

Development of the Betel Nut Dependency Scale (BNDS)

Ren-Hau Li,¹ Ming-Chou Ho,^{1,2} Tze-Chun Tang,³ and Catherine Fountain Chang¹

¹Department of Psychology, Chung-Shan Medical University

²Clinical Psychological Room, Chung-Shan Medical University Hospital

³Department of Psychiatry, Kaohsiung Medical University Chung-Ho Memorial Hospital

On behalf of the limited development in betel nut dependence scale with adequate psychometric properties, the current study aimed to establish a clinical-relevant quick screening tool on betel nut dependence. The formal participants included 257 betel nut chewers, recruited within one year and five months by human resource agency. Amongst them, the 128 participants recruited in the primary 6 months period were regarded as the preliminary sample. There were 39 items adopted, referencing 2 domestic studies on betel nut dependence and a widely-used smoking addiction scale (the Questionnaire on Smoking Urges-Brief, QSU-Brief); 37 items were selected for quantified analyses after expert validity analysis. Data from the preliminary sample were investigated with exploratory factor analysis by principal axis factoring extraction and direct oblimin rotation method. Based on the 3 item-deletion standards that we set up, we obtained 11 items and 3-factors structure in the scale: craving and desire (4 items), withdrawal response (4 items) and tasting habits (3 items). The eigenvalues of the 3 factors accounted for 63.10% of total variances, and α coefficients of reliability were between .73 ~ .89. Then, data from formal sample were modeled with 3 first-order factors and 1 second-order factor by confirmatory factor analysis using structural equation modeling. Most of model-fit indexes showed good fitting results, suggesting optimal construct validity of the scale. The scale also offered criterion-related validity for reference. Finally, we used ROC (receiver operating characteristic) curve to explore possible cutoff scores. Based on the maximum information method of item response theory, we recommend the cut-off score of 24 to be the most stable approximation to determine potentials of betel nut dependence.

Keywords: *betel nut, dependency, ROC (receiver operating characteristic) curve, scale, structural equation model*