Contribution of Sugar to Children’s Calories Intake: Implications for the Dietary Guidelines for Americans

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Background: Excessive consumption of sugar associates with metabolic abnormalities and adverse health outcomes. The Dietary Guidelines for Americans 2020-2025 recommends those 2 years and older consume less than 10% of their calories from added sugar. Sugar is widely available and attractive to children, however the contributions of sugar to carbohydrate and calories intakes in children has been sparsely researched.

Objectives: To determine total sugar intake and its contributions to total carbohydrate and calories intakes among children aged between 2 years and 9 years in the United States of America.

Study Design, Settings, Participants: The demographics and dietary data from 3,048 children aged between 2 years and 9 years in the United States Preparandemic National Health and Nutrition Examination Surveys 2017-2020 were analyzed for this study.

Measurable Outcome/Analysis: Ratios of total sugar to total carbohydrate intake, total calories from sugar to total calories intake, and relationships with demographic variables were determined using descriptive and inferential statistics.

Results: Boys’ total sugar intake 109.0 g (95% CI, 104.2-113.7 g) was higher than girls’ intake 98.4 g (95% CI, 95.2-101.6 g), p<0.001. About half of the children’s carbohydrate intake was sugar, mean: 47.0% (95% CI, 45.8-50.4%). Of the mean calories intake of 1,563.2 kcal (95% CI, 1257.8-1894.1 kcal), sugar contributed 368.0 kcal (95% CI, 313.6-431.5 kcal), p=0.001. The mean sugar intake of 47.0% was 2.9 years higher than girls’ intake 98.4 g (95% CI, 95.2-101.6 g), p<0.001. About half of the children’s carbohydrate intake was sugar, mean: 47.0% (95% CI, 45.8-50.4%). Of the mean calories intake of 1,563.2 kcal (95% CI, 1257.8-1894.1 kcal), sugar contributed 368.0 kcal (95% CI, 313.6-431.5 kcal). Overall, total sugar contributed 24.97% (95% CI, 24.17-26.11%) of children’s total calories intake. Children’s total sugar intake and calories intake from total sugar did not differ by income, or race.

Conclusion: Sugar makes up half of children’s total carbohydrate intake and contributes 25% of their caloric intake. The high sugar intake by children could engender obesity, glycemic control, metabolic and cardiovascular abnormalities later in life.

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Eating Behaviors Changed by Life Events Among Older Adults: A Thematic Analysis

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Background: Attitudes from healthcare workers toward older adults and working collaboratively in healthcare teams can affect the quality-of-care older adults receive. Understanding dietetics attitudes toward working with older adults in interprofessional teams is needed.

Objective: This project aimed to describe dietetic students’ viewpoint toward the aging population and to work within interprofessional teams.

Study Design, Setting, Participants: Ten students from the Department of Health and Exercise Science were asked to participate in a survey consisting of closed and open-ended questions.

Measurable Outcome/Analysis: The Student Perceptions of Interprofessional Clinical Education-Revised (SPICE-R) 10-item survey assessed student readiness to work with other healthcare professions in differing fields. The Geriatrics Attitude Scale (GAS) assessed the students’ attitudes toward older adults. The GAS is a 14-item scale that includes positive, negative, and neutral statements. Students were asked about their prior experience working with older adults, their desire to work with older adults, and five adjectives they would use to describe older adults. Three researchers coded adjectives as negative, positive, or neutral. Descriptive statistics are reported as mean and standard deviation or frequencies.

Results: The average age of the students was 23.6 ±2.9 years. Seven students were seniors, and eight identified as female. The SPICE-R resulted in a sum score of 42.2±4.0 ranging from 36-50, with a maximum possible score of 50 (most positive). The mean GAS sum scores were 53.1±4.75, ranging from 46-61, with a maximum possible score of 70 (most positive). Most students (n=6) reported that they have had a lot of experience working with older adults. Four students said they were interested in working with older adults. Thirteen of the adjectives provided by students had a neutral connotation, 26 had a positive, and 3 had a negative.

Conclusion: Overall the dietetic students had a positive attitude towards aging and working as part of an interprofessional team. However more research is needed from a larger sample of students.

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Dietetic Students’ Attitudes Toward Aging and Readiness to Work in Interprofessional Teams to Manage Our Aging Population

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Conclusion: Overall the dietetic students had a positive attitude towards aging and working as part of an interprofessional team. However more research is needed from a larger sample of students.

Funding: Internal

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Nagao-Sato (continued)

Background: Healthy aging is due to older adults’ eating behavior affected by their life events throughout their life course; however, relationships between eating behaviors (EBs) and life events (LEs) are not well known.

Objective: This qualitative study reported EBs affected by LEs among community-dwelling older adults.

Study Design, Settings, Participants: We conducted individual semi-structured interviews in three suburban areas of Tokyo, Japan in 2022. Using convenience sampling, 27 older adults (mean age 77±4.8 years old, male 48%) participated in the interviews.

Measurable Outcome/Analysis: The interview started by asking EBs on the previous day, then the interviewer picked routine EBs and asked participants to recall when and why the EBs had been implemented. Using thematic analysis, 122 EBs were coded and categorized into 7 EB categories, and 112 LEs were coded and categorized into 7 LE categories. Each LE code was linked to the EB codes, and 87 EB codes linked to 112 LE codes remained.

Results: The identified 7 LE categories included: 1) “education-related events” (5 LE codes), 2) “occupation-related events” (25 LE codes), 3) “household size-related events” (28 LE codes), 4) “health-related events” (38 LE codes), 5) “leisure-related events” (8 LE codes), 6) “accommodation-related events” (1 LE code), and 7) “the coronavirus-19 pandemic-related events” (7 LE codes).

The three main LE categories (“occupation-related events”, “household size-related events”, and “health-related events”) occupied 81% of all LE codes. These three main LE categories shared 5 EB categories linked: “food choice”, “meal schedule”, “cooking frequency”, “improving cooking process”, and “eating situation”. In addition to the shared 5 EB categories, “occupation-related events” and “household size-related events” were linked to the “meal preparation” EB category, and “health-related events” were linked to the “shopping” EB category.

Conclusion: LEs related to occupation, household size, and health led to diverse changes in EBs including meal schedule, food choice, meal preparation, cooking, and eating situation. LEs leading healthy eating behaviors should be further investigated.

Funding: Ochanomizu University

Eating Beliefs, Perceived Stress, and Added Sugar Intake in Young Adult Cancer Survivors: A Mediation Analysis

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Background: Young adult cancer survivors have poor adherence to dietary guidelines and an increased risk of obesity-related chronic diseases such as diabetes. High levels of psychosocial stress may impact their ability to make healthy eating choices.

Objective: This study explored whether there are mediated effects of perceived stress in the association between eating beliefs and added sugar intake in a sample of young adult cancer survivors.

Study Design, Settings, Participants: This cross-sectional study examined self-administered REDCap® survey data from 225 Adolescent & Young Adult Program (AYA) cancer survivors aged 18-39 years.

Measurable Outcome/Analysis: Participants completed a survey including the Perceived Stress Scale 10, Eating Beliefs Questionnaire, National Health and Nutrition Examination Survey Dietary Screener Questionnaire, and general demographic and diagnosis-related questions. A mediation analysis was conducted using a single mediator model (X: eating beliefs, M: perceived stress, Y: added sugar intake). The Sobel test was used to determine significance of the mediation effect.

Results: The mediation model demonstrated significant direct effects of eating beliefs on perceived stress (β=0.120, p<0.001), perceived stress on added sugar intake (β=0.245, p=0.01), and eating beliefs on added sugar intake (β=0.790, p=0.032). The indirect effect of eating beliefs on added sugar intake via perceived stress was significant (β=0.0294, p=0.02).

Conclusion: The association between eating beliefs and added sugar intake in young adult cancer survivors was partially mediated by perceived stress, suggesting that dietary interventions for this population may include a stress reduction component.

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Effects of Economic Situation and Lifestyle Behavior on Japanese Undergraduates’ Healthy Diets by Nutritional Knowledge Level

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Background: Few young Japanese adults regularly eat a well-balanced diet consisting of cereals (staple), proteins (main dish), and vegetables (side); this problem is coupled with poor breakfast and vegetable intake.

Objective: To comprehensively identify the effects of economic situation and current eating and lifestyle behaviors on the healthy diets of young adults with different nutritional knowledge levels.

Study Design, Setting, Participants: The subjects were 151 males completing a 2022 self-administered questionnaire (84.7% response rate) as a cross-sectional study of engineering students at a public university in Hyogo Prefecture.

Measurable Outcome/Analysis: A healthy diet was defined as having a well-balanced meal at least twice daily, eating breakfast regularly, and eating five or more vegetable dishes daily. A hypothetical model was developed by using factors potentially associated with habitually eating a healthy diet, including economic situation (financial well-being) and current eating and lifestyle behaviors as limiting factors (bedtime, eating-out, home-cooked-meal replacement, meal within 2 h before bed, late-night snacking). Assuming that the two levels of nutritional knowledge (Cronbach’s α, 0.931) (high-score group ≥ median >