

# Assessment of depression symptoms in female cancer patients: focus on concurrent validity

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**Abstract.** *Background and aim of the work:* The present research explores Concurrent Validity of two depression measures the Beck Depression Inventory (BDI) and the Depression Subscale of the Hospital Anxiety and Depression Scale (HADS- Depression subscale) in specific oncological groups (female cancer and onco-hematological patients). *Method:* A correlational study was designed and took place at Careggi University Hospital in Florence, including 339 oncological patients, in particular 103 (59 Women and 44 men) patients suffering from lymphoma, and 236 patients suffering from female cancer. We estimated, by Pearson's r, Concurrent Validity between BDI and HADS depression's subscale. *Results:* Correlations failed to reach the 0.55 cut-off in the female cancer group ( $r=.34$ ,  $p<.001$ ) but not in the onco-hematological patients ( $r= 0.56$ ,  $p<.001$ ). *Conclusion:* The results stressing the need to develop and validate assessing tools that are specifically devoted to different groups of oncological patients. ([www.actabiomedica.it](http://www.actabiomedica.it))

**Key words:** depression, concurrent validity, female cancer, hospital anxiety depression scale, beck depression inventory

## Introduction

In cancer patients prevalence of depression is higher than in the general population (1), with higher levels of depression in female patients (2). Nevertheless, depression in oncological patients seems to be underdiagnosed and consequently undertreated (3). The instruments more used to evaluate depressive symptoms in literature are The Beck Depression Inventory [BDI] (4), and the Depression subscale of The Hospital Anxiety Depression Scale [HADS-Depression] (5). BDI is a 21-item self-report questionnaire assessing the depressive symptoms perceived by the patient in the affective, cognitive, motivational, vegetative, and psychomotor domains. The HADS is a 14-item self-report questionnaire on a 4-point Likert scale, and includes depression (7 items) and anxiety (7 items) subscales. HADS can assess the severity symptom of

anxiety disorders and depression in somatic, psychiatric and primary care patients. In literature, the adequacy of available depression scales has been questioned for specific oncological groups. Female cancer patients (6) and onco-hematological patients (7) could present peculiar psychological features when compared with other groups. A study on female cancer group (6) points out to consider level of Depression, level of Anxiety and level of Body Image Disturbance with regard for young women. Gomez-Campelo et al (6) suggest that these psychological dimensions are probably connected with the effects of cancer treatment as: loss of fertility, menopause symptom and sexual functioning. Bergerot et al. (7) discussed that female cancer group reported more distress, anxiety and depression than male patients. Studies above considered (6, 7) addressed for a tailored assessment an intervention for different groups. On one hand, there are studies on pe-

cular need for different oncological group but on the other hand to our Knowledge in literature there aren't studies about concurrent validity for depression instruments in different cancer group. The present empirical study aims therefore to assess concurrent validity of the two most widely used depression tools (HADS-Depression subscale and BDI) in specific oncological groups (female cancer and hematological tumor) according to the guidelines of European Federation Psychological Association [EFPA] (8) in correlation studies, setting a cut-off of Pearson's  $r > 0.55$  for Concurrent Validity.

## Method

A correlational study was designed and took place at Careggi University Hospital in Florence from September 2011 to September 2013. Hospitalized and Day Hospital patients took part in the study; the following exclusion criteria were adopted: a) age  $< 18$  and  $> 75$  years, b) intellectual disability, c) not fluent in Italian. The study enrolled a convenience sample of 339 consecutive patients (mean age  $55 \pm 13$ ); in particular 103 (59 women and 44 men) patients were suffering from lymphoma, 236 patients were suffering from female cancer. The mean age was  $55.5 \pm 13.1$  years.

BDI and HADS (4; 9) were administered within a test battery that was designed for different purposes, which was completed in an average time of 50 minutes. To deepen complete battery of tools and criteria of selection of the cases oncological groups and of

the control group (10). Pearson's  $r$  coefficient between BDI and HADS was separately estimated in the female cancer and onco-hematological groups to assess concurrent validity.

## Ethical consideration

The study was approved by the local Ethical Committee with acceptance protocol number 2010/0008185 Ref. 19/10 and 2011/0027621 Ref. 70/11. Written informed consent was obtained from all the participants prior to enrolment.

## Results

Table 1 summarizes the descriptive of the groups (total oncological patients,  $n = 339$ ; onco-hematological patients,  $n = 103$ ; female cancer group,  $n = 236$ ). We compare also the value of  $r$ , considering criteria cut-off of  $r > .55$  of EFPA for concurrent validity.

In the female cancer group Pearson's  $r$  ( $r = .34$ ,  $p < .001$ ) the result was largely under the reliability cut-off of EFPA defined by comparing HADS-Depression with BDI. So, in this female cancer group the comparison failed to reach the criterium on the contrary Concurrent Validity of HADS-Depression compared with BDI was verified and satisfied in the onco-hematological group ( $r = 0.56$ ,  $p < .001$ ). Comparing HADS-Depression subscales with BDI failed to reach the criterium ( $r > 0.55$ ), for Concurrent Validity

**Table 1.** Descriptive Statistics and Mean value for Depression Scale HADS and Beck Depression Inventory BDI

	Total Oncological Group N=339	Female Oncological Group N= 236	Haematologic Oncological Group N= 103
	M $\pm$ DS	M $\pm$ DS	M $\pm$ DS
<b>Hospital Anxiety Depression Scale-Subscale of Depression</b>	7.57 $\pm$ 3.21	7.60 $\pm$ 3.23	7.52 $\pm$ 3.17
<b>Beck Depression Inventory BDI</b>	6.83 $\pm$ 7.06	6.58 $\pm$ 6.76	7.41 $\pm$ 7.72

also in the total sample as well ( $r=0.42$ ,  $p<.001$ ). Despite the three comparisons are statistically significant the power of  $r$  seems to be satisfied just for onco-hematological group.

## Conclusion

The present study explored Concurrent Validity of a widely used scale to assess depression in specific populations of oncological patients (female cancer patients and onco-hematological patients) which are known to have peculiar psychological needs (6, 7). HADS-Depression and BDI largely failed to reach the EFPA validity criterium in the female cancer group as well as in the total sample, therefore suggesting that common empirical procedures devoted to evaluate depression symptomatology in oncological setting should be carefully reconsidered. The clinical implications of the results suggest that the choice of the best psychological instruments for specific cancer groups should be considered as a relevant pre-condition in order to identify cancer patients at high risk of psychological maladjustment, and in designing tailored interventions aiming to address depressive suffering in this population. More in general, the results stress the relevance of an accurate assessment of psychosocial factors in oncology. The development and validation of assessing tools that are specifically devoted to the different needs of different groups of oncological patients (for example in young female cancer group as: loss of fertility, menopause symptom) should be considered as a primary goal for future research.

**Conflict of interest:** Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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