



The relationship between physician and cancer patient when initiating adjuvant treatment and its association with sociodemographic and clinical variables

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Abstract

Purpose The aim of this study was to analyze differences in physician and patient satisfaction in shared decision-making (SDM); patients' emotional distress, and coping in subjects with resected, non-metastatic cancer.

Methods 602 patients from 14 hospitals in Spain were surveyed. Information was collected regarding physician and patient satisfaction with SDM, participants' emotional distress and coping, as well as patient sociodemographic and clinical characteristics by means of specific, validated questionnaires.

Results Overall, 11% of physicians and 19% of patients were dissatisfied with SDM; 22% of patients presented hopelessness or anxious preoccupation as coping strategies, and 56% presented emotional distress. By gender, female patients showed a higher prevalence of dissatisfaction with SDM (23 vs 14%), anxious preoccupation (26 vs 17%), and emotional distress (63 vs 44%) than males. Hopelessness was more prevalent in individuals with stage III disease than those with stages I–II (28 vs 18%).

Conclusion Physicians must be mindful of the importance of emotional support and individual characteristics when communicating treatment options, benefits, and adverse effects of each alternative to oncological patients.

Keywords Cancer · Coping · Distress · Medical oncologist · Satisfaction · Shared decision-making

Introduction

In recent years, 30–40% of cancer patients have been seen to present emotional distress and maladaptive coping strategies [1]. The confirmation of diagnosis of cancer has a huge

emotional impact that generates fear, anxiety, uncertainty, sadness, and anger. The treatments generally applied to cancer, such as surgery, chemotherapy, and radiotherapy, tend to entail multiple side effects and decline in the patient's physical and emotional status [1]. Given that psychological

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distress and psychosocial problems appear to negatively affect oncological patient's quality of life, screening and assessing these issues should be a routine in clinical practice [2, 3]. However, little attention is paid in our setting, with few large, multicenter studies conducted in Spain. For instance, the Southern European Psycho-Oncological Study (SEPOS) revealed that Spanish and Italian individuals with cancer displayed higher levels of anxiety and depression and lower levels of resignation compared to their Portuguese counterparts, in addition to lower levels of spirituality [2, 4].

Another factor is the repercussions of distress and psychosocial problems on the physician–patient relationship, potentially affecting communication between them [2, 5]. The individual's interaction with their oncologist influences how they experience their illness on many levels. Some studies point to a correlation between a lack of ability on the physician's part to listen and respond to patients' emotional concerns and needs and patients' dissatisfaction [6] and worse quality of life [7]. In line with these findings, oncologists' attention and emotional support and their attitude toward the patient enhance satisfaction [7, 8], coping, and emotional well-being [9, 10]. Patient characteristics, such as gender, age, tumor type, or stage of disease, as well as their coping styles and emotional status also influence this well-being. Likewise, all of these factors influence the doctor–patient relationship.

With this background and with the aim of expanding our understanding in this area, the objective of this study was to analyze differences in physician and patient satisfaction with shared decision-making (SDM), as well as patients' emotional distress and coping based on gender and age, and on the basis of the location of the tumor and the stage of disease in a sample of Spanish patients with resected, non-metastatic cancer who were going to receive adjuvant chemotherapy.

Methods

The study was conducted at the department of Medical Oncology at 14 hospitals in Spain. Patients completed self-report questionnaires prior to initiating chemotherapy. The study was approved by the Ethics Review Board at each institution and by the Spanish Agency of Medicines and Medical Devices (AEMPS). Specifically trained medical oncologists collected and updated data, via a web-based platform (<http://www.neocoping.es>). Of the 687 patients screened, 85 were not eligible (17 did not meet inclusion criteria; 23 met exclusion criteria; and 45 had incomplete data).

Physicians' satisfaction was measured with the SDM Questionnaire-Physician's version (SDM-Q-Doc), a questionnaire that evaluates the physician's perspective on SDM and how well they follow it with their patients [11]. It was

adapted to Spanish by Calderon et al. [12] and subsequently validated. It consists of nine items, each of which describes one step of the process. The items are scored from 0 to 5 on a six-point Likert scale as “completely disagree” (0) to “completely agree” (5). A simple sum score ranging from 0 to 45 is obtained and shows good internal consistency in Spain ($\alpha=0.90$) [12].

Patients' satisfaction was measured with the SDM Questionnaire-Patient's version (SDM-Q-9), a brief, valid, reliable questionnaire that evaluates the SDM process from the patient's perspective [13], adapted to Spanish by De las Cuevas et al. [14]. It contains nine items, each describing one step of the SDM process [15] and was developed to assess the degree to which patients feel involved in the decision-making process. Items are scored from 0 to 5 on a six-point Likert scale (5). Standard scoring is a simple summary score with possible values between 0 and 45; the scale has proven good internal consistency in Spain ($\alpha=0.88$) [14]. Both scales (SDM-Q-Doc and SDM-Q-9) were dichotomized at the mean plus one standard deviation to differentiate satisfied from dissatisfied cases. This criterion results in biased distributions but should be considered as “the standard” in this context.

The *Mini-Mental Adjustment to Cancer* (Mini-MAC) scale [16] was used to assess patients' cognitive and behavioral attitude toward cancer, specifically hopelessness and anxious preoccupation [17]. Both subscales consist of eight items, the first measuring the tendency to adopt a pessimistic, despairing attitude regarding the illness and the second one that rates the tendency to feel worried and preoccupied about the disease. Each item is rated on a 4-point Likert scale. Scores for both hopelessness and anxious preoccupation varied from 0 to 24 and cutoff scores for these items (mean score \pm 1 SD) were used to identify cases of maladaptive coping, as per the MAC user's manual [16].

Emotional distress was appraised by the Brief Symptom Inventory (BSI), one of the most widely used instruments to rate emotional distress in clinical patients [18] consisting of 18 items. Each item is scored on a 5-point Likert scale. Scores for each subscale range from 0 to 24. Raw-scores are converted to *T*-scores based on gender-specific normative data from a non-patient population, with higher scores indicating greater anxiety or depression. To identify individuals with significant emotional distress, the BSI-18 applies the clinical case rule [19], originally developed for the SCL-90. According to the BSI-18 Manual, respondents with a *T*-score ≥ 63 should be classified as having clinically significant distress. The Spanish version of BSI has good reliability and validity in Spanish patients [20].

Data analysis

Distribution and frequency analyses were used to evaluate the sample. The relationships between clinical and demographic factors and the presence of physician and patient satisfaction/dissatisfaction with SDM; patients' maladaptive coping, and emotional distress were tested using Chi-square and *t* test or ANOVA (*F*). The χ^2 test was used to compare categorical variables between the different patient groups; *t* test or ANOVA (*F*) for independent samples was used to compare continuous variables. Univariate models were fitted for all clinical and demographic variables: gender (male/female), age (≤ 44 , 45–54, 55–64, 65–74, ≥ 75 years), tumor (colorectal, breast, stomach, and others), and stage (I–II/III). A raw-score ≤ 27 was used to identify physicians' dissatisfaction, while a raw-score ≤ 20 , indicated patients' dissatisfaction. In patients, a raw-score ≥ 9 established hopelessness and a raw-score ≥ 16 identified anxious preoccupation. Analyses were conducted using SPSS 23.0 version and an alpha level of 0.05.

Results

A total of 602 patients participated in the study (244 with colorectal, 203 with breast, 38 with stomach, and 117 with other cancers). The mean age was 59 ± 12 years. Most participants were female ($n=358$, 60%), married or lived with a partner (77%), and had completed primary education (56%). The most common employment status was retired (59%) (see Table 1 for details).

Physicians' general characteristics are reported elsewhere [12]. In summary, patients were recruited by 30 medical oncologists from 14 Spanish hospitals; 78.1% ($n=25$) of these specialists were female; mean age was 35 ± 7.4 years, with 11.9 ± 8.8 years of experience in caring for cancer patients. Most were super-specialists (68.8%) working at a public, teaching hospital (53.1%).

Physician–patient satisfaction and psychological variables by gender and age

In the sample as a whole, 11% of physicians and 19% of patients were dissatisfied with SDM; while among patients, 22% displayed hopelessness or anxious preoccupation as coping strategies, and 56% exhibited emotional distress.

Table 2 presents the descriptive results for the psychological scales separated by gender and age. Insofar as physician–patient interaction is concerned, physicians' satisfaction with SDM did not differ according to the patients' gender or age. In contrast, patient satisfaction differed by gender, in that males scored higher on satisfaction with SDM ($t_{(600)}=3.980$, $p<0.001$), whereas among women, dissatisfaction was more prevalent than among men (23 vs 14%, $\chi^2=8.704$, $p=0.003$; odds ratio (OR)=1.930, 95% confidence interval (CI) 1.241–3.001).

Regarding coping, females showed a slightly higher prevalence of anxious preoccupation than males (26 vs 17%; $\chi^2=6.670$, $p=0.010$, OR=1.712, 95% CI 1.135–2.583), and higher scores on AP ($t_{(600)}=-2.507$, $p=0.012$), but no differences were detected in hopelessness between males and females. Younger patients exhibited lower scores on hopelessness ($F_{(4,596)}=3.125$, $p=0.015$) and higher scores on anxious preoccupation ($F_{(4,597)}=2.592$, $p=0.036$); participants aged ≤ 44 years presented more anxious preoccupation and less hopelessness than those 65 years of age or older.

As regards to the BSI, females displayed a higher prevalence rate of emotional distress than males (63 vs 44%; $\chi^2=19.410$, $p<0.001$, OR=2.095, 95% CI 1.505–2.918) and scored higher for emotional distress ($t_{(600)}=-5.926$, $p<0.001$). The prevalence of cases of emotional distress as per the BSI (cut-off ≥ 63) differed across the five age groups ($\chi^2=24.864$, $p<0.001$). Subjects 44 years of age or younger suffered more emotional distress than those aged ≥ 65 years ($F_{(4,597)}=8.676$, $p<0.001$).

Table 1 Patient demographic and clinical characteristics according to the location of the cancer

Patient demographic and clinical characteristics	Colorectal ($n=244$) <i>N</i> (%)	Breast ($n=203$) <i>N</i> (%)	Stomach ($n=38$) <i>N</i> (%)	Others ($n=117$) <i>N</i> (%)	Total ($n=602$) <i>N</i> (%)
Gender (% women)	90 (37)	198 (94)	15 (39)	55 (47)	358 (60)
Age, <i>M</i> (<i>SD</i>)	63.1 (11.1)	52.9 (10.8)	65.1 (9.9)	59.4 (12.8)	59.1 (12.2)
Marital status (% married)	195 (80)	148 (73)	31 (82)	87 (74)	461 (77)
Education (% primary)	146 (60)	106 (52)	24 (63)	61 (52)	337 (56)
Work (% retired)	165 (68)	88 (43)	28 (74)	71 (61)	352 (59)
Stage					
I–II	84 (35)	181 (89)	11 (29)	60 (61)	336 (58)
III	159 (65)	22 (11)	27 (71)	38 (39)	246 (42)

M mean, *SD* standard deviation

Table 2 Perception of physician–patient interaction (SDM), emotional distress (BSI), and coping (Mini-MAC) by gender and age

	Gender			Age					<i>p</i> value (age)
	Male (<i>n</i> = 111)	Female (<i>n</i> = 161)	<i>p</i> value (gender)	≤ 44 (<i>n</i> = 79)	45–54 (<i>n</i> = 134)	55–64 (<i>n</i> = 169)	65–74 (<i>n</i> = 161)	≥ 75 (<i>n</i> = 59)	
Physician's satisfaction with SDM	32.3 (5.2)	32.5 (4.9)	ns	33.2 (4.8)	32.1 (5.3)	32.8 (4.8)	32.1 (5.1)	31.7 (4.9)	ns
Patient's satisfaction with SDM	30.1 (7.2)	27.3 (8.8)	0.001	28.2 (8.4)	27.4 (8.5)	28.5 (8.1)	28.8 (8.3)	28.8 (8.3)	ns
Hopelessness	4.9 (4.4)	4.5 (4.5)	ns	3.9 (4.1)	4.2 (4.3)	4.5 (4.3)	5.7 (4.7)	4.5 (4.5)	0.015
Anxious preoccupation	9.5 (5.9)	10.8 (6.1)	0.012	11.6 (5.6)	10.8 (6.2)	10.1 (5.8)	9.7 (6.1)	8.6 (6.6)	0.036
Emotional distress	61.9 (6.1)	65.1 (6.8)	0.001	66.1 (6.6)	65.6 (6.7)	63.7 (6.6)	62.4 (6.5)	61.3 (5.7)	0.001
Physicians' dissatisfaction ≤ 27	11	11	ns	8	15	9	12	12	ns
Patients' dissatisfaction ≤ 20	14	23	0.003	18	21	20	18	19	ns
Caseness for hopelessness (≥ 9)	25	20	ns	18	16	19	31	24	0.017
Caseness for anxious preoccupation (≥ 16)	17	26	0.010	27	26	20	21	15	ns
Caseness for emotional distress (≥ 63)	44	63	0.001	68	66	57	44	41	0.001

SDM shared decision-making

Physician–patient satisfaction and psychological variables by tumor and stage

Table 3 shows the descriptive results for the psychological scales separated by tumor and stage. As far as physicians' ($F_{(3,598)} = 4.138$, $p = 0.006$) and patients' satisfaction ($F_{(3,615)} = 3.825$, $p = 0.010$) with the SDM, significant differences were revealed when examined by tumor. Physicians were more satisfied with SDM, as were colon cancer patients, whereas individuals with stomach and breast cancer were the least satisfied. There were no differences in patient satisfaction with the SDM based on tumor stage, although doctors displayed greater satisfaction with stage I–II cancer patients ($t_{(580)} = 3.723$, $p < 0.001$).

Insofar as coping and emotional distress are concerned, patients with stomach cancer scored highest on hopelessness ($F_{(3,598)} = 4.854$, $p = 0.002$) and emotional distress ($F_{(3,598)} = 7.113$, $p < 0.001$). Not only did patients with stage III cancer display a higher prevalence of hopelessness

compared with patients with tumor staged I–II (28 vs 18%; $\chi^2 = 7.323$, $p = 0.07$, OR = 1.722, 95% CI 1.159–2.558), were also seen to display more intense hopelessness ($t_{(580)} = -2.771$, $p = 0.006$), and anxious preoccupation ($t_{(580)} = -2.285$, $p = 0.023$) scores were higher in the group of participants with stage III tumors, albeit no differences were found in emotional distress. See Fig. 1.

Discussion

This study examines physician and patient dissatisfaction with SDM, and patients' emotional distress and maladaptive coping styles, taking into account patient demographic and clinical variables.

With respect to the primary objective of this study, dissatisfaction with SDM was only present in one out of every ten physicians and one in five patients. These data are congruent with those of other studies that show that oncological

Table 3 Perception of physician–patient interaction (SDM), emotional distress (BSI), and coping (Mini-MAC) by tumor and stage

	Tumors				<i>p</i> value	Stage		
	Colon (<i>n</i> =244)	Breast (<i>n</i> =203)	Stomach (<i>n</i> =38)	Others (<i>n</i> =117)		I–II (<i>n</i> =336)	III (<i>n</i> =246)	<i>p</i> value
Patients' satisfaction with SDM ^a	33.1 (4.3)	32.6 (5.1)	31.4 (6.8)	31.2 (5.5)	0.006	33.2 (5.1)	31.7 (4.4)	0.001
Physician's satisfaction with SDM ^b	29.2 (7.9)	26.9 (9.1)	30.6 (6.9)	28.3 (8.1)	0.010	28.5 (8.2)	28.2 (8.4)	ns
Hopelessness	4.6 (4.4)	4.0 (4.2)	6.7 (4.5)	5.2 (4.6)	0.002	4.2 (4.2)	5.2 (4.5)	0.006
Anxious preoccupation	9.8 (6.1)	10.4 (6.1)	11.3 (5.5)	10.6 (6.1)	ns	9.8 (6.1)	10.9 (6.1)	0.023
Emotional distress	62.3 (6.5)	64.8 (6.9)	65.1 (6.1)	64.9 (6.3)	0.001	63.9 (6.6)	63.7 (6.9)	ns
Physicians' dissatisfaction ≤27	7	13	16	15	0.044	10	12	ns
Patients' dissatisfaction ≤20	16	25	13	19	ns	19	20	ns
Caseness for hopelessness (≥9)	23	15	37	28	0.005	18	28	0.007
Caseness for anxious preoccupation (≥16)	19	24	21	28	ns	22	23	ns
Caseness for emotional distress (≥63)	43	64	68	64	0.001	57	52	ns

^aQuestionnaire-Patient's version (SDM-Q-9)

^bQuestionnaire-Physician's version (SDM-Q-Doc)

patients in our setting are not terribly interested in participating in making decisions that affect their health and points to this being affected in part, by a paternalistic model that continues to exist in most Spanish hospitals [21, 22]. We also believe that not all oncological patients are prepared or even want to be equally involved or participate in SDM at times of great emotional tension. On the other hand, men and patients with colon cancer are the ones who are most satisfied with SDM, whereas women and subjects with breast cancer were the least satisfied.

Half of all patients exhibit psychological distress and, of them, it reaches levels between moderate and severe in one-third; as such, they would require clinical care. This datum is in line with other studies that prove that the symptoms of psychological distress should be assessed throughout the entire course of their cancer [23]. Likewise, females exhibited greater distress than males (63 vs 44%); patients under the age of 44 more than those ≥ 65 years of age (66 vs 42%), and those with stomach cancer more than the participants with colon cancer (68 vs 43%). Of the sociodemographic variables, age and gender have been widely analyzed. Studies report that young people tend to develop psychological distress more often [24, 25], whereas women exhibit a greater sense of threat and emotional impact in the form of distress or post-traumatic stress than men [26, 27].

Apropos coping, approximately one in every four patients reported maladaptive coping strategies; specifically, hopelessness and anxious preoccupation, confirming the need to integrate psychosocial help into clinical practice as a way of

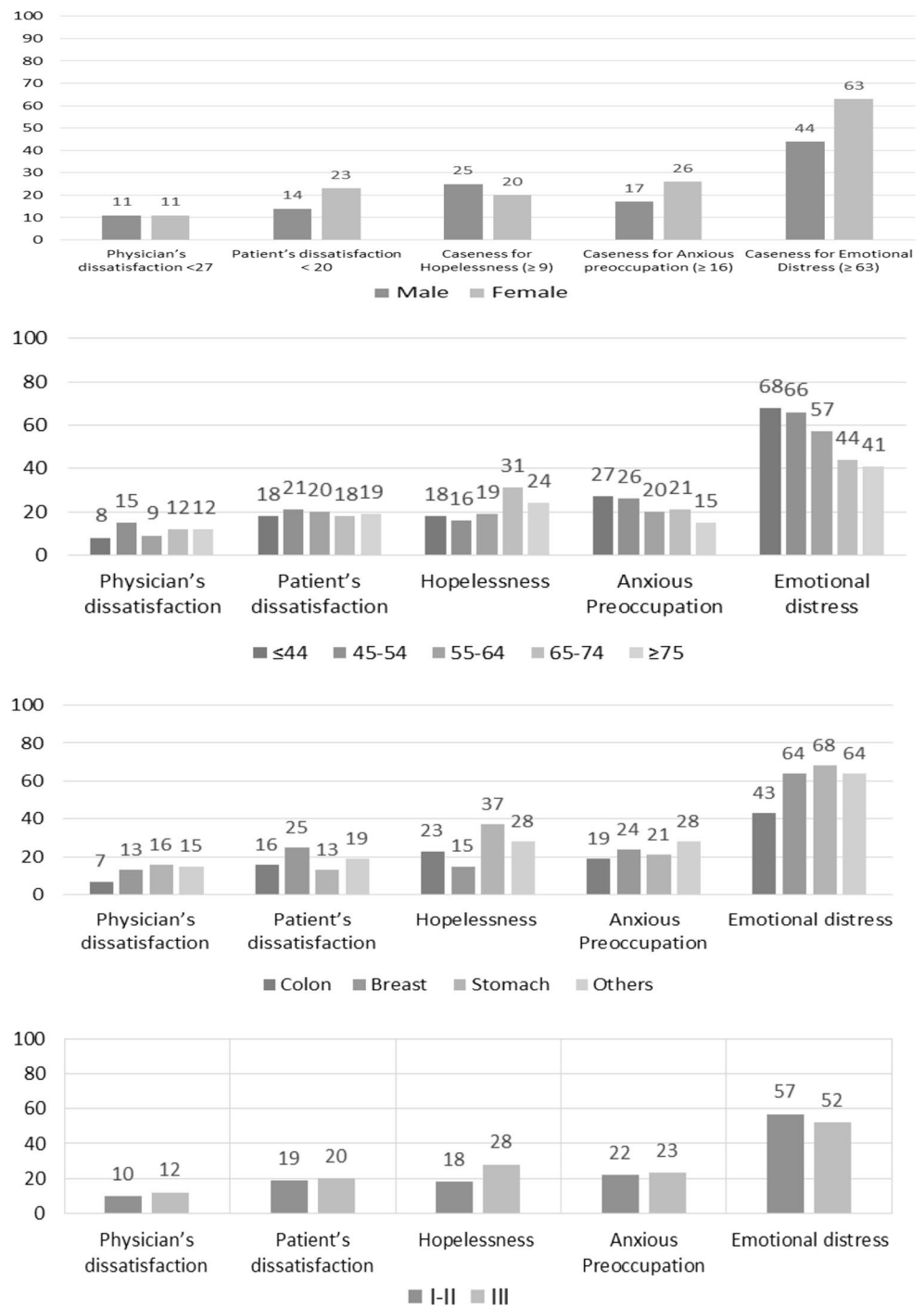
improving quality of care for individuals with cancer [28]. As indicated in other studies, younger patients were the ones who confront cancer worse, presenting more hopelessness and psychological distress [29, 30]. Females, and in particular, those with breast cancer, were also the ones who displayed more psychological distress and anxious preoccupation [31, 32], and patients with stage III stomach cancer presented the most hopelessness.

This study is not without its limitations that must be taken into consideration. First of all, the use of self-report, subjective measures cannot accurately reflect patients' experiences, expectations, and behaviors, as they are limited by response bias (social desirability, inaccurate memory, etc.). Second, we have not factored in physician-based variables, such as age, gender, personality (e.g., empathic attitude, locus of control), or burnout, that have an important influence on the physician–patient relationship and on patient satisfaction [8]. Likewise, we have not taken into account variables, such as the characteristics of patients' personality, social and family support, or prior stressful events when accounting for patient satisfaction [33] and that should be taken into consideration in future research.

Clinical repercussions

Our study suggests that, bearing in mind the high prevalence of emotional distress and maladaptive strategies among oncological patients, doctors should contemplate

Fig. 1 Perception of physician–patient interaction (SDM), emotional distress (BSI), and coping (Mini-MAC) by patient demographic (gender and age) and clinical (tumor and stage) characteristics. The data are presented in percentages



these variables when treating their patients and adapt their communication style accordingly. Young people and females generally perceive cancer as more aggressive and disruptive, not only because of its worse prognosis, but also because the diagnosis at a young age breaks with the natural and social history that tends to associate disease and demise with being elderly. We must also be mindful of the cultural aspects that need to be taken into account when analyzing psychosocial variables and in

communication skills training when applied in a clinical context [33]. If we are to provide better quality of care, we must consider the patient's context and characteristics, as well as those of the cancer during screening, evaluation, and treatment.

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Compliance with ethical standards

Conflict of interest All authors declare that they have no conflict of interest. This is an academic study.

Ethical approval The study has been performed in accordance with the ethical standards of the Declaration of Helsinki and its later amendments. This study is an observational trial without intervention.

Informed consent Signed informed consent was obtained from all patients.

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