

A CROSS-SECTIONAL STUDY EXAMINING THE RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHICS AND COPING STYLES IN A GROUP OF CANCER PATIENTS¹

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Abstract

Objective: The global number of oncological patients is expected to rise worldwide. However, the increase in the number of cases is linked with an increase in life expectancy. Hence, it's worth knowing about patients' resources for managing life with chronic illness. Specifically, the present study was aimed to examine the association between socio-demographic characteristics and coping strategies.

Method: Participants were one-hundred and twenty-one cancer patients (70.2% females), aged 26 to 88 years (M=61.90, SD=12.16). Socio-demographic characteristics and coping styles were measured by a self-report questionnaire and the mini-Mental Adjustment to Cancer Scale. A series of standard multiple regression analyses were performed to predict coping styles based on gender, age, education level, marital status, working status, disability pension, income, and time since diagnosis at the moment of the survey.

Results: The female gender showed a positive association with hopelessness/helplessness, anxious preoccupation, fatalism, and avoidance. Being a worker seemed positively related to the fighting spirit strategy. Age, marital status, and disability pension did not reveal any association with coping. Having an active-work status was positively associated with fighting spirit. Finally, both educational level and income were negatively associated with the use of fatalism coping strategy, whereas the cancer patients with longer elapsed time since diagnosis showed tendency to fatalism style.

Conclusions: Consistent with the recognized relevance of individual differences for gathering data about patients' risk and protective factors, our findings might be useful for both research purpose and clinical practice.

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Introduction

Cancer is a global public health problem as well as the second leading cause of death worldwide. According to the World Health Organization (2020), despite the continuous decline in the cancer mortality rate (resulting in an overall drop of 29%, which means approximately 2.9 million fewer cancer deaths), the global incidence of cancer is expected to almost double to about 29-37 million new cancer cases by 2040. However, the increase in the number of cases is linked with an increase in life expectancy, also thanks to medical advances, especially for the 4 leading cancers (lung, colorectal, breast, and prostate) (Siegel, Miller, & Jemal, 2020).

Growing numbers of cancer survivors have brought corresponding increasing recognition of the psychosocial issues experienced by the oncological patient (Hewitt, Greenfield, & Stovall, 2013). Psycho-oncology research, therefore, is addressed to provide an even better knowledge about patients' resources for managing life with chronic illness, focusing on emotional, behavioral,

interpersonal, and spiritual dimensions, which can be overwhelmed by cancer, also to a devastating extent (Biondi, Costantini, & Wise, 2013). Since the pioneering study of psychosomatics in the years '60-'70, the interconnection between mind and body has been widely recognized as a growing and now consolidated scientific evidence (Costantini, Levenson, & Bersani, 2013). A diagnosis of cancer can cause a large amount of emotional distress and discomfort for patients and their families. Indeed, the «cancer remains a life-threatening illness characterized by fear and uncertainty about the future and accompanied by intrusive medical procedures and aversive treatment, pain and fatigue, changes in social roles and relationships, and other disruptions» (Calhoun & Tedeschi, 2014, p. 138).

Patients' socio-demographics data observation may provide relevant information about risk and protective factors affecting the adjustment to cancer. Most studies reported these personal characteristics with the exclusive aim of describing the sample of participants in empirical research, other studies instead analyzed the relationship

¹ Errata corrigé. The article is updated on 17/09/2021 with the following correction: "partial eta squared" has been replaced with "partial correlation".

between socio-demographics and additional variables, including optimism (Allison, Guichard, & Gilain, 2000; Schou, Ekeberg, & Ruland, 2005; Carver, Scheier, & Segerstrom, 2010; Zenger, Brix, Borowski, Stolzenburg, & Hinz, 2010; Finck, Barradas, Zenger, & Hinz, 2018), anxiety-depression symptoms (Grassi, Holland, Johansen, Koch, & Fawzy, 2005; Biondi, Costantini, & Wise, 2013; Kissane & Doolittle, 2014; Truong, Bui, Nguyen, & Moore, 2019), and quality of life (Costanzo, Lutgendorf, Rothrock, & Anderson, 2006; Wilson et al., 2007; Büssing & Fischer, 2009; O'brien & Moorey, 2010; Chambers et al., 2017; Baumstarck, 2018).

Assessing patients' coping styles is central in the psycho-oncological research (Akechi, Okamura, Yamawaki, & Uchitomi, 1998; Zaza, Sellick, & Hillier, 2005; Falagas et al., 2007; Lechner et al., 2003; Park, Cho, Blank, & Wortmann, 2013): «the style of coping in oncology is linked to the fact that it has proved to be one of the central factors in modulating the individual differences in psychological reaction to the disease and the quality of life after a cancer diagnosis, as well as in influencing the response and compliance with treatments» (Costantini, Levenson, & Bersani, 2013, p. 11). Indeed, most studies have focused on coping strategies (Watson et al., 1984, 1991; Dunkel-Schetter, Feinstein, Taylor, & Falke, 1999; Grassi et al., 2010; de Rooij et al., 2019), seeing cancer patients' mental adjustment as one of the main factors correlating with quality of life and psychological distress (Akechi, Okamura, Yamawaki, & Uchitomi, 1998). Several theoretical models have been determined to analyze coping in cancer patients. Among them (e.g., Weisman & Worden, 1984), Watson and colleagues (1988) classified five cancer-coping profiles: fighting spirit, hopelessness/helplessness, anxious preoccupation, fatalism, and avoidance.

In order to understand how different patients may use different ways of coping, some studies focused on their socio-demographic characteristics. According to recent findings, young people used more adaptive coping responses than the oldest (Ozdemir & Tas Arslan, 2018; Mishra & Saranath, 2019). Additionally, many studies reported that patients' nationality (Religioni, Czerw, Badowska-Kozakiewicz, & Deptała, 2019), and gender (Akechi, Okamura, Yamawaki, & Uchitomi, 1998; Grassi et al., 2010) did not present any association with adopted coping strategies. However, further research showed women using more adaptive coping styles (Goldzweig, 2009).

Besides, several studies highlighted positive correlations between educational level and adaptive coping styles (Drageset & Lindstrøm, 2005; Ozdemir & Tas Arslan, 2018; Santos et al., 2009; Mishra & Saranath, 2019). Previous research also showed an association between marital status and survival in lung cancer (Kravdal & Syse, 2011), thus making this variable highly relevant in psycho-oncological research. Specifically, being in a relationship seemed to reduce the possibility of maladaptive coping responses (Bloom et al., 2001; Drageset & Lindstrøm, 2005), especially if married (Goldzweig et al., 2009; Tannenbaum et al., 2013; Sayılan & Doğan, 2020). However, results seemed controversial since according to other studies marital status and coping were not related (Akechi, Okamura, Yamawaki, & Uchitomi, 1998; Slevin, 1996), as well as having children and coping (Ozdemir & Tas Arslan, 2018). Basically, the importance of loved ones did not seem linked to the social role, but rather to the level of relational closeness (Kroenke, Kubzansky, Schernhammer, Holmes, & Kawachi, 2006).

Given the increase in life expectancy among patients with cancer «the importance of work-ability, re-employment, and social reintegration have gradually

emerged as critical topics within psycho-oncological and cancer survivorship research» (Mehnert, 2011, p. 110). When patients could maintain an active worker status, they mostly employed adaptive styles of coping, thus dropping the use of coping strategies based on cognitive defences (Drageset & Lindstrøm, 2005; Akechi, Okamura, Yamawaki, & Uchitomi, 1998). Both disability pension and low income seemed to increase the use of ineffective coping strategies (Zucca, Boyes, Lecathelinais, & Girgis, 2010; Mishra & Saranath, 2019).

Some studies reported no association between coping and type of cancer (ibidem; Akechi, Okamura, Yamawaki, & Uchitomi, 1998; de Rooij et al., 2019), time since diagnosis, and current treatment (Grassi et al., 2010). Patients do not always want to know everything about their disease: the basic information is the main point (Leydon et al., 2000). When they had to undergo surgery, the chance to improve their coping modalities was increasing (Ozdemir & Tas Arslan, 2018), whereas receiving chemotherapy or radiotherapy treatments seemed to reduce self-perceived abilities (De Boer et al., 2008). Nevertheless, physical or psychological comorbidity – even antecedent to the cancer diagnosis – would worsen the prognosis by increasing stress and thus causing a hormonal decompensation, which could even stimulate the development of metastases (for a review: Antoni, 2013).

Ultimately, only a few studies have focused exclusively on socio-demographic characteristics of cancer patients and their associations with coping strategies (Akechi, Okamura, Yamawaki, Uchitomi, 1998; Falagas et al., 2007; Lechner et al., 2013). Indeed, the available results on this topic are often derived from studies pursuing different main objectives, whereby some socio-demographics may have been omitted, frequently leaving aside both economic and occupational variables. We simultaneously examined eight socio-demographic characteristics (gender, age, marital, status, disability pension, educational level, working status, income, and time since diagnosis) as valid indicators of personal, social, medical, work, and economic status of cancer patients to gain an overall picture in a unique study.

As shown above, there are still many open questions about the association between socio-demographic factors and the quality of adjustment to cancer, despite their importance for both theoretical understanding and clinical practice. Hence, based on this framework, there clearly remains some doubts as to the whole relationships between demographic individual difference variables and coping styles. Thus, in line with much earlier research suggesting the need to deeper investigate the hypothesized connections, we consider valuable to report further observed data regarding the link between cancer patients' socio-demographics and psychological patterns used to manage thoughts, emotions and behaviours during the oncological disease process and treatment.

Objectives and Hypotheses

The present study was aimed to examine the association between socio-demographic characteristics and coping strategies among cancer patients.

Based on the findings reported above, we derived the following hypotheses:

Hypothesis 1: no association is expected between gender and coping responses;

Hypothesis 2: the youngest patients are expected to use more adaptive coping strategies than the oldest patients;

Hypothesis 3: having a partner is supposed to relate to a better adjustment to cancer;

Hypothesis 4: patients with lower educational levels are supposed to use more maladaptive coping strategies;
 Hypothesis 5: the active-work patients are expected to show a better adjustment to cancer;
 Hypothesis 6: receiving an invalidity pension is supposed to increase the use of maladaptive coping strategies;
 Hypothesis 7: low incomes are supposed to reduce the use of adaptive coping strategies;
 Hypothesis 8: no association is expected between time since diagnosis and coping styles.

Therefore, the final number of participants was 121.

Participants were mainly women (N=85, 70.2%), aged from 26 to 88 years (M=61.90, SD=12.16). Most of them reported having a partner (68.6%), and 84.2% reported having children (M=2.46, SD=1.03).

The more frequently reported educational level was “middle school” (39.7%); 53.7% of the participants declared themselves inactive from work, whereas 45.5% was employed in various kinds of jobs; 63.5% reported receiving an invalidity pension; 88% revealed an income ranging from €0 to €36.000, and 12% revealed an income ranging from €36.000 to €70.000.

Most participants (66.7%) declared to be aware of the clinical information referring to their disease, while 33.3% were lacking of medical information. Of the latter, 54.4% expressed the willingness to know more details.

We included patients with different types of cancer; the most prevalent was breast cancer (35.8%).

Method

Participants

The initial sample consisted of 138 patients, of whom 13 refused to participate and 4 abandoned the study.

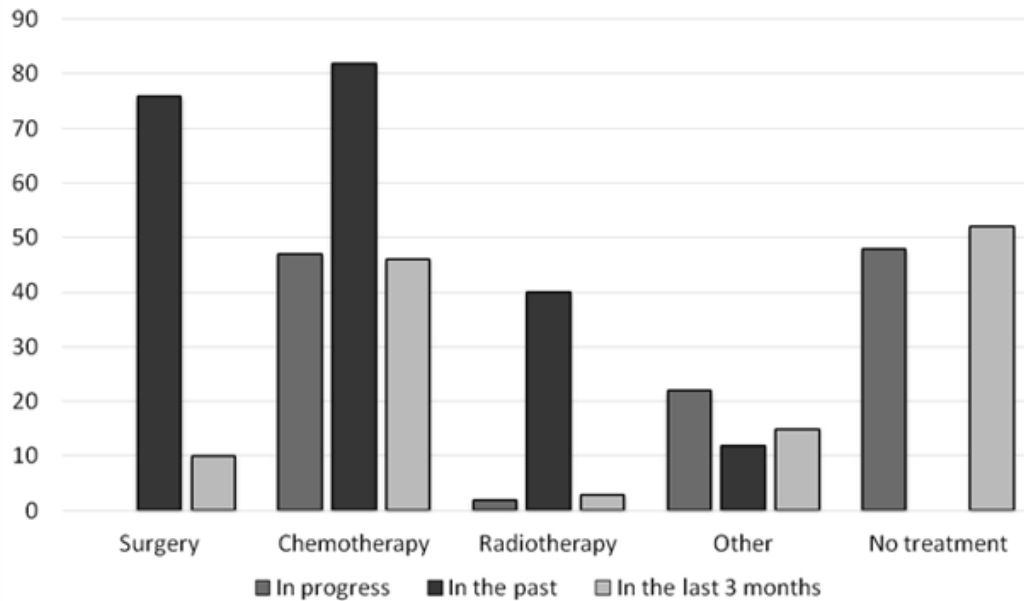
Table 1. Patients' socio-demographic characteristics

| SOCIO-DEMOGRAPHIC CHARACTERISTICS | N | % |
|---------------------------------------|-----|------|
| GENDER | 121 | |
| Male | 36 | 29.8 |
| Female | 85 | 70.2 |
| EDUCATIONAL LEVEL | | |
| Elementary school | 35 | 28.9 |
| Middle school | 48 | 39.7 |
| High school | 32 | 26.4 |
| Old system degree | 1 | .8 |
| Three-year degree | 1 | .8 |
| Specialist degree | 2 | 1.7 |
| Other | 2 | 1.7 |
| MARITAL STATUS | | |
| Single | 11 | 9.1 |
| Fiance | 2 | 1.7 |
| Married | 80 | 66.1 |
| Cohabiting | 1 | .8 |
| Divorced | 3 | 2.5 |
| Separate | 5 | 4.1 |
| Widower | 19 | 15.7 |
| HAVING CHILDREN | | |
| Yes | 101 | 84.2 |
| No | 19 | 15.8 |
| JOB | | |
| Employee | 18 | 32.1 |
| Merchant | 4 | 7.1 |
| Housewife | 25 | 44.6 |
| Freelance | 6 | 10.7 |
| Workman | 2 | 3.6 |
| Other | 1 | 1.8 |
| INVALIDITY PENSION | | |
| Yes | 42 | 36.5 |
| No | 73 | 63.5 |
| TYPE OF CANCER | | |
| Don't know | 1 | .8 |
| Breast | 43 | 35.8 |
| Prostate | 3 | 2.5 |
| Lungs | 7 | 5.8 |
| Liver | 1 | .8 |
| Kidneys | 2 | 1.7 |
| Head | 1 | .8 |
| Spread in different parts of the body | 13 | 10.8 |
| Colon | 16 | 13.3 |
| Other | 33 | 27.5 |
| TIME ELAPSED SINCE DIAGNOSIS | | |
| Less than a month | 5 | 4.2 |
| From 1 to 3 months | 29 | 24.2 |
| From 3 to 6 months | 13 | 10.8 |
| From 6 to 12 months | 16 | 13.3 |
| From 1 to 2 years | 25 | 20.8 |
| From 3 to 5 years | 16 | 13.3 |
| More than 5 years | 16 | 13.3 |
| PRESENCE OF METASTASIS | | |
| Yes | 26 | 21.7 |
| No | 77 | 64.2 |
| Don't know | 17 | 14.2 |

Cancer diagnosis was the first for almost all of the participants (N=97, 81.5%). Patients' socio-demographic characteristics are shown in **table 1**.

Most patients were following medical treatments at the time of administration (N=71, 59.7%). Types of treatment are depicted in **figure 1**.

Figure 1. Types of treatment (absolute frequencies)



Seventy-six patients (63.3%) reported experience of hospitalization in their clinical history, 7 of which were hospitalized at the time of administration (9.7%).

Almost half of participants (N=57, 45.4%) reported further health problems (not related with the oncological disease), including heart diseases (N=6, 10.5%), diabetes (N=8, 14.0 %), osteoporosis (N=4, 7.0%), and "Other" (N=39, 68.4%).

Measures

A self-report questionnaire (purpose-built for this investigation) was used to collect socio-demographic data.

The participants' coping styles were assessed by the *mini-Mental Adjustment to Cancer Scale (mini-MAC scale)* in its Italian validation (Grassi et al., 2005). It represents the 29-item short form of the *MAC-Scale* (Watson et al., 1994), including a new subscale (i.e., avoidance), and further revisions of the anxious preoccupation subscale. Five cancer-specific coping styles based on Watson et al. (1988) model are evaluated: fighting spirit (e.g., "I see my illness as a challenge"), helplessness-hopelessness (e.g., "I feel like giving up"), anxious preoccupation, (e.g., "I am apprehensive"), avoidance (e.g., "Not thinking about it helps me cope"), and fatalism (e.g., "At the moment I take one day at a time"). Each item is rated on a 4-point Likert scale ranging from "Definitely does not apply to me" to "Definitely applies to me" with higher subscale-scores indicating stronger use of that specific coping strategy.

Some Cronbach's alphas were below the usual threshold of .70 (ranging from .62 to .88). Reliability analyses showed internal consistency measures close to the generally accepted least lower bound. However,

although the value of .80 is appropriate for cognitive tests, for typical performance tests a cut-off point of .70 is more suitable, whereby values below even .70 can, realistically, be expected (Kline, 2000; Nunnally & Bernstein, 1994; Traub, 1994). Besides, general guidelines need to be used with caution because the

value of alpha depends on the number of items on the scale.

Procedure

This study was conducted at the medical-oncology department in a public hospital, from September to December 2019. A specific authorization by the Medical Director was received. The research project proposal was approved by the Internal Review Board of the psychological research of the UKE - University Kore Enna.

The administration of the measures was carried out in compliance with the privacy guarantee regulations according to the Legislative Decree n. 196/2003, and the GDPR (EU Regulation n.2016/679). Data were collected individually for research purposes only and treated in an aggregated and anonymous form.

After explaining the purposes of the study, all participants signed an informed consent that was placed separately from the measurement scales to preserve their anonymous status.

Data analyses

A series of standard multiple regression analyses were performed to study the relationship between coping styles – in terms of fighting spirit, hopelessness/helplessness, fatalism, anxious preoccupation, and avoidance – and socio-demographic characteristics at the time of the survey, regarding gender, age, education level (basic education or higher education), marital status (partner or without partner), working status, the presence of an invalidity pension, and income (medium-low or medium-high).

A preliminary inspection of the variables

distribution was conducted to assess the extent to which our data could be analysed using normal-theory estimation procedures. Mardia's multivariate kurtosis index (Mardia=86.77) revealed normally distributed standardised variables.

Results

Gender

Our findings showed gender as a predictive key variable for coping. We found statistically significant results for most coping strategies. Specifically, inserting gender as an independent variable and fighting spirit, hopelessness/helplessness, anxious preoccupation, fatalism, and avoidance as five distinct dependent variables, regression analyses revealed the following statistically significant results: hopelessness/helplessness ($\beta=.25$, $t=2.40$, $p<.05$, partial correlation=.239), anxious preoccupation ($\beta=.33$, $t=3.29$, $p<.001$, partial correlation=.321), fatalism ($\beta=.35$, $t=3.70$, $p<.001$, partial correlation=.357), and avoidance ($\beta=.22$, $t=2.04$, $p<.05$, partial correlation=.206). Explicitly, all the observed positive significant associations showed female using more maladaptive coping strategies than male patients. Instead, gender was unrelated with the fighting spirit style. Outcomes about relationship between gender and coping strategies are displayed in **table 2**.

Age, marital status, and disability pension

We explored the association between age, marital status, and disability pension (all inserted as independent variables) and the five observed coping strategies (fighting spirit, hopelessness/helplessness, anxious preoccupation, fatalism, and avoidance). Data analyses revealed that age, marital status, and disability pension were unrelated with our measured coping styles. The conducted regression analyses did not show any statistically significant result with this group of participants. Findings referring the relationship between the examined socio-demographics characteristics and coping responses are displayed in **table 2**.

Educational level

The association between educational level and coping responses was also inspected. Based on data drawn from the examined group of cancer patients, participants with lower education level showed higher levels of fatalism. Inserting educational level as an independent variable and fatalism as a dependent variable, regression analyses showed a statistically significant result ($\beta=-.20$, $t=-2.13$, $p<.05$, partial correlation=-.215). However, the educational level did not appear related to any other style of coping among fighting spirit, hopelessness/helplessness, anxious worry, and avoidance. Complete results referring relationships between educational level and coping responses are shown in **table 2**.

Working status

Further, we investigated the association between maintaining an active-work status and adjustment to cancer. Based on our findings, being a worker seemed associated with higher levels of fighting spirit. Specifically, inserting work status as an independent

variable and fighting spirit as a dependent variable, data analyses highlighted a statistically significant outcome ($\beta=-.29$, $t=-2.49$, $p<.05$, partial correlation=-.248). Nevertheless, among the investigated group of patients, having a job did not seem to protect against the use of maladaptive coping styles, such as hopelessness/helplessness, anxious preoccupation, fatalism, and avoidance. Indeed, the applied data analyses did not show any statistically significant association between work status and the aforementioned coping responses. Outcomes about relationships between work status and coping strategies are shown in **table 2**.

Income

Also, we explored the association between income levels and coping strategies. Income was measured by means of two categories: medium-low (from €0 to €36.000) and medium-high (from €36.000 to onwards). Based on data drawn from the examined group of cancer patients, we found a negative significant association between income and fatalism scores. Inserting income as an independent variable and fatalism as a dependent variable, the performed regression analyses showed a statistically significant result: $\beta=-.28$, $t=-2.98$, $p<.001$, partial correlation=-.294. However, income did not appear related to any of the other measured styles of coping (i.e., fighting spirit, hopelessness/helplessness, anxious preoccupation, fatalism, and avoidance). Associations between income and coping responses are presented in **table 2**.

Time since diagnosis

Lastly, the association between the time since the cancer diagnosis and the examined ways of coping was detected. We found that the cancer patients with longer elapsed time since diagnosis tended to use fatalism strategy. Inserting time since diagnosis as an independent variable and fatalism as a dependent variable, the applied data analyses revealed a statistically significant result: $\beta=.18$, $t=1.99$, $p<.05$, partial correlation=.201). No other association was found between elapsed time and the other evaluated coping strategies (i.e., fighting spirit, hopelessness/helplessness, anxious preoccupation, fatalism, and avoidance). Relationships between time since diagnosis and coping strategies are reported in **table 2**.

Discussions

This research study was aimed to explore how the socio-demographic characteristics would be connected to the coping styles adopted when facing stressful situations and traumatic experiences related to cancer diagnosis and treatment.

In line with previous research (Akechi, Okamura, Yamawaki, & Uchitomi, 1998; Falagas et al., 2007; Lechner et al., 2003; Park, Cho, Blank, & Wortmann, 2013), we expected a significant association between socio-demographics – i.e., gender, age, marital status, educational level, working status, disability pension, income, and time since diagnosis – and patients' coping styles. In particular, young age (H2), having a partner (H3), high educational level (H4), active-working (H5), and high incomes (H7) would be positively associated with the use of adaptive coping strategies, whereas receiving an invalidity pension (H6) would be positively associated with the use of maladaptive

Table 2. Regression analyses results

| Fighting spirit | | | | |
|----------------------------------|-------------|--------------|-------------|---------------------|
| | β | <i>t</i> | Sig. | partial correlation |
| Gender | .07 | .67 | .508 | .068 |
| Age | -.05 | -.45 | .654 | -.046 |
| Marital Status | -.04 | -.40 | .694 | -.041 |
| Educational Level | -.01 | -.06 | .953 | -.006 |
| Working status | -.29 | -2.49 | .015 | -.248 |
| Disability Pension | .03 | .34 | .736 | .035 |
| Income | .01 | .14 | .893 | .014 |
| Time since diagnosis | .05 | .46 | .647 | .047 |
| Hopelessness/helplessness | | | | |
| Gender | .25 | 2.40 | .019 | .239 |
| Age | .12 | 1.14 | .259 | .116 |
| Marital Status | -.04 | -.39 | .699 | -.040 |
| Educational Level | -.02 | -.18 | .864 | -.018 |
| Working status | .20 | 1.67 | .097 | .170 |
| Disability Pension | -.11 | -.12 | .267 | -.114 |
| Income | -.12 | -1.17 | .247 | -.119 |
| Time since diagnosis | -.05 | -.48 | .640 | -.048 |
| Anxious preoccupation | | | | |
| Gender | .33 | 3.29 | .001 | .321 |
| Age | -.03 | -.27 | .787 | -.028 |
| Marital Status | .19 | 1.87 | .065 | .189 |
| Educational Level | -.03 | -.33 | .741 | -.034 |
| Working status | .11 | .96 | .338 | .099 |
| Disability Pension | -.09 | -.96 | .340 | -.098 |
| Income | -.07 | -.65 | .519 | -.067 |
| Time since diagnosis | -.12 | -1.26 | .212 | -.128 |
| Fatalism | | | | |
| Gender | .35 | 3.70 | .000 | .357 |
| Age | .08 | .77 | .442 | .079 |
| Marital Status | -.02 | -.24 | .811 | -.025 |
| Educational Level | -.20 | -2.13 | .036 | -.215 |
| Working status | .06 | .57 | .573 | .058 |
| Disability Pension | .00 | .01 | .996 | .001 |
| Income | -.28 | -2.98 | .004 | -.294 |
| Time since diagnosis | .18 | 1.99 | .050 | .201 |
| Avoidance | | | | |
| Gender | .22 | 2.04 | .044 | .206 |
| Age | -.03 | -.27 | .790 | -.028 |
| Marital Status | .16 | 1.56 | .123 | .158 |
| Educational Level | -.02 | -.18 | .857 | -.019 |
| Working status | .06 | .54 | .589 | .056 |
| Disability Pension | -.04 | -.44 | .661 | -.045 |
| Income | -.16 | -1.54 | .128 | -.156 |
| Time since diagnosis | .07 | .64 | .523 | .066 |

Note - Males were coded as 1, females were coded as 2.
Significant results are in bold characters.

coping responses. No associations were expected between gender and coping (H1) and between time since diagnosis and coping (H8).

Interestingly, in contrast to the initial hypothesis (H1), we found a significant relationship between gender and specific coping responses (i.e., hopelessness/helplessness, anxious preoccupation, fatalism, and avoidance): women showed higher level of maladaptive coping strategies. However, the scientific literature

seems controversial: according to Goldzweig et al. (2009), women tended to use more adaptive coping strategies than men did, whereas other studies suggested that sex and coping are unrelated, especially when the fighting spirit style was assessed (as confirmed by our results), as well as anxious preoccupation and avoidance (Akechi, Okamura, Yamawaki, & Uchitomi, 1998; Dunkel-Schetter, Feinstein, Taylor, & Falke, 1999; Grassi et al., 2010). Further studies are therefore

still needed to deepen this unclear relationship.

As a viable interpretation, these results could be linked to a feasible greater propensity of women who took part in this study to get in touch with their emotional world and to ruminate on it. “An emotion, other than being experienced as a response to an evaluation, may be judged as well. Therefore, an emotion can be judged as threatening, both because of a subjective experience and its inner and interpersonal consequences. Such evaluation entails obvious effects on how an emotion is managed. In the event an emotion is perceived as threatening, for instance, quite predictably the subject will try to avoid or contain that emotion. Anxiety is a good case in point” (Perdighe et al., 2015, p. 349-350). Hence, this possible tendency might have facilitated the expression of women’s negative feelings during the administration, which – for more – was carried out by a female administrator. This last condition might have been more comfortable for women compared to men. Based on this attainable explanation, during the research participation experience women might have seized the opportunity to stop and think about their disease-related emotions, whereas men might have mostly maintained a task-centred behaviour. Based on our findings, being a woman itself could be a risk factor for self-management during oncology illness. Consequently, it is worthy to deepen the study of the psychological implication of the various types of cancer among female patients, especially for breast and ovarian cancer. As a clinical implication, paying strong attention to women patients, already during preliminary assessment phase, could prevent the use of maladaptive coping strategies and related mental health problems.

According to recent studies (Ozdemir & Tas Arslan, 2018; Mishra & Saranath, 2019), and as stated by our early hypothesis 2, we expected that younger cancer patients would use more adaptive coping strategies (e.g., fighting spirit). However, data analyses did not show any statistically significant support to H2. Indeed, according to our findings no associations were observed between age and anyone of the five observed coping strategies. In this regard, we argue that the high middle-age of our participants might have caused a bias in the obtained results. Future analyses should be tested H2 on a sample with lower mean age.

Despite some studies – from which we derived our hypothesis 3 – showed a greater adjustment to cancer when people had a partner (Drageset & Lindstrøm, 2005; Goldzweig et al., 2009; Kravdal & Syse, 2011; Tannenbaum et al., 2013), our results were in line with research supporting no association between marital status and coping responses (Akechi, Okamura, Yamawaki, & Uchitomi, 1998; Ozdemir & Tas Arslan, 2018). We noticed that what was relevant for a better adaptation to cancer was not the married status itself but the social support satisfaction. As a possible interpretation, both family and partners may have a relevant part (Sayılan & Doğan, 2020), but what matters is feeling an emotional closeness. And this can come from anyone who plays a significant role in the patient’s life, regardless of family ties (Kroenke, Kubzansky, Schernhammer, Holmes, & Kawachi, 2006). Referring to theoretical and clinical implications, these results suggested that patients’ marital status is not informative enough. Instead, it seemed significant assessing the quality of social support available to them, regardless to the specific source of support. Indeed, a significant other providing his/her support could act to improve adaptation levels to cancer and patients’ quality of life, as well. Therefore, clinical interventions could be usefully oriented to support human relationships as a

means to benefit from the emotional closeness to others and discouraging social withdrawal.

Partially confirming our initial hypothesis 4, and in partial agreement with some literature (Drageset & Lindstrøm, 2005; Ozdemir & Tas Arslan, 2018; Santos et al., 2009; Mishra & Saranath, 2019), we found an inverse relationship between educational level and fatalism; nonetheless, no other significant association was observed between educational level and the remaining coping strategies. Probably a higher cultural level might help to understand the disease as a specific diagnostic entity and, consequently, increase cognitive mastery. Therefore, a coping strategy – i.e., the fatalism – that combines religious beliefs, abandonment to destiny and a sense of resignation, could be counteracted by the desire to know and inquire about the disease. People with a high cultural level could face the disease with greater resourcefulness, thanks to their cognitive tools.

According to both scientific literature (Akechi, Okamura, Yamawaki, & Uchitomi, 1998; Mehnert, 2011) and our early hypothesis 5, active-working patients tended to adjust to cancer using the fighting spirit strategy. Having a job might have a role as a “push to react”. Thus, working patients would seem more likely to remain active and productive because of their job experience, which can allow people to maintain a planning approach and, consequently, to continue hypothesizing a future, preserving themselves from discouragement. Nevertheless, working status did not seem related with maladaptive coping strategies. Based on these results, being a worker might be connected to a preference for adaptive coping strategies. The inactivity due to the patient physical condition should be considered as a risk factor in clinical practice. It would be also interesting to investigate how different kinds of job might be linked to coping responses during the oncological process.

Based on some research outcomes, patients who perceived a disability pension were more likely to increase the use of inefficient coping (Zucca, Boyes, Lecathelinais, & Girgis, 2010), as also stated in our derived hypothesis 6. Indeed, we did not find any statistically significant association between disability pension and coping. As a possible explanation, receiving the invalidity pension might not be associable to cancer adaptation, neither in a positive nor in a negative direction, being often perceived as a “right-due”. It is especially noticeable that an excessively long time is still required by medical bureaucracy, whereas during the clinical experience more space should be dedicated to the “patient as a person” by enhancing psychological care.

Further, according to Mishra and Saranath (2019) and also in line with the early hypothesis 7, the examined patients with medium-low income revealed a greater use of fatalism – one of the inefficient coping strategies. As a practical interpretation, we argue that the patients with a higher availability of money could often flock to prestigious hospitals or strive for new medical advice rather than have a resigned attitude (Grassi et al., 2005). As a theoretical implication, the medium-low income should be considered as a risk factor for inactive coping strategies. On a clinical level, interventions should be directed at providing guidance and support for the development of a feeling of nurturing.

To finish, the elapsed time since patients’ diagnosis presented a significant positive association with fatalism. The elapsed time might have led to a sort of resignation, a passive attitude and, consequently, less desire to fight (Akechi, Okamura, Yamawaki, & Uchitomi, 1998). Nevertheless, according to our hypothesis 8, time since

diagnosis variable did not show any association with the other evaluated coping responses. On a theoretical level, it would be remarkable inserting the time since diagnosis variable and the measured coping styles in a longitudinal research design. As a clinical implication, it would be desirable that long-term patients' psychological experiences could receive the same attention as patients at the beginning of the illness.

Ultimately, this study attempted to investigate socio-demographic characteristics and their potential links to the coping strategies adopted by cancer patients, when dealing with their serious health threat. Empirical investigations have produced somewhat controversial results and current knowledge is still fragmentary. Hence, future study should be addressed to overcome inconsistent results.

Limitations

Our study has some critical limitations that require further investigation. First, the observed prevalence of female patients among studied individuals made gender distribution unbalanced. Also, the group of participants is not equally divided by types of cancer, hence preventing us from the possibility to insert this variable in our statistical analyses. In future research it would be desirable to analyze how the variable types of cancer may influence adjustment to cancer. It is also worth to note that the data were gathered in a single hospital, with ensuing limitations for generalization of results. Lastly, the cross-sectional nature of the data did not help us to determine cause and effect associations. As a matter of fact, the applied data analyses could not address the temporal relationships between the measured variables for identification of potential causal factors.

Conclusions

Despite the limitations, the research contribution and clinical implications are noteworthy.

Based on Watson's (Watson et al., 1988) theoretical model of coping including adaptive and maladaptive responses, we analyzed eight personal variables frequently observed in psycho-oncological empirical studies to provide further scientific data for the purpose of understanding the relationship involving individual differences and protective factors for the patient adaptation to illness.

Specifically, this study could increase the knowledge about the empirical link between socio-demographic factors and adjustment to cancer. Further research is still needed to focus on patients' socio-demographic characteristics as key variables to improve cancer management skills and quality of life. At a practical implication level, it would be desirable to deeper studying individual peculiarities to better address the patient to specific focused treatments and clinical interventions purposefully directed to improve responses to chronic conditions accordingly to a patient-oriented approach.

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