

# Cirugía Española

Detection and evaluation of preoperative psychological care needs in cancer and non-cancer patients referred to thoracic surgery.

Detección y valoración preoperatoria de necesidades de atención psicológica en pacientes con y sin cáncer derivados a cirugía torácica.

--Borrador del manuscrito--

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<b>Resumen:</b>	<p>Objectives: a) to evaluate and compare the psychological treatment needs of patients with cancer and non-cancer, who are going to undergo scheduled thoracic surgery, and b) evaluate the diagnostic accuracy of the screening tests of psychological treatment needs for cancer and non-cancer patients.</p> <p>Method: The need for psychological treatment was evaluated in a total of 169 patients prior to thoracic surgery, through a clinical interview. The screening tests used were: the physician's judgment (yes/no), the Hospital Anxiety and Depression Scale (HADS) and, the single-item interview to assess depression "Do you feel depressed?" (DEPQ).</p> <p>Results: The number of patients who needed psychological treatment in the total sample was 47 (27.81%), in non-cancer-patients: 22 (30.99%) and in cancer patients: 25 (25.51%). The participants with treatment needs were more often young women with primary education levels, with more fears and concerns regarding their disease. With respect to the screening tests, the HADS-T (cut-off point <math>\geq 13</math>) obtained a sensitivity (SE) of 0.75 and Specificity (SP) of 0.81 in the total sample. In patients with cancer, the HADS-T (cut-off point <math>\geq 10</math>) obtained an SE=0.84 and SP=0.80, and, in patients without cancer, the HADS-T (cut-off point <math>\geq 13</math>) showed an SE=0.59 and SP=0.84. The DEPQ and the physician's judgement did not achieve adequate levels of precision.</p> <p>Conclusions: Many patients before performing thoracic surgery have psychological treatment needs, which are similar for cancer and non-cancer patients. Preoperative detection of patients who need psychological intervention is feasible with a simple screening test: HADS, which achieves greater precision in cancer patients.</p> <p>Objetivos: a) evaluar las necesidades de tratamiento psicológico de pacientes con cáncer y sin cáncer, que van a someterse a una cirugía torácica, y b) evaluar la precisión diagnóstica de las pruebas de detección de necesidades de tratamiento psicológico para pacientes con y sin cáncer.</p>

	<p>Método: Se evaluó la necesidad de tratamiento psicológico en un total de 169 pacientes antes de la cirugía torácica, a través de una entrevista clínica. Las pruebas de detección utilizadas fueron: el criterio médico (sí/no), la Escala de ansiedad y depresión hospitalaria (HADS) y la entrevista de un solo ítem de depresión "¿Se siente deprimido?" (DEPQ)</p> <p>Resultados: El número de pacientes que necesitaron tratamiento psicológico fue del 27,81%, en pacientes sin cáncer: 30,99% y con cáncer: 25,51%. Las participantes con necesidades de tratamiento eran con mayor frecuencia mujeres jóvenes con niveles de educación primaria, y más temores con respecto a su enfermedad.</p> <p>Con respecto a las pruebas de detección, el HADS-T (corte <math>\geq 13</math>) obtuvo una sensibilidad (SE) de 0,75 y especificidad (SP) de 0,81 en la muestra total. En pacientes con cáncer el HADS-T (corte <math>\geq 10</math>) obtuvo un SE=0,84/SP=0,80, y en pacientes sin cáncer, el HADS-T (corte <math>\geq 13</math>): SE=0,59/SP=0,84. El DEPQ y el juicio médico fueron insatisfactorios.</p> <p>Conclusiones: Muchos pacientes antes de realizar una cirugía torácica tienen necesidades de tratamiento psicológico, similares para pacientes con y sin cáncer. La detección preoperatoria de pacientes que necesitan intervención psicológica es factible con una simple prueba de detección: HADS, que es más precisa en pacientes con cáncer.</p>
<p><b>Revisores sugeridos:</b></p>	<p>Alex J. Mitchell, PhD  University of Leicester Department of Health Sciences  ajm80@le.ac.uk  Este autor trabaja en temas similares y tiene numerosas publicaciones en el área</p> <p>• Melanie PJ Schellekens, PhD  Radboud Universiteit Donders Institute for Brain Cognition and Behaviour  Melanie.Schellekens@radboudumc.nl  Ha publicado artículo de alto impacto en el área</p>
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The main novelty of this article is that the first work to compare the psychological treatment needs of patients with cancer and without cancer in the moment prior to thoracic surgery. And it tests the diagnostic accuracy of different screening procedures for these treatment needs, in a large sample for both cancer and non-cancer patients.

## Title

**Detection and evaluation of preoperative psychological care needs in cancer and non-cancer patients referred to thoracic surgery.**

**Detección y evaluación de las necesidades de atención psicológica preoperatoria en pacientes con cáncer y sin cáncer remitidos a cirugía torácica.**

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## Title

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2 Detection and evaluation of preoperative psychological care needs in cancer and non-cancer  
3 patients referred to thoracic surgery.  
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**Introduction**

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9 Major surgery is associated with high levels of anxiety, depression and emotional  
10 distress, which can increase postoperative complications, such as pain, use of  
11 analgesics prolongation of hospital stay,<sup>1,4</sup> quality of life,<sup>5</sup> and even increasing the  
12 risk of mortality.<sup>6,7</sup>  
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15 Specifically, it has been proven that, in the moment prior to carrying out a thoracic  
16 surgery, one third of the patients present the need of psychological intervention  
17 referral.<sup>8</sup> However, there is a lack of research on the possible differences in the need  
18 for psychological treatment and the levels of anxiety and depression among patients  
19 undergoing a thoracic surgical procedure depending on the nature of the disease that  
20 forces such surgery, whether it is oncological or not. It has been reported that patients  
21 with lung cancer have a high incidence of anxiety and depression symptoms.<sup>9,10</sup>  
22 Likewise, it has been reported that hospitalized non-cancer patients frequently show a  
23 high level of emotional distress, although to a lesser extent than cancer patients.<sup>11</sup>  
24 However, the available data are insufficient, and do not refer specifically to thoracic  
25 surgery services.  
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30 A comprehensive health care with optimal quality requires identifying those  
31 patients who have high levels of emotional distress and are therefore in need of a  
32 psychological approach in earlier stages of their process. Likewise, it is important to  
33 check whether the levels of anxiety, depression and psychological treatment needs of  
34 patients with lung cancer differ in incidence, severity or characteristics to those  
35 presented by those patients with a non-neoplastic process. In addition, it is necessary  
36 to verify whether an early, accurate and effective detection can be carried out by  
37 means of a brief and simple screening test applied by the thoracic surgery services.  
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41 The request for referral to mental health services is often carried out at the initiative  
42 of the patients themselves and their families, or by the referral of the healthcare  
43 professionals involved in the patients' process. This is not effective, as often the  
44 demands of those affected do not correspond to the severity of emotional distress, and  
45 doctors often underestimate the needs of patients in this regard.<sup>8,12</sup> A more suitable  
46 alternative is to use screening tests such as the Hospital Anxiety and Depression Scale  
47 (HADS),<sup>13</sup> or the Single-item interview, which can detect the presence and, where  
48 appropriate, the severity of depressive elements through the simple question: Are you  
49 depressed? (DEPQ)<sup>14</sup> As criteria to assess the diagnostic perception of these tests,  
50 standardized clinical diagnostic interviews have been used. The inconveniences of  
51 such interviews are that they require a relatively long application time and are  
52 ultimately expensive. In addition, they may be unattractive to patients, and focus on  
53 identifying well-defined psychopathological conditions. A feasible alternative is to  
54 conduct a clinical interview that assesses the patients' level of emotional distress,  
55 explores the clinical symptoms of anxiety and depression, fears and concerns, the  
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perceived social support and the coping strategies that patients use to face their disease<sup>8,15</sup>.

The objectives of the present study are: a) to evaluate the psychological needs of patients with cancer and non-cancer, who are going to undergo scheduled thoracic surgery, and to compare the symptoms of anxiety and depression among patients according to the type of pathology and, b) evaluate the diagnostic accuracy of the screening tests of the most appropriate psychological treatment needs for cancer and non-cancer patients.

## **Method**

### *Sample*

Patients who were scheduled to undergo surgical intervention in the Department of Thoracic Surgery at the San Carlos Clinical Hospital of Madrid were included in the study prospectively. The inclusion criteria were: being over 18 years of age, having good comprehension and expression in Spanish, and having adequate levels of cognitive function (Mini-Mental score >26).<sup>16</sup> Patients who -according to their medical and/or psychiatric diagnosis- had severe cognitive impairment or a severe psychiatric disorder were excluded from the sample. The study was conducted throughout a period of 18 months, the number of initial patients was 199, of which 16 declined taking part in the study, and 14 did not meet the inclusion/exclusion criteria, thus, the total sample was 169 patients.

### *Variables and instruments*

Screening tests were chosen for their simplicity, brevity in their application, adequate psychometric properties, and having been used in previous studies:

Hospital Anxiety and Depression Scale (HADS).<sup>13,17</sup> It is a self-applied instrument, composed of 14 items. It evaluates the presence of symptoms of anxiety and depression during the past week. High scores in its subscales -anxiety (HADS-A) and depression (HADS-D), of 7 items each- indicate a high frequency of these symptoms. The total scale score (HADS-T) provides a valid measure of emotional distress. HADS has been shown to have good sensitivity and specificity.<sup>18-20</sup>

The Single-item interview, which measures depressed mood through the question: "are you depressed?" (DEPQ) was developed by Chochinov et al.<sup>14</sup> This question has a dichotomous response (Yes/No) and is complemented by 5 Likert-type response options.<sup>14</sup> This can be a highly recommended measure due to the brevity of its application. Chochinov et al. reported values of sensitivity (SE) and specificity (SP) of 100%. The meta-analysis performed by Mitchell concluded that the SE of this test is 0.72 and SP is 0.83.<sup>19</sup>

Medical judgment is issued by the physician after a medical consultation with the patient. Each physician completes a form in which he/she issues a judgment on whether the patient needs psychological attention.

The need for psychological intervention was assessed through a psychological interview similar to that carried out by Bonachi et al.<sup>15</sup> These interviews were carried

1 out by a psychologist, with a duration of one hour. At the end of the interview, the  
2 psychologist assessed whether the patient needed psychological treatment, as indicated  
3 by at least one of the following variables assessed by the interview: The presence and  
4 intensity of anxious-depressive symptoms, as well as fears and concerns about their  
5 medical condition or other areas; the current or past presence of mental health  
6 disorders and the consumption of psychoactive drugs; perceived family and/or social  
7 support; coping strategies towards their medical condition; and other personal and  
8 family problems. This interview was the criterion variable to verify the diagnostic  
9 accuracy of the screening tests.  
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12 Each interview was recorded, and subsequently heard by another psychologist who  
13 independently evaluated whether the patient needed psychological treatment or not  
14 without knowing the first interviewer's judgment. In the case of disagreement among  
15 psychologists, the case was examined by a third psychologist who made the final  
16 decision.  
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### 19 *Procedure*

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21 All patients were informed of the study by one of the department surgeons at the time  
22 of the surgical indication. Likewise, in all cases, a psychologist was responsible for  
23 obtaining informed consent for participation in the study, then administering the  
24 HADS and DEPQ tests. The surgeon who had assessed the patient established his/her  
25 subjective opinion about the need for psychological intervention based on the medical  
26 interview. Next, the clinical interview was carried out, carried out by another  
27 psychologist, to verify the results of the tests and the physician's judgement. After this  
28 specialized interview, the need for psychological treatment for each case was assessed.  
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### 35 **Statistical analyses**

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37 Descriptive, sociodemographic and clinical data were collected from patients with  
38 oncological and non-oncological processes, and the entire sample, as well as for  
39 patients who, after the clinical interview, were considered to need preoperative  
40 psychological intervention and those who were not. The possible differences between  
41 both groups were verified by chi-square tests in the case of categorical and mean  
42 variables and through the Student's t test for interval or continuous variables. The  
43 Cohen Kappa coefficient was calculated to verify the concordance among the  
44 interviewers.  
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48 The significance of the mean differences between the oncological and non-oncological  
49 patients for the HADS and DEPQ scales was checked. As both samples were found to  
50 be different in terms of sex and age, a covariance analysis was applied to control the  
51 effect of these variables.  
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54 To assess the diagnostic accuracy of the screening tests with respect to the interview  
55 (gold standard), the Sensitivity (SE) and Specificity (SP) indices, the Positive  
56 Predictive Values (PPV) and the Negative Predictive Value (NPV) and the indexes  
57 recommended by Mitchell were calculated.<sup>21</sup> Mitchell's recommended indexes were:  
58 The Clinical Positive Utility Index,  $(CUI+) = SE \times PPV$ , which shows the usefulness of  
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1 the test in detecting problem cases, and the Clinical Negative Utility Index (CUI-),  
2 used to determine the usefulness of the instrument when discarding the cases  
3 considered as non-clinical:  $(CUI-) = SP \times NPV$ . In addition, the Overall Value Index for  
4 the (CUI+) and (CUI) for each test was extracted. This is a single measure that  
5 determines the validity of each screening test. The qualitative value ranges for these  
6 indices are as follows: excellent:  $\geq 0.81$ ; good: 0.64-0.80; fair: 0.49-0.63; poor: 0.37-  
7 0.48; very poor  $< 0.37$  (see: <http://www.psychoncology.info/cui.html>). Those cut-off  
8 points that showed better levels of SE and SP were selected for each of the screening  
9 tests.  
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12 In addition, the diagnostic accuracy of each test was assessed using the Receiver  
13 Operating Characteristic (ROC).  
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## 15 16 17 **Results**

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19 The sociodemographic and clinical data of the final sample of patients are presented  
20 in Table 1.  
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### 22 **INSERT TABLE 1**

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25 The Cohen's Kappa coefficient used to verify the concordance among the  
26 interviewers was 0.89 (excellent).  
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28 After the clinical interview, 47 patients (27.81%) were considered in need of  
29 psychological intervention. In the sample of patients without an oncological process,  
30 the number was 22 (30.99%), and in the sample of patients with an oncological  
31 process, it was 25 (25.51%). No significant differences were found in the  $\chi^2$  test  
32 ( $p=0.43$ ).  
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36 Patients with treatment needs (cases) were more frequently women (78.7%) than  
37 men ( $p<0.001$ ). The mean age of the clinical cases was 83.90 (SD=8.64) compared to  
38 that of non-clinical cases (67.94, SD=15.54) ( $p=0.011$ ). The level of studies was lower  
39 in clinical cases, as 51.11% of them only had primary studies ( $p=0.47$ ).  
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41  
42 Table 2 shows the means and standard deviations for each of the screening tests for  
43 both cancer and non-cancer patients, and the total sample. As can be observed in Table  
44 1, the sample of patients without cancer had a higher percentage of women ( $p<0.001$ )  
45 and had a lower mean age ( $p<0.001$ ) than the sample of cancer patients. The means of  
46 HADS-A and HADS-T were higher for non-cancer patients, but once the ANCOVA  
47 controlled for differences in sex and age, there were no significant differences between  
48 the two groups. It is interesting to note that 80.30% of patients without cancer  
49 responded positively to the question of whether they felt fear and intense concerns  
50 about their disease, while in the group of cancer patients the result was 62.30% ( $p=$   
51 0.03).  
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### 55 **INSERT TABLE 2**

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58 The results of the diagnostic accuracy of each screening instrument for emotional  
59 distress for patients with cancer and without cancer, as well as for the total sample, are  
60 shown in Table 3. It can be observed that the physician's judgement had a very low SE  
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(0.30) but a high SP (0.86), both in the total sample and in the cohorts with and without cancer pathology.

### INSERT TABLE 3

In the total sample, the HADS-T (cut-off point  $\geq 13$ ), presented an adequate SE (0.75) and a good SP (0.81), the PPV was modest, but the PPN was high, so we can consider that it is an adequate screening test. The results for HADS-A (cut-off point  $\geq 7$ ) and HADS-D (cut-off point  $\geq 5$ ) presented modest levels, which were sufficient to consider them as acceptable screening tests.

In the sample of cancer patients, the accuracy of HADS was better than in the total sample. The HADS-T (cut-off point  $\geq 10$ ) proved useful for detecting and excluding clinical cases. Whereas the HADS-A (cut-off point  $\geq 7$ ) and HADS-D (cut-off point  $\geq 5$ ) only reached acceptable levels

In the sample of patients with non-oncological pathologies, the HADS-T (cut-off point  $\geq 13$ ) presented a low SE, although the SP was correct. The diagnostic accuracy was lower than in the sample of cancer patients, although HADS-A (cut-off point  $\geq 7$ ) and HADS-T (cut-off point  $\geq 13$ ) reached an acceptable level.

The DEPQ achieved acceptable levels of SE but the SP was low for the total sample, and for the differentiated cohorts with and without cancer pathology. Therefore, we cannot consider it a good screening test.

The results of the AUC for the screening tests are shown in Table 4. The HADS-T reached a good AUC, higher than 0.8, as did the HADS-A and HADS-D in the total sample. In the case of cancer patients, the results were more satisfactory than in the total sample, achieving an excellent level for HADS-T, and good levels for HADS-A and HADS-D. In the sample of non-cancer patients, HADS-T and HADS-A reached good levels, while HADS-D was only acceptable. The DEPQ did not reach good levels in the total sample, nor in the subsamples, and was lower than the HADS indices.

### INSERT TABLE 4

## Discussion

The patients who were to undergo a thoracic surgical intervention presented psychological treatment needs in a significant percentage (27.81%), as well as high scores in symptoms of anxiety (HADS-A) and emotional distress (HADS-T). These results are similar to those reported in a previous study on the psychological needs in patients pending thoracic surgery.<sup>8</sup> Similar results have been found in patients with oncological processes who must undergo radiotherapy treatment.<sup>18,22</sup>

As has been reported in other research, women and younger people score higher on HADS-A and HADS-T.<sup>23,24</sup> In the present study, the sample of patients without cancer consisted of a greater number of women, with a lower mean age than the samples of patients with cancer. The highest scores in HADS-A and HADS-T in the group of patients without cancer are not statistically different from those in cancer patients once

1 the sex and age differences between the samples are controlled for. Moreover, there  
2 are no significant differences in the frequency of people with psychological needs  
3 between patients with cancer and without cancer.

4 The results of the present study showed how cancer patients reported fears and  
5 concerns about their disease less frequently than non-cancer patients. In the case of  
6 patients with non-operable lung or other cancer, higher levels of emotional distress  
7 have been reported than those reported here and could be higher than those with other  
8 non-cancerous diseases.<sup>9</sup> In this sense, Deshields et al. reported that there were higher  
9 levels of psychological distress in cancer patients compared to other medical  
10 conditions.<sup>11</sup> Therefore, more research is needed on differences and similarities in  
11 terms of psychological needs between cancer and non-cancer patients. However, in the  
12 present study, the results obtained state that patients who are going to undergo thoracic  
13 surgery have psychological treatment needs, whether they are patients with cancer or  
14 with other pathologies.

15 In relation to screening procedures, the data shows that the physician's judgement  
16 underestimates the number of patients with psychological intervention needs, as it only  
17 identifies those with very intense symptoms, with a very poor SE. However, the  
18 physician's judgement does detect cases that do not need psychological treatment with  
19 good precision.

20 The HADS-T (cut-off point  $\geq 13$ ) proves to be a good screening test for the total  
21 sample, and even better in the case of cancer patients (cut-off point  $\leq 10$ ), but only  
22 reaches an acceptable level for the subsample without cancer (cut-off point  $\geq 13$ ). The  
23 HADS-A and HADS-D reach good or acceptable levels, in the total sample and in that  
24 of cancer patients, but HADS-D is deficient as a screening test in patients without  
25 cancer. The data from the AUCs confirm that HADS-T is the best screening test,  
26 which becomes excellent in the case of cancer patients, HADS-A shows good results  
27 for the total sample and the two subsamples, while HADS-D is deficient in the case of  
28 patients without cancer.

29 These results reproduce the data from a previous study by Cruzado et al.<sup>8</sup> In the  
30 case of cancer patients, the data are similar to those reported by Schellekens et al. with  
31 patients with lung cancer (HADS-T cut-off point  $\geq 15$ ) for emotional disorders  
32 diagnosed by SCDI,<sup>25</sup> Cruzado and Hernández in patients undergoing radiotherapy  
33 (HADS-T cut-off point  $\geq 10$ ) using the MINI as a criterion,<sup>18</sup> or Vodermaier and  
34 Millman's review data that report that the best cut-off points for HADS-T were 10 or  
35 11 (SE=0.80; SP=0.74).<sup>20</sup>

36 In the case of the DEPQ, it did not prove to be a good screening measure, as the SE  
37 is acceptable, but the SP is insufficient, and the AUC is only acceptable. These results  
38 are similar to those reported in Cruzado et al.<sup>8</sup> but much lower than those found in  
39 patients with advanced or palliative cancer.<sup>26</sup>

40 As a limitation of this study, it should be noted that the sample is relatively small,  
41 especially in the case of the sample of patients without cancer, which is only 71 cases,  
42 so the lower accuracy of the diagnostic tests may be due to this fact.

## Conclusions

1  
2 Patients pending surgical intervention for a thoracic pathology with cancer and non-  
3 cancer presented psychological intervention needs in a significant percentage. No  
4 differences were found depending on the type of disease for which the surgery was  
5 indicated, cancer or non-cancer. Preoperative detection of patients who need  
6 psychological intervention is feasible with a simple screening test such as HADS,  
7 which achieves greater precision in cancer patients.  
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Table 1. Sociodemographic and clinical data for cancer and non-cancer patient groups.

	Cancer (N = 98)	Non cancer (N = 71)	Total (N = 169)	p (cancer vs. Non-cancer)
Mean Age (SD)	67,9 (15,8)	53,9 (8,3)	62,04 (13,92)	<0.001
<b>Sex n (%) female / male</b>	42 (42,9) / 56 (57,1)	43 (60,6) / 28 (39,4)	85 (50,3) / 84 (49,7)	0,023
<b>Marital status n (%)</b>				
Married	67 (68,4)	52 (73,2)	119 (70,4)	0,074
Widow/widowed	15 (13,9)	4 (6,6)	19 (11,2)	
Divorced	9 (8,3)	4 (6,6)	13 (7,7)	
Single	7 (7,1)	11 (15,5)	18 (10,7)	
<b>Education n (%)</b>				
Primary	39 (39,8)	27 (38,0)	66 (39,1)	0,095
Secondary	28 (28,6)	20 (28,2)	48 (28,4)	
Higher education	31 (31,6)	24 (33,8)	55 (32,5)	
<b>Diagnosis n (%)</b>				
Adenocarcinoma	50 (51,0)		50 (29,6)	0,001
Squamous cell carcinoma	22 (22,4)		22 (13,0)	
Metastasis	14 (14,3)		14 (8,3)	
Other tumors	12 (12,3)		12 (7,1)	
<b>Benign/ no neoplasm</b>		71 (100,0)	71 (42,0)	
<b>Surgical treatment n (%)</b>				
Lobectomy	41 (41,8)	6 (8,45)	47 (27,81)	<0,001
Timectomy	--	5 (7,04)	5 (2,96)	
Pleurodesis	2 (1,9)	5 (7,04)	7 (4,14)	
Pleurectomy	2 (1,9)	10 (14,08)	12 (7,10)	
Atypical segmentectomy	28 (28,6)	18 (25,35)	46 (27,22)	
Typical segmentectomy	19 (19,4)	8 (11,27)	27 (15,98)	
Mediastinal Resection	8 (1,0)	11 (15,49)	11 (6,51)	
Other	5 (5,1)	8 (11,27)	14 (8,28)	
<b>Type of surgery n (%)</b>				
<b>VATS</b>	27 (27,6)	36 (50,7)	63 (37,3)	0.02
<b>Thoracotomy</b>	71 (72,4)	35 (49,3)	106 (62,7)	



Table 3. Diagnostic Accuracy of the Screening Tests.

Cancer patients							
Test cut-off	SE (CI 95%)	SP (CI 95%)	PPV (CI 95%)	NPV (CI 95%)	CUI+	CUI-	O. Value
Medical referral Yes/not	.32 (.10-.50)	.84 (.75-.92)	.40 (.19-.62)	.78 (.69-.87)	.13	.65	.70
HADS-A $\geq$ 7	.76 (.59-.93)	.78 (.69-.88)	.54 (.38-.71)	.91 (.83-.98)	.41	.71	.78
HADS-D $\geq$ 5	.64 (.45-.83)	.88 (.80-.95)	.64 (.45-.83)	.88 (.80-.95)	.41	.77	.82
HADS-T $\geq$ 10	.84 (.70-.98)	.80 (.70-.89)	.58 (.42-.74)	.94 (.87-.1).	.49	.74	.81
DEPQ >1	.80 (.68-.98)	.71 (.52-.72)	.49 (.25-.52)	.91 (.86-.1)	.39	.65	.74
Non-cancer patients							
Medical referral Yes/no	.26 (.08-.44)	.92 (.84-.98)	.60 (.30-.90)	.72 (.61-.83)	.16	.66	.70
HADS-A $\geq$ 7	.64 (.44-.84)	.84 (.73-1)	.64 (.44-.84)	.84 (.72-.94)	.41	.70	.78
HADS-D $\geq$ 4	.55 (.34-.75)	.80 (.68-.91)	.55 (.34-.75)	.80 (.68-.91)	.30	.63	.72
HADS-T $\geq$ 13	.59 (.41-.85)	.84 (.68-.91)	.62 (.41-.79)	.82 (.72-.94)	.37	.69	.76
DEPQ >1	.78 (.61-.95)	.68 (.53-.80)	.53 (.36-.70)	.87 (.76-.98)	.41	.58	.70
Total							
Medical referral Yes/no	.30 (.18-.43)	.86 (.80-.92)	.45 (.28-.63)	.76 (.69-.83)	0.13	.66	.70
HADS-A $\geq$ 7	.79 (.67-.90)	.71 (.62-.79)	.51 (.39-.62)	.90 (.84-.96)	.40	.63	.73
HADS-D $\geq$ 5	.72 (.60-.85)	.75 (.67-.82)	.52 (.40-.65)	.88 (.81-.94)	.39	.65	.74
HADS-T $\geq$ 13	.75 (.62-.87)	.84 (.77-.90)	.64 (.60-.76)	.90 (.84-.95)	.47	.76	.81
DEPQ >1	.81 (.70-.92)	.69 (.61-.77)	.50 (.39-.61)	.90 (.84-.96)	.40	.62	.72

Table 4

Area Under the Curve for each of the screening tests and their statistical significance.

		Cancer	Non-cancer	Total
HADS-D	AUC	.855	.790	.823
	IC95 -/+	.777-.932	.677-.903*	.756-.890*
HADS-A	AUC	.871	.824	.849
	IC95 -/+	.789-.952	.725-.923*	.787-.911*
HADS-T	AUC	.911	.833	.877*
	IC95 -/+	.853-.967	.735-.931	.825-.930*
DEPQ	AUC	.782	.781	.782
	IC95 -/+	.672-.891*	.660-.901*	.701-.863*

p < 0.001

HADS-A: Anxiety subscale of the Hospital Anxiety and Depression Scale; HADS-D: Depression subscale of the Hospital Anxiety and Depression Scale; HADS-T: Total score of the Hospital Anxiety and Depression Scale.; ANXQ: Anxiety Question; DEPQ: Depression Question.

# Detection and evaluation of preoperative psychological care needs in cancer and non-cancer patients referred to thoracic surgery.

## Objective:

To evaluate and compare:

- The psychological treatment needs of patients with cancer and non-cancer, who are going to undergo scheduled thoracic surgery, and
- The diagnostic accuracy of the screening tests of psychological treatment needs for cancer and non-cancer patients.

## Sample:

Patients who were scheduled to undergo thoracic surgery  
98 cancer / 71 non-cancer patients  
Total: 169

## Needs of psychological intervention

Total sample: 47 (27.81%)

- Non-cancer patients: 22 (30.99%)
- Cancer patients: 25 (25.51%)

## Accuracy of screening instrument

- Cancer patients: The HADS-T (cut-off point  $\geq 10$ ) proved useful for detecting and excluding clinical cases. SE=.84 / SP=.80. AUC (IC95)=.853-.967
- Non-cancer: the HADS-T (cut-off point  $\geq 13$ ) presented a low SE= 0,59 / SP=0,84, AUC (IC95)=.735-.931

## Conclusion

- Patients pending surgical intervention for a thoracic pathology presented psychological intervention needs in a significant percentage.
- No differences were found depending on the type of disease for which the surgery was indicated, cancer or non-cancer.
- Preoperative detection of patients who need psychological intervention is feasible with a simple screening test such as HADS, which achieves greater precision in cancer patients.