Development and Testing of an Instrument to Measure Beliefs about Cervical Cancer Screening among Women in Botswana

Authors : Ditsapelo M. McFarland

Abstract : Background: Despite the availability of the Pap smear services in urban areas in Botswana, most women in such areas do not seem to screen regular for prevention of the cervical cancer disease. Reasons for non-use of the available Pap smear services are not well understood. Beliefs about cancer may influence participation in cancer screening in these women. The purpose of this study was to develop an instrument to measure beliefs about cervical cancer and Pap smear screening among Black women in Botswana, and evaluate the psychometric properties of the instrument. Significance: Instruments that are designed to measure beliefs about cervical cancer and screening among black women in Botswana, as well as in the surrounding region, are presently not available. Valid and reliable instruments are needed for exploration of the women's beliefs about cervical cancer. Conceptual Framework: The Health Belief Model (HBM) provided a conceptual framework for the study. Methodology: The study was done in four phases: Phase 1: item generation: 15 items were generated from literature review and qualitative data for each of four conceptually defined HBM constructs: Perceived susceptibility, severity, benefits, and barriers (Version 1). Phase 2: content validity: Four experts who were advanced practice nurses of African descent and were familiar with the content and the HBM evaluated the content. Experts rated the items on a 4-point Likert scale ranging from: 1=not relevant, 2=somewhat relevant, 3=relevant and 4=very relevant. Fifty-five items were retained for instrument development: perceived susceptibility - 11, severity - 14, benefits - 15 and barriers - 15, all measuring on a 4-point Likert scale ranging from strongly disagree (1) to strongly agree (4). (Version 2). Phase 3: pilot testing: The instrument was pilot tested on a convenient sample of 30 women in Botswana and revised as needed. Phase 4: reliability: the revised instrument (Version 3) was submitted to a larger sample of women in Botswana (n=300) for reliability testing. The sample included women who were Batswana by birth and decent, were aged 30 years and above and could complete an English questionnaire. Data were collected with the assistance of trained research assistants. Major findings: confirmatory factor analysis of the 55 items found that a number of items did not adequately load in a four-factor solution. Items that exhibited reasonable reliability and had low frequency of missing values (n=36) were retained: perceived barriers (14 items), perceived benefits (8 items), perceived severity (4 items), and perceived susceptibility (10 items). confirmatory factor analysis (principle components) for a four factor solution using varimax rotation demonstrated that these four factors explained 43% of the variation in these 36 items. Conclusion: reliability analysis using Cronbach's Alpha gave generally satisfactory results with values from 0.53 to 0.89.

Keywords : cervical cancer, factor analysis, psychometric evaluation, varimax rotation

Conference Title : ICN 2018 : International Conference on Nursing

Conference Location : London, United Kingdom

Conference Dates : September 27-28, 2018