Construct validity of the Amsterdam Preoperative Anxiety and Information Scale (Italian Version) in women undergoing breast biopsy: a brief research report

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Abstract. The goal of this paper was to test Construct Validity of the Amsterdam Preoperative Anxiety and Information Scale (Italian Version) in women undergoing Breast Biopsy. To answer this purpose we have utilized Exploratory Factor Analysis (EFA) in a sample of 80 women undergoing Breast Biopsy at the Breast Unit of the Careggi University Hospital in Florence from January to February 2015. Overall the results support the construct validity of the Italian version of the APAIS for the population of women undergoing Breast Biopsy suggesting that the Italian version of APAIS can be useful to detect this clinically very relevant dimension. (www.actabiomedica.it)

Key words: anxiety, psycho-oncology, assessment

The Amsterdam Preoperative Anxiety and Information Scale (APAIS) is a self-report questionnaire composed of six items that was developed and validated in surgical settings (1), in order to evaluate the patient's preoperative anxiety level. It is a six-items 5-points Likert self-report questionnaire for preoperative use, consisting of two scales including a 4-items Anxiety Scale and a 2-items Need-for-Information Scale. All items score from 1 to 5, and therefore the score range is 4-20 for the Anxiety scale and 2-10 for the Need-for-Information scale: the higher the score, the higher the level of Anxiety and Information requirement (1, 2). The Italian version was validated in a group of patients listed for elective surgery (2) which excluded procedures that the authors supposed to be characterized by very higher anxiety levels. In our study patient undergoing to Breast Biopsy have anxiety levels comparable to the Bonanno's study sample. Here we extend the construct validity of the *Amsterdam Preoperative Anxiety and Information Scale* (APAIS) (1, 2)

to patients undergoing to Breast Biopsy (3). We have tested the construct validity of the Italian version of APAIS with Exploratory Factor Analysis (EFA) in a sample of 80 women undergoing Breast Biopsy at the Breast Unit of the Careggi University Hospital in Florence from January to February 2015. We expected to confirm the bi-dimensional structure of the Scale including Anxiety and Need-for-Information as sub-dimensions (2). The approval of the local ethics committees was obtained with acceptance protocol number 2014/0025902 Ref. OSS.14.129.

We recruited 80 patients of the Careggi University Hospital of Florence undergoing Breast Biopsy. The participants reported a mean age of 47.6±12,3 years. After written informed consent was obtained, women were asked to complete a tools battery which included the Italian version APAIS (2). Data were analyzed using the statistical software Package for Social Science IBM SPSS 25. We derived the descriptive statistics of the data [Total medium score obtained with the

Table 1. Rotated factor model

APAIS ITEMS	Anxiety	Need of Information
ITEM-1	,839	
ITEM-2	,844	
ITEM-4	,604	
ITEM-5	,660	
ITEM-3		,746
ITEM-6		,913

APAIS instrument (*APAIS_Total*)= 11,2±3.2, subscale of APAIS devoted to explore dimension of anxiety expression (*APAIS_Anxiety*)= 7.1±2.2 and subscale of APAIS devoted to explore dimension of need to information about medical procedure (*APAIS_Need-for-Information*)= 4.0±1.6]. The Pearson's Correlation Matrix; we evaluated the Keiser Meyer Olkin index (KMO=0.70) and we performed Bartlett's sphericity test, which was significant (X^2= 157.85 df 15, p<0.01). The data were therefore found to be suitable for the identification of the factors with EFA. We therefore performed EFA using the Principal Components Analysis with subsequent Varimax rotation (Table 1): we confirmed the factorial structure of APAIS, with two sub-dimensions which explained 68% of the variance; the APAIS_Anxiety subscale explained 37.5% of the Variance (items 1,2,4 and 5, with eigenvalue 2.87) and the APAIS_Need-for-Information scale explained the 30.9% (items 3 and 6, with eigenvalue 1.23). Table 1 shows that all the items reported high saturation levels. The total Cronbach's α =.76 was considered sufficient to establish the internal coherence of the Scale (2). Overall the results support the construct validity

of the Italian version of the APAIS for the population of women undergoing Breast Biopsy. In line with the original Dutch version of the Scale (1) and with the Italian validated version (2), our results confirmed the bi-factorial structure of the tool, suggesting that the Italian version of APAIS can be useful to detect this clinically very relevant dimension (3) in the population of women undergoing Breast Biopsy.

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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