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Gender variations in the psychological factors as defined by the extended health belief model of oral hygiene behaviors

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Abstract

Oral self-care practice is an effective preventive measure for maintaining good individual oral health which is an integral part of one's general health. The aim of this analysis was to investigate gender variations in the psychological factors as defined by the extended health belief model (HBM) and oral hygiene behaviors (OHB). Females reported higher values on perceived severity and self-efficacy and lower values on perceived barriers. Exploratory regression analyses revealed that for males perceived barriers and self-efficacy were relatively important determinant of OHB, whereas among females only self-efficacy was relevant. Gender variations in OHB and in the psychological determinants should be considered when designing practical recommendations for improving OHB.

Keywords: health belief model; severity; susceptibility; benefits; barriers; oral health behaviors

1. Introduction

Over the last decades much research has been devoted to the analysis of psychosocial factors associated with the development of health problems (Bermúdez, 1999). A number of theoretical models of individual self-protective

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behavior have been formulated: the Health Belief Model (HBM) (Becker, Drachman, & Kirscht, 1974; Rosenstock, 1974), the Protection Motivation Theory (PMT) (Maddux and Rogers, 1983), the Precaution Adoption Process (PAPM) (Weinstein, 1993), the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Theory of Planned Behavior (TPB), the Subjective Expected Utility Theory (SEUT) (Edwards, 1954), and the Comprehensive Health Seeking and Coping Paradigm (CHSCP) (Nyamathi, 1989).

The Health Belief Model, considered to be one of the most influential models in health promotion, originated in the 1950s (Hochbaum, 1958) and was extended, at a later stage, to include screening behaviors, all preventive health actions and illness behaviors (Becker et al., 1974; Rosenstock, 1974; Maiman, Becker, Kirscht, Haefner, & Drachman, 1977). The evidence available indicates that the HBM has most frequently been employed in the context of health service uptake issues such health promotion and compliance with medical/dental treatment (Ersin & Bahar, 2011; Kiviniemi, Bennett, Zaiter, & Marshall, 2011; Umaki, Umaki, & Cobb, 20102; Buglar, White, & Robinson, 2010).

The significant constructs in the HBM are: 1) “Perceived susceptibility”: subjective perception of the risk of contracting an illness; 2) “Perceived severity”: feelings about the medical and social consequences of acquiring a disease; 3) “Perceived benefits”: referring to the effectiveness of the particular activities in reducing the threat of disease/illness; 4) “Perceived barriers”: the cost-benefit analysis that people undertake to weigh up a beneficial action and its opposing limitations (e.g. costs, time inconvenience); 5) “Cues to action”: the perception of barriers and the levels of susceptibility and severity offer a preferred mode of action and provide the stimulus to actd; 6) “Modifying factors”: demographic, socio-psychological and structural factors which affect the individual’s perceptions about perceived benefits of preventive health actions (Roden, 2004).

Many previous studies showed clear gender differences in the percentages of adults reporting oral health practices (Pakpour & Sniehotta 2012; Al-Omiri, Barghout, Shaweesh, & Malkawi, 2012; Guiney, Woods, Whelton, & Morgan, 2011). The aim of this analysis was to investigate gender differences in the psychological factors as defined by the Health Belief Model (HBM) applied to oral hygiene behavior (OHB).

2. Material and methods

2.1. Sample

The participants of this descriptive, correlational, cross-sectional study were 288 first-year undergraduate students at the Faculty of General Medicine, University of Medicine and Pharmacy “Carol Davila”, Bucharest, who were invited to participate in this survey at the end of the 2011-2012 academic year. In addition, the sample was ethnically homogeneous (100% whites). Upon entry, all participants gave written informed consent for their participation. The study was conducted in full accordance with established ethical principles (World Medical Association Declaration of Helsinki, version VI, 2002).

2.2. Instruments and measures

The research data were gathered by using a structured questionnaire in Romanian. The questionnaire consisted of 85 items and was constructed based on the health belief model (HBM) and self-efficacy (Maiman et al., 1997; Buglar et al., 2010) constructs for each personal (toothbrushing, flossing, mouthwashes) and professional (frequency and reason of dental visits) oral health behavior. It examined the effect of the theory’s constructs on intention to improve oral health behaviors. All variables were scored consistently so that higher mean scores reflected more-positive attitude, more-positive subjective norm, and higher perceived behavioral control towards oral health behaviors. The overall alpha coefficient of the instrument was 0.95.

2.3. Statistical analysis

Descriptive statistics and statistical analyses were performed with computerized statistical package (SPSS 17.0, Inc., Chicago, USA) software. The internal consistency of the scale was examined using Cronbach's alpha. Descriptive statistics were used on all variables. Differences between groups were identified with Student’s *t*-test