 342$; 84.9%), Catholics ($n = 278$; 69.0%), not working ($n = 331$; 82.1%), and inserted in families with income of up to three minimum Brazilian salaries (one Brazilian salary is $238.2) ($n = 259$; 62.3%). There was a higher frequency of patients who could read and write or with incomplete basic education ($n = 147$; 36.5%).

As regards the primary cancer site, there was a higher rate of cancer of the digestive system ($n = 139$; 34.9%), followed by breast cancer ($n = 119$; 29.9%). It is important to notice that, considering only women, the most frequent primary site was the breast, in 48.6% of the participants. For men, the most common primary site was the digestive system (51.3%).

With respect to health history, most had begun oncologic therapy up to one year from the date of the interview ($n = 268$; 66.5%), had been submitted to least one oncologic surgery ($n = 243$; 60.3%), used drugs ($n = 271$; 67.3%) and had no other physical health conditions ($n = 220$; 54.6%).

CMD screening identified 31.5% of patients with positive result (95% CI; 27%–36%). The sociodemographic variables associated with CMD in univariate analysis were: gender ($p = 0.02$), education ($p < 0.01$) and family income ($p < 0.01$). As regards the health history, an association between CMD and the use of psychiatric drugs ($p < 0.01$) and oncologic surgery ($p = 0.02$) was identified (Table 1).

The prevalence of psychiatric drugs use was 25.8% (95% CI; 21.5%–30.1%). The most commonly prescribed psychiatric drugs were antidepressants (39.84%), followed by antiepileptics (29.27%) and anxiolytics (24.39%). Considering the active ingredient of the drugs, the most used was clonazepam ($n = 32$; 26.02%) (Table 2). It should be emphasized that, among the patients using psychiatric drugs, 21.2% used two different psychiatric drugs and three (2.9%) did not know the name of the drug.

Table 1
Distribution of patients (n = 403), as per socio-demographic and economic variables, and results obtained in the Self Reporting Questionnaire (SRQ-20). Barretos, São Paulo, 2015–2016.

Variables	SRQ-20				Total		*p*-value
	Yes		No				
	N	%	N	%	N	%	
Gender							
Male	39	24.7	119	75.3	158	100.0	0.02
Female	88	35.9	157	64.1	245	100.0	
Education							
Illiterate	11	52.4	10	47.6	21	100.0	< 0.01
Less than primary education	54	36.7	93	63.3	147	100.0	
Primary education	25	32.1	53	67.9	78	100.0	
Secondary education	29	28.7	72	71.3	101	100.0	
Tertiary education	8	14.3	48	85.7	56	100.0	
Monthly income							
Without income	4	50	4	50	8	100.0	< 0.01
Up to a Brazilian salary*	13	25.5	38	74.5	51	100.0	
From a Brazilian salary up to three Brazilian salaries	78	39	122	61	200	100.0	
From a Brazilian salary up to three Brazilian salaries	20	22	71	78	91	100.0	
Above three Brazilian salaries	10	20.4	39	79.6	49	100.0	
Cancer surgery							
No	61	38.1	99	61.9	160	100.0	0.02
Yes	66	27.2	177	72.8	243	100.0	
Psychotropic use							
No	77	25.8	222	74.2	299	100.0	< 0.01
Yes	50	48.1	54	51.9	104	100.0	

P-value: Cui-squared test. *It was considered Brazilian salary R$724.0 ($238.2).

Table 2
Distribution of drugs prescribed for research participants (N = 786), according to the Anatomical Classification Therapeutic Chemical (ATC *). Barrteos, São Paulo, 2015–2016.-2016.

Medication used according to ATC	N	%
N03A – Anticonvulsants	**36**	**29.27**
N03AE – Benziodiazepines	32	26.02
N03AF - Carboxamide derivatives	1	0.81
N03AG – Fatty acides derivatives	1	0.81
N03AX – Other anticonvulsants	2	1.63
N05A – Antipsychotics	**2**	**1.63**
N05AA – Phenothiazines	1	0.81
N05AN – Lithium	1	0.81
N05B – Anxyolitics	**30**	**24.39**
N05BA - Derivados da benzodiazepina	30	24.39
N05C - hypnosis and sedatives	**6**	**4.88**
N05CD – Benziodiazepines	3	2.44
N05CF - Benziodiazepines related drugs	2	1.63
N05CH – Melatonin receptor agonists	1	0.81
N06A – Antidepressants	**49**	**39.84**
N06AA – Non selective serotonin reuptake inhibitors	17	1.82
N06AB - elective serotonin reuptake inhibitors	28	22.76
N06AX – Other ntidepressants	4	3.25

Taking into account the literature on CMD, in multivariate analysis, in addition to the significant variables in the univariate analysis, the following variables were included in the logistic regression models: chronic use of non-psychotropic medication, other physical health conditions and primary cancer site.

The variables that significantly contributed to the final model were female gender and other conditions. Thus, female individuals were 4.86 times more likely of being positive for CMD and those who have other conditions were 2.12 times as likely of being positive for CMD (Table 3).

As for sociodemographic and cultural factors, a significant association was found in univariate analysis between the use of psychiatric drugs and gender (p < 0.01) and employment status (p < 0.01). The analysis of the variables related to health history showed a significant association between the use of psychiatric drugs and oncologic surgery (p = 0.03), time of treatment (p = 0.03) and other conditions (p < 0.01) (Table 4).

The logistic regression for the use of psychiatric drugs as a dependent variable included variables that showed significant association in the Chi-square test (gender, employment status, time of treatment, surgery to treat cancer and other physical health conditions) and those relevant according to the literature on the subject (family income and primary site of cancer).

The variables gender, presence of other conditions and employment status contributed significantly with the model. Thus, women were 4.28 times more likely to use psychiatric drugs, and individuals with other conditions were 1.73 times more likely to use such drugs. The employment status variable had OR of 0.33, which assumes that working is a protective factor against the use of psychiatric drugs (Table 5).

Discussion

In general population, CMD prevalence varies from 22 to 50% (Gomes, Miguel, & Miasso, 2013; World Health Organization, 2017), which does not differ in the prevalence found in this study, where it was found 31.5%. Also, the result found is in line with the estimated prevalence in international systematic review studies with cancer patients (Mitchell et al., 2011; Singer et al., 2010).

However, the first aspect of this study that deserves attention is the fact that the prevalence of CMD was higher than the result of a study previously carried out in Brazil, with cancer patients, which identified a prevalence of 25.8% (Chaves et al., 2005). The association between CMD and gender is in line with other studies (Quadros et al., 2015; Coutinho, Matijasevich, & Menezes, 2014; Gonçalves et al., 2014; Jansen et al., 2011; Rocha, Almeida, Araújo, & Virtuoso Júnior, 2010 &; Lima et al., 2008; Gonçalves & Kapczinski, 2008). A possible justification is the fact that women express their symptoms more easily and seek healthcare services more often (Jansen et al., 2011).

Furthermore, in the last decades, there have been considerable changes in the role of women in society and the overload of assignments can generate conflicting and stressful situations and distress, which may be associated with greater psychiatric morbidity (Pinho & Araújo, 2012; Rocha et al., 2010).

Another variable associated with CMD on univariate analysis in this study was education, corroborating data from previous researches (Coelho et al., 2009; Coutinho et al., 2014; Gonçalves et al., 2014; Gonçalves & Kapczinski, 2008; Pinho & Araújo, 2012; Quadros et al., 2015; Rocha et al., 2010). As regards education, no articles focusing specifically on cancer patients were found. However, there is evidence that access to education has direct effect on psychological health, as it increases the possibility of life choices and influences self-esteem and the possibility of higher family income (Pinho & Araújo, 2012).

This study also identified the association between CMD and family income, in line with previous studies (Coelho et al., 2009; Gonçalves et al., 2014; Pinho & Araújo, 2012; Quadros et al., 2015; Rocha et al., 2010). Low-income individuals tend to have more concerns about financial issues than those with higher per capita income, which makes them more vulnerable to stress, insecurity and development of anxiety and depression (Pinho & Araújo, 2012).

However, in the multivariate analysis, only the variables related to gender and other conditions were predictors of CMD. Such associations support the literature. In the case of female individuals, as explained above, women would be more willing to seek help.

With respect to individuals with other physical health conditions, previous studies have shown such an association (Coelho et al., 2009; Duarte & Rego, 2007; Teng, Humes, & Demetrio, 2005). The causes of this association are still controversial in the literature.

Table 3
Logistic regression model for the factors associated to common mental disorders in cancer outpatients. Barretos, São Paulo, 2015–2016.

Model	Coefficient	Standard error	Z value	*P* value	OR	IC 95%	
						Inf	Sup
(Intercept)	−2.48	1.54	−1.61	0.11			
Gender (female)	1.58	0.39	4.07	**0.00**	4.86	2.27	10.42
Education (Less than primary education)	0.22	0.63	0.34	0.73	1.24	0.36	4.30
Education (primary education)	0.12	0.69	0.18	0.86	1.13	0.29	4.35
Education (secondary incomplete)	−2.15	1.24	−1.74	0.08	0.12	0.01	1.32
Education (secondary complete)	0.00	0.67	0.01	1.00	1.00	0.27	3.76
Education (tertiary incomplete)	0.34	1.01	0.34	0.73	1.41	0.19	10.31
Education (tertiary complete)	−0.02	0.72	−0.02	0.98	0.98	0.24	4.05
Education (illterate)	−12.89	618.66	−0.02	0.98	0.00	0.00	0.00
Monthly income (up to 1 Brazilian salary)	−1.18	0.91	−1.30	0.19	0.31	0.05	1.82
Monthly income (> 1 to 3 Brazilian salaries)	−0.60	0.83	−0.72	0.47	0.55	0.11	2.80
Monthly income (> 3 to 5 Brazilian salaries)	−0.37	0.87	−0.42	0.67	0.69	0.13	3.80
Monthly income (> 5 to 10 Brazilian salaries)	−0.89	0.92	−0.96	0.34	0.41	0.07	2.51
Monthly income (> 10 Brazilian salaries)	−0.61	1.31	−0.46	0.64	0.54	0.04	7.12
Cancer surgery (yes)	0.51	0.27	1.87	0.06	1.66	0.98	2.83
medicines of continuous use (yes)	−0.34	0.35	−0.98	0.33	0.71	0.36	1.41
Other physical health conditions (yes)	0.75	0.32	2.33	**0.02**	2.12	1.13	4.00
Primary site – head and neck	1.46	1.25	1.16	0.25	4.30	0.37	50.27
Primary site – digestive	0.30	1.17	0.26	0.80	1.36	0.14	13.49
Primary site – gynecological	0.23	1.21	0.19	0.85	1.26	0.12	13.55
Primary site – breast	0.35	1.17	0.30	0.77	1.41	0.14	14.07
Primary site – bones and soft tissues	0.65	1.27	0.51	0.61	1.92	0.16	23.19
Primary site – lung and pleura	0.65	1.28	0.50	0.61	1.91	0.15	23.53
Primary site – urological	1.65	1.28	1.30	0.19	5.23	0.43	63.73

Table 4
Distribution of research participants (N = 403) as per psychotropic use and associated variables. Barretos, São Paulo, 2015–2016.

Variables	Psychotropic use				Total		P value
	Yes		No				
	N	%	N	%	N	%	
Gender							
Male	22	13.9	136	86.1	158	100.0	< 0.01
Female	82	33.5	163	66.5	245	100.0	
Work situation							
Not working	95	28.7	236	71.3	331	100.0	< 0.01
Working	9	12.5	63	87.5	72	100.0	
Time of treatment							
Up to a month	3	10.7	25	89.3	28	100.0	0.03
From a month to 6 months	36	25.2	107	74.8	143	100.0	
From 7 to 12 months	22	22,7	75	77.3	97	100.0	
From 13 to 18 months	9	34.6	17	6.4	26	100.0	
From 19 to 24 months	6	20.7	23	79.3	29	100.0	
From 25 to 36 months	3	15	17	85	20	100.0	
From 37 to 60 months	12	50	12	50	24	100.0	
72 months or more	12	34.3	23	65.7	35	100.0	
Cancer surgery							
No	32	20	128	80	160	100.0	0.03
Yes	72	29.6	171	70.4	243	100.0	
Comorbidities							
No	44	20	176	80	220	100.0	< 0.01
Yes	60	32.8	123	67.2	183	100.0	

In this respect, there are authors who believe that clinical conditions may contribute to the CMD pathogenesis through direct effects on brain function or through psychological or psychosocial effects (Alexopoulos et al., 2002; Goodkind et al., 2015). Interestingly, others consider that this association can be seen bi-directionally, i.e. CMD precipitating chronic conditions and chronic conditions exacerbating CMD (Najas & Pereira, 2002; Goldberg & Goodyer, 2014).

However, data from the literature show that, despite strong evidence of association between CMD and other conditions, doctors tend to overlook CMD in patients with multiple chronic conditions, as these tend to be the main focus of clinical attention (Coelho et al., 2009).

The considerations above are particularly important for this study, because the presence of CMD in cancer patients predicts their prognosis, which, considering the seriousness of their health status, could be death.

Another extremely important factor in the treatment of cancer patients is the association between CMD and the use of psychiatric drugs, obtained in the univariate analysis in this study and which could not be included in the logistic regression models due to the multicollinearity found. Obviously, it is not surprising that patients found positive for CMD use more psychiatric drugs as compared to patients negative for CMD.

Thus, the use of psychiatric drugs by CMD-positive patients is supported by the literature. As an example, in cancer patients, the study by Ng, Dijkstra, Smeets, Boks, and Wit (2013) identified an association between CMD and the use of psychiatric drugs in patients with terminal cancer (Miguel, 2014; Shirama & Miasso, 2013).

The most commonly used drugs, according to the findings of this research, were antidepressants, as also identified in other studies (Silva & Herzog, 2015; Borges, Miasso, Vedana, Telles Filho, & Hegadoren, 2015; Rocha & Werlang, 2013; Noia, Secoli, Duarte, Lebrão, & Lieber, 2012; Ng, Boks, Smeets, Zainal, & Wit, 2013).

However, it should be noted that, in the literature, the use of psychiatric drugs for CMD is controversial. The literature shows that psychiatric drugs are not effective for individuals with mild depression and anxiety symptoms (Barbui et al., 2011).

Also, there is evidence that psychiatric drugs, particularly fluoxetine, the most prevalent antidepressant found in this study, are therapeutic alternatives only in the first two months of CMD treatment, as they do not seem to improve symptoms in medium and long term. While the authors attribute the decrease in initial improvement partly to the non-adhesion that occurs after patients feel better, they note that it is necessary to search for other approaches, including socio-demographic and economic issues (Patel et al., 2003).

It is also important to note the chance of drug interaction, which could leverage the toxic effects of the chemotherapy, which is critical for the interpretation of the study's data and its impact on the care of cancer patients in Brazil. This can occur especially with selective

Table 5
Logistic regression model for the factors associated to psychotropic use in cancer outpatients. Barretos, São Paulo, 2015–2016.

Model	Coefficient	Standard error	Z value	P value	OR	IC 95%	
						Inf	Sup
(Intercept)	−2.38	1.46	−1.63	0.10			
Gender (female)	1.46	0.38	3.80	< 0.01	4.29	2.03	9.08
Work situation (working)	−1.10	0.42	−2.66	< 0.01	0.33	0.15	0.75
Time of treatment (13–24 months)	0.12	0.37	0.33	0.74	1.13	0.55	2.32
Time of treatment (25–36 months)	−0.69	0.69	−1.01	0.31	0.50	0.13	1.92
Time of treatment (37–48 months)	0.85	0.65	1.31	0.19	2.34	0.66	8.35
Time of treatment (> 49 months)	0.56	0.38	1.46	0.14	1.75	0.83	3.70
Cancer surgery (yes)	0.42	0.28	1.53	0.13	1.53	0.89	2.64
Comorbidities (yes)	0.55	0.25	2.17	0.03	1.73	1.05	2.84
Monthly income (up to 1 Brazilian salary)	−1.58	0.92	−1.72	0.09	0.21	0.03	1.25
Monthly income (> 1 to 3 Brazilian salaries)	−0.81	0.83	−0.97	0.33	0.45	0.09	2.29
Monthly income (> 3 to 5 Brazilian salaries)	−0.60	0.86	−0.70	0.48	0.55	0.10	2.93
Monthly income (> 5 to 10 Brazilian salaries)	−0.94	0.91	−1.03	0.30	0.39	0.07	2.34
Monthly income (> 10 Brazilian salaries)	−0.55	1.24	−0.44	0.66	0.58	0.05	6.56
Primary site – head and neck	1.67	1.26	1.32	0.19	5.29	0.45	62.67
Primary site – digestive	0.48	1.17	0.41	0.68	1.61	0.16	16.05
Primary site – gynecological	0.53	1.21	0.44	0.66	1.71	0.16	18.25
Primary site – breast	0.57	1.17	0.48	0.63	1.77	0.18	17.55
Primary site – bones and soft tissues	0.78	1.27	0.62	0.54	2.18	0.18	26.09
Primary site – lung and pleura	0.94	1.28	0.74	0.46	2.56	0.21	31.26
Primary site – urological	1.68	1.29	1.31	0.19	5.36	0.43	66.64

serotonin reuptake inhibitors, the class to which fluoxetine belongs, and with some benzodiazepine drugs, like clonazepam (Beijnen & Schellens, 2004; Blower, Wit, Goodin, & Aapro, 2005).

Also in the univariate analysis, significant associations were found between the use of psychiatric drugs and gender, oncologic surgery, treatment time and other conditions. The latter two should be considered as related to the possibility of greater contact of the patients with healthcare professionals (responsible for prescribing drugs) due to such conditions (Ohayon & Lader, 2002). Studies emphasize that individuals who visited a doctor in the last three months prior to the data collection had significantly higher consumption of psychiatric drugs than those who did not (Rodrigues, Facchini, & Lima, 2006; Lima et al., 2008). These studies also identify the association between the use of psychiatric drugs and the presence of chronic disease (Borges et al., 2015). The study by Ng, Boks, et al. (2013), which investigated the use of psychiatric drugs among patients with cancer, also identified a significantly increased rate of prescriptions of psychotropic drugs in patients with associated medical conditions.

In the univariate analysis, being female was associated to the use of psychiatric drugs. Other studies have also observed the association of the use of psychiatric drugs and females in general (Lima et al., 2008; Naloto et al., 2016; Rodrigues et al., 2006; Shirama & Miasso, 2013) as well as elderly females (Noia et al., 2012; Silva & Herzog, 2015).

In the logistic regression, the use of psychiatric drugs has remained associated with the employment status, revealing greater use of such drugs by individuals who were not currently employed. Studies have shown the association of CMD with individuals without labor occupation (Christensen et al., 2014; Garcia, Miguel, & Miasso, 2013; Gonçalves & Kapczinski, 2008), which could increase the chance of psychiatric drugs use by these individuals.

It is important to note that the results of this research should be interpreted considering its limitations. The first limitation is the fact that this is a cross-sectional study and does not allow, therefore, the determination of the cause and effect relationship among the variables. Second, the instrument for the detection of a CMD was not compared to a standardized psychiatric interview however, the SRQ-20, used for CMD screening, has standards which are considered reliable to be used in studies of prevalence.

Final Considerations

The high prevalence of CMD and the use of psychiatric drugs show that this is a patient group susceptible to psychological changes that may hinder the treatment. In addition, the use of psychiatric drugs must be considered with caution in these cases, because of the evidence of their interaction with chemotherapy drugs. Also, due to association of CMD and psychiatric drugs with socio-demographic factors, it is important to notice the urgent need for specific actions targeting this population' safety and the efficacy in the improvement of CMD symptoms. Furthermore, the study didn't investigate prior CMD in the sample nor prior psychotropic use before the cancer diagnosis and treatment.

Author contributions

Miasso, A. I. and Shirama F. H. contributed to the project design, development of research, data collection, analysis and interpretation of data, writing, critical review of the relevant intellectual content and final approval of the version to be published.

Silva, T. B. contributed to the development of research and final approval of the version to be published.

Santos, J. C., Oliveira, P. A. e Oliveira, J. I., contributed to the collect and processing data.

Borges, T.L. contributed to analysis and interpretation of data, writing, critical review of the relevant intellectual content and final approval of the version to be published.

Declaration of Competing Interest

The authors report no conflicts of interest in this work.

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