

# DEVELOPMENT OF A FOOD FREQUENCY QUESTIONNAIRE TO ASSESS THE DIETARY INTAKE OF A PHYTATE IN THE URBAN MACEDONIAN POPULATION

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## Abstract

Phytate, the salt of phytic acid, is the primary storage compound of phosphorus in seeds. Plant-based foods such as unrefined cereals and legumes, including oil seeds and nuts are the main sources of phytate in the daily diet. Although some studies shown that phytate may have beneficial roles as an antioxidant and anticarcinogen, it is a well-known inhibitor of the absorption of some essential trace elements and minerals, which may lead to calcium, iron, magnesium and zinc deficiencies in the body. Therefore, valid tools for measuring the phytate intake are needed. Food frequency questionnaire (FFQ) is commonly used as an effective, easily administered and inexpensive dietary assessment tool. The aim of this study was to develop a quantitative FFQ for estimating intake of phytate in the urban Macedonian population.

Hence, the main objectives of the study were (a) to generate an appropriate food list, portion size and food frequency options and (b) to pretest the dietary tool with the intent to explore its usability and to identify issues and suggestion for its improvement. The FFQ was developed using 3-day food intake record data from a sample of 100 participants (of both genders, aged 15-65 years and varying dietary patterns) living in Skopje. From the obtained collective food data, 31 single foods were selected and formed the basis for the food list. For each food item, a standard serving was expressed in commonly used portions. The frequency of intake was assessed on an ascending eight-point scale: never, once/month, 2 - 3 times/month, once/week, 2 - 3 times/week, 4 - 6 times/week, once/day, and twice or more/day. Support questions on supplement use, meal practices, demographics, anthropometrics, lifestyle, and health status, were also included.

This study highlights the development of a quantitative FFQ, as a dietary assessment tool for estimating intake of phytate. The next step will involve the verification of the FFQ reproducibility and validity.

**Key words:** *Food frequency questionnaire, Dietary assessment tool, Phytate intake.*