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Anxiety and depression in women with breast cancer: Social and clinical determinants and influence of the social network and social support (DAMA cohort)

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ABSTRACT

Background: Anxiety and depression are the most prevalent mental health pathologies among women with breast cancer. Social, clinical and contextual variables may influence emotional stress among women with breast cancer.

The aim of this work is to study anxiety and depression in a cohort of women diagnosed with breast cancer between 2003 and 2013 in Barcelona. We evaluate social and clinical determinants.

Methods: We performed a mixed cohort study (prospective and retrospective) using a convenience sample of women diagnosed with breast cancer. The information sources were the Hospital Anxiety and Depression questionnaire and hospital medical records. Dependent variables were anxiety and depression; independent variables were social class, age, employment status, tumour stage at diagnosis, time since diagnosis, social network and social support. We performed a descriptive analysis, a bivariate analysis, and a multivariate logistic regression analysis.

Results: A total of 1086 (48.6%) women had some degree of anxiety-related problem. As for depression. In the case of depression, 225 (15%) women had some degree of depression-related problem. Low emotional support and social isolation were clear risk factors for having more anxiety and depression. Low social class was also a risk factor, and age also played a role.

Discussion: Our results show that women long period of cancer survival have high prevalences of anxiety than depression, and this prevalence of anxiety is higher than the general population. In addition, we found inequalities between social classes and the isolation and social support are worse too in low social class.

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1. Background

Emotional distress in cancer patients reduces quality of life, has a negative impact on compliance with medical treatment and carries elevated risk of mortality [1]. For most people, the word "cancer" is associated with a serious illness that is usually very aggressive and requires very invasive treatments. Thus, since the event is considered or evaluated as a threat, an anxious emotional reaction arises. Likewise, perceiving it as a significant loss (loss of health, psychological well-being, life expectancy, etc.) will tend to result in sadness, which can trigger depression [2]. The first challenge for this study is to assess the prevalence of anxiety and depression in women with breast cancer, which can be complex due to the diversity of diagnostic criteria, the fact that not all diagnostic cut-offs have been empirically validated, and because prevalence rates are often assessed at different time points during the disease [1]. Some authors estimate that 30% of individuals diagnosed with cancer experience significant levels of distress at some time during of the course of the disease [3].

Emotional distress is not a static situation. Women who survive breast cancer go through many different stages, which may influence their emotional welfare and mental health. Nearly 30% of breast cancer survivors experience chronic pain five years after treatment. Pain and depression are common symptoms in many serious diseases and carry a risk of self-perceived poor health, poor quality of life, premature mortality [4], anxiety and depression [5]. Patient's age is also an important variable, with younger women generally feeling worse, for several reasons [6]. On the other hand, the presence of problems related to deficiencies in basic needs, the chemotherapeutic treatment with doxorubicin, which causes more intense symptoms, a greater meddling of the disease, passive coping and perceiving a lesser sense of meaning and peace at the beginning of the study are related to depressive symptoms [7].

Some women with advanced cancer face relapse [8], highlighting the need for a broader perspective when studying emotional disorders. In this sense, a longitudinal study used growth mixture modelling to examine longitudinal changes in depressive symptoms from before the start of adjuvant treatment for breast cancer to six months after completion. The authors identified 3 groups, Class 1, 2 and 3. People in Class 1 reported clinically significant symptoms of depression before treatment, which declined only slightly over time and remained at a clinically significant level 6 month after completing treatment. People in class 2 reported subclinical depressive symptoms before treatment, which declined significantly over time until overall symptomatology reached a minimum. People in class 3 reported minimal depression symptoms before treatment, which declined significantly even to a lower level, six months after completing treatment [9].

The level of social support a woman has, and her social network are key determinants in the risk of suffering emotional distress. While social support may play a protective role at the time of diagnosis, previous studies suggest that support tends to decrease over time, and that women with a greater decrease in social support have worse psychosocial outcomes [10]. Also, social isolation is usually associated with decreased long-term survival in several types of cancer, including breast cancer [11] and decreased quality of life [12].

Several mechanisms have been proposed as drivers of the relationship between social support and mental health outcomes. The literature suggests that social support promotes QOL by enhancing mood and sense of identity, reducing the burden associated with instrumental daily-life activities, and offering information and a positive assessment of coping resources. Most studies have investigated the relationship between mental health and clinical-type risk factors (comorbidities, higher histological grade, positive lymph node status and chemotherapy) [13]; Conversely, studies that demonstrate the influence of cognitive and social variables in cancer survivors in different periods of time (from less than 5 years to more than 10 years) are scarce.

After reviewing the literature, this study aims to analyse the relationship between social determinants of health related to the social network and clinical aspects, and mental health in terms of anxiety and depression, in a cohort of women diagnosed with breast cancer between 2003 and 2013 in the main hospitals of Barcelona (Parc Salut Mar, Hospital Vall d'Hebron, Hospital Clínic and Hospital Santa Creu i Sant Pau).

2. Methods

2.1. Design

We performed a mixed cohort study (prospective and retrospective) [14] using a convenience sample of women who had been diagnosed with breast cancer. In this article, we present the results of the initial cross- sectional study, including 2235 women in different stages of their breast cancer.

Population of study [15], included all women aged ≥18 years who were diagnosed with and/or treated for breast cancer at one of the four main hospitals in the Barcelona Public Hospital Network (Hospital Clínic, Hospital Vall d'Hebron, Hospital de Sant Pau, Parc de Salut Mar) between January 1, 2003 and December 31, 2013. Subjects were identified from the Minimum Basic Data Set (MBDS) and selected for participation if, according to the 9th revision of the International Classification of Diseases (ICD-9), they had received any code between 174.0 and 174.9 at the time of admission to the hospital.

Exclusion criteria were as follows: a) having died from any cause before the onset of the study, b) having a previous diagnosis of another type of cancer before breast, and c) living outside Catalonia, due to difficulties in the follow-up process. 9771 women meet the study criteria and were identified and contacted by their pertinent hospital. All of them were informed about the study and invited to participate. Those who accepted were asked to sign a written informed consent (IC). In the end, a total of 2235 woman per included in the study.

2.2. Sources of information

We obtained information from the women themselves and their medical records. We collected data at three time points: 1) A first telephone contact welcome call, a "Welcome Survey", was made in which we thank the women their participation in the study and we performed a short survey to register both their sociodemographic and economical characteristics; 2) Afterwards, a study survey was sent in wich we asked for several different aspects of women's health, including specific questionnaires for mental health and social suport; and 3) clinical variables were obtained from the Medical Records at the hospital. This entire process to obtain information, was carried out from mid-2015 to December 2016.

All the women signed an Informed Consent. The study passed a Ethical Commithe which register number is 2015/6499/I.

2.3. Study variables

Mental health was studied using the Hospital Anxiety and Depression (HAD) questionnaire wich includes a set of questions that ultimately classifies people into the following categories: A) no anxiety, doubtful anxiety and probable anxiety; D) no depression, doubtful depression and probable depression. Therefore, dependent variables were anxiety and depression classified within the three categories mentioned above.

The independent variables were as follows: 1) age, grouped as < 50 years, 50–65 years or > 65 years; 2) social class, according to the national occupational classification, and grouped into upper class (I–II), middle class (III) or lower class (IV–V) [16]; 3) employment status, classified in four main categories: active worker, disabled, not working, and retired; 4) Social network, measured by the Berkman-Syme Network Index (SNI), distinguishes between socially-isolated (people with