

PRELIMINARY VALIDATION OF THE ITALIAN VERSION OF THE UTAH PHOTOPHOBIA SYMPTOM IMPACT SCALE (UPSIS-2) IN PATIENTS WITH MIGRAINE

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Background. Photophobia is one of the most debilitating non-pain symptoms of migraine attack and may persist beyond the ictal phase. Despite its clinical and research relevance, photophobia is often assessed using dichotomous questions, which may underestimate its functional burden. The Utah Photophobia Symptom Impact Scale version 2 (UPSIS-2) was developed to provide a multidimensional assessment of photophobia severity and its impact on daily functioning. To date, no Italian version of the scale is available. This study aims to perform a preliminary validation of the Italian UPSIS-2.

Methods. The UPSIS-2 was translated and culturally adapted into Italian following International Guidelines by two independent bilingual translators and evaluated in adults with episodic (EM) or chronic migraine (CM) enrolled in the Italian Headache Registry (RICe). Internal consistency was assessed using Cronbach's alpha and McDonald's omega. Structural validity was investigated through exploratory factor analysis (EFA), Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test. Convergent validity was examined using Spearman's correlations with monthly headache days (MHDs), headache-related disability (MIDAS), headache impact (HIT-6) and mean pain intensity (NRS). Known-groups validity was tested across clinical migraine subgroups. Sensitivity analyses evaluated the contribution of the two optional items (items 16–17).

Results. The study included 110 participants (mean age 40.1±12.5 years); 84.5% were female, 32.7% had CM. The mean UPSIS-2 score was 27.4±17.5. Internal consistency was excellent (Cronbach's α=0.95; McDonald's ω=0.96), with no improvement after item removal. Structural analyses supported a predominantly unidimensional construct (KMO=0.92; Bartlett's $\chi^2(105)=1573.17$, $p<0.001$). UPSIS-2 scores showed moderate correlations with MIDAS ($\rho=0.34$, $p<0.001$), MHDs ($\rho=0.34$, $p<0.001$), and HIT-6 ($\rho=0.26$, $p=0.005$), whereas no association emerged with mean NRS. Patients with CM reported higher UPSIS-2 scores than patients with EM (35.0±17.3 vs 23.7±16.5; $p=0.002$). Sensitivity analyses showed comparable performance with and without optional items.

Conclusions. The Italian UPSIS-2 showed excellent internal consistency and preliminary evidence of structural and convergent validity. Higher UPSIS-2 scores in CM and associations with migraine frequency and disability support the use of this scale for multidimensional assessment of photophobia in clinical practice and research. Further studies should evaluate its test–retest reliability and responsiveness.