Development and validation of preconception care improvement scale (PCIS) in a resource-limited setting

Abstract

Background: Preconception care helps to close the gaps in a continuum of care. It is of paramount importance to reduce maternal and child adverse pregnancy outcomes, increase the utilization of services such as antenatal care, skilled delivery care, and post-natal care, and improve the lives of future generations. Therefore, a validated instrument is required. The purpose of this study was to develop and validate the preconception care improvement scale (PCIS) in a resource-limited setting.

Methods: A mixed-method study was carried out from 02, March to 10, April 2019 in Manna district, Oromia region, Ethiopia to test the reliability and validity of the scale. Items were generated from literatures review, in-depth interviews with different individuals, and focused group discussions with women of reproductive age groups. A pretested structured questionnaire was used and a survey was conducted among 623 pregnant women in the district. The collected data were entered into EPI-data version 3.1 software and exported to SPSS version 23 software and data were analysed for internal consistency and validity using reliability analysis and factor analysis.

Results: The PCIS has 17 items loaded into six factors: Substance-related behaviors, screening for common non- communicable and infectious diseases, micronutrient supplementation and vaccination, seeking advice, decision and readiness for conception, and screening for sexually transmitted diseases. Factor analysis accounted for 67.51% of the observed variance. The internal consistency (Cronbach's alpha) of the scale was 0.776. Diversified participants of the qualitative study and experts' discussions assured the face and content validity of the scale. Factor loading indicated the convergent validity of the scale. Three of the PCIS subscale scores had a positive and significant association with the practice of preconception care and antenatal care visits, which confirmed the predictive validity of the scale.

Conclusion: The PCIS exhibited good reliability, face validity, content validity, convergent validity, and predictive validity. Thus, the scale is valid and helps to improve preconception care, especially in resource-limited settings.