

Development and reliability of a questionnaire to assess the dietary knowledge of Italian adult and elderly population. The QCAI (*Questionario delle Conoscenze Alimentari Italiano*)

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Abstract

Background and objectives

Nutritional knowledge can influence eating habits, in favor of healthier ones. In Italy, few questionnaires on dietary knowledge are available and not applicable to large populations stratified by age. The aim of this study was to develop an Italian questionnaire that investigates the nutritional knowledge of Italian adult and elderly individuals (*Questionario delle Conoscenze Alimentari Italiano*, QCAI) and to test the reliability of this questionnaire.

Methods.

The sample consisted of 165 Italian adults and elderly participants, aged 18 to 89 years, recruited from the Dietetic and Metabolic Unit of the “Santa Margherita” Institute, University of Pavia. Participants provided informed consent and completed a self-administered questionnaire comprising 69 items across five sections: Italian nutritional recommendations, nutrient content of foods, healthy choices, frequency of meals, and demographic data. Each subject completed the questionnaire twice to assess test-retest reliability. The reliability was tested with the test-retest reliability and internal consistency by Cronbach's alpha.

Results.

A population of 165 Italian adults and elderly (48 males and 117 females, 50.47 ± 17.053 years) answered, obtaining scores from each category and a global score. The results obtained regarding test-retest reliability, show that 85.51% of the questions have a Cronbach's Alpha value greater than 0.4; concerning internal consistency 49.28% of the questions have a Cronbach's Alpha value greater than 0.4. A score ranging from >0.40 to 0.60 means that the instrument is considered "fairly reliable". Although the scores concerning internal consistency are not all sufficient, the present questionnaire was reliable for temporal stability.

Discussion.

The QCAI represents a promising tool for assessing nutritional knowledge in Italian adults and older adults.

The robust test-retest reliability underscores its stability over time, a critical feature for longitudinal studies and public health interventions. However, the moderate internal consistency highlights potential areas for refinement, such as revising ambiguous items or expanding domains with lower coherence (e.g., meal frequency or demographic correlations).

These findings align with prior research showing that dietary knowledge instruments often exhibit higher temporal stability than internal consistency, particularly when addressing multifaceted topics like nutrient composition and cultural dietary practices. The QCAI's structure, which integrates region-specific guidelines, enhances its relevance for Italian populations—a notable advancement over generic tools.