New Highs in Iodine Deficiency Prevalence Among Children: Implications for Growth and Development

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Background: Adequate iodine nutrition is essential to the development of the brain and physical growth of children. Vulnerable age groups remain at greater risk of iodine deficiency which warrants continuous monitoring of its prevalence.

Objective: To provide national-level estimates of the prevalence of iodine deficiency among children and to report any predisposing dietary factors in this group.

Study Design, Settings, Participants: We analyzed the dietary and laboratory datasets from 3,402 children ages 2-10 years who participated in the US prepandemic National Health and Nutrition Examination Surveys 2017-2020 to meet the above objective.

Measurable Outcome/Analysis: Urinary iodine concentration (UIC) was used to assess iodine nutritional status. Descriptive and inferential statistics were used to estimate deficiency prevalence, differences between groups, and relative risks.

Results: The mean UIC was 143.5 μg/L. Overall, 27.8% of the children were iodine deficient (UIC<100 μg/L), of which 9.5% were severely iodine deficient (UIC<50 μg/L). The prevalence of iodine deficiency differed between boys (25.0%) and girls (30.7%), especially in severe iodine deficiency rates: boys (6.2%) and girls (12.8%), p=0.001. Girls were more likely to be severely iodine deficient than boys, relative risk: 1.80; 95 CI: 1.20 - 2.70, p=0.005. Type of cow milk consumed regularly, adding salt at the dining table, income, and race/ethnicity did not associate with the children's iodine nutritional status.

Conclusion: The prevalence of iodine deficiency among children is excessively high. Girls experience higher rates of iodine deficiency than boys. There is need to re-focus nutritional interventions to improve children's iodine nutritional status.

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Perception of NUEVA (Nutrition for Underserved Elders via Application) Usability During Alpha-Testing

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Background: Older adults (60 years+) have unique nutrition needs and circumstances. To address their individual requirements, many technological innovations are emerging to provide the necessary resources for this largely underserved population. To enhance participation in the senior nutrition programs, a multifunctional app, NUEVA, was created to optimize recruitment, assessment, nutrition intervention, and the participant experience. The development was informed with a user-centered design (UCD) framework including collaboration with community partners associated with senior nutrition programs.

Objective: To complete initial or “alpha” testing of the NUEVA app with community partners.

Study Design, Settings, Participants: A qualitative study with focus groups was conducted in Central Texas. Focus group participants included leaders of senior nutrition programs, food banks, and food delivery volunteers serving older adults in the Central Texas area. Focus groups were conducted over Zoom and followed a semi-structured guide that covered technology usage. Additionally, a Think Aloud methodology was used to assess participants real-time feedback while navigating NUEVA. Recordings were transcribed and checked for accuracy.

Analysis: Qualitative analysis included the review of summary sheets, peer debriefing, and coding to identify desired key features of NUEVA and barriers or facilitators related to usability of the app.

Results: Community partners engaged in focus groups (n=4 groups). Participants provided insights about successful technology adoption and barriers to technology usage in senior nutrition program operations. Facilitators of programmatic operations included opportunities for NUEVA to improve, such as recruitment, screening, assessment, meal selection, greater informed client outreach and increased ways to address nutrition security. Group discussions identified possibilities to enhance NUEVA for the older adults and operation use, such as technological concerns of the older adult user and staff, including data security.

Conclusion: Findings inform the development of NUEVA, including the nutrition education and additional desired modules, before beta testing with user groups. Furthermore, this community-based approach utilizing UCD may be a valuable model for leveraging technology to develop impactful solutions for older adults.

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Skin Carotenoid Status May Provide Insight Into Overall Diet Quality in Adolescents

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Background: Demonstrated by a low consumption of healthful foods like fruits and vegetables (FV) and an over-consumption of unhealthy foods like sugar-sweetened beverages, adolescents adhere to recommendations within the Dietary Guidelines for Americans (DGA) the least across all age groups. Promoting adherence to the DGA is vital for adolescents, since many behaviors established during adolescence may transpire into adulthood. Assessing diet quality (DQ) is important for the development of effective dietary interventions; however, there is no objec-

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