

Health Innovation E-Book Family Health to Support SDG 3 Good Health

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Article Info	ABSTRACT
Article history: Received 10 28, 2024 Revised 12 01, 2024 Accepted 12 03, 2024 Keywords: Family Nutrition Healthy Eating SDG 3 Health Innovation Sustainable Diet	The pandemic has substantially affected worldwide eating patterns, increasing processed food consumption and raising overweight and obesity rates. This study intends to assist SDG 3: Good Health and Well-Being by creating an e-book that focuses on family health. This study used a literature review and a cluster-randomized controlled trial approach to examine treatments focused on family nutrition education and their impact on food behavior. The findings show that family-centered nutrition methods can dramatically enhance health outcomes across all age groups, increase family ties, and encourage sustainable eating habits. The e-book provides practical advice on family nutrition, meal planning, budgeting, and incorporating rising trends such as plant-based diets. It also emphasizes the importance of technology and community engagement in cultivating a health-conscious family culture. This innovation is expected to help families adopt better lives and contribute to overall public health gains.
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INTRODUCTION

Increased consumption of snacks and fast food has occurred since the pandemic era. The pandemic era resulted in a complete paralysis of outdoor activities, which were then expressed through social media, including changing diets through food delivery (Mignogna et al., 2022), this continues until today there has been a major change in food consumption patterns around the world. This change has not escaped the negative influence of the increasing use of social networks such as Instagram and YouTube in collaboration with influencers and celebrities has led to trends containing food content such as mukbang, how to cook, trending / hip / current food. These food trends have shifted and influenced local culture, thus changing people's diets and impacting eating habits (Ragelienė & Grønhøj, 2021; Sina et al., 2022) (van der Bend et al., 2022). In this era of nutritional transition, people prefer to eat foods that are high in vegetable oil, sugar, refined carbohydrates and animal-sourced foods (Jessica Emily Singh, 2020).

There has been an increase in cases of overweight and obesity worldwide. From 2000 to 2020, between the ages of 5 and 19, overweight (BMI > 25) increased from 10% to 21.3% and obesity (BMI > 30) increased from 2.5% to 9% (Report, 2020). The biggest mortality factor due to nutritional errors is currently caused by

inappropriate food composition and high body weight (Report, Mortality attributable to dietary composition and weight, 2020). In adults 18 years of age > overweight (BMI > 25) has increased from 29.7% - 48% and obesity (BMI > 30) 6.7% - 16.2%. In adults this results in an increase in diabetes cases of up to 10.5% (Report, Adult Nutrition Status and Disease, 2020).

Eating behavior is a form of family care and function that starts early, parents have the right to decide what to consume to support family nutrition (Blaine R.E., 2017) (Yee A.Z.H., 2017). According to research results (Hammons Aj., 2011). (Van Lippevelde W, 2013) (Fulkerson JA, 2015) the frequency of family meals is thought to influence the family's eating schedule, so family members tend to have a healthier body weight. (Iddleton G., 2020) mentioned, family relationships and communication are the main elements related to the frequency of family meals. If these elements are not fulfilled, it can become an obstacle in the eating schedule.

The family's inability to control small family behaviors including meal frequency leads to family dysfunction, meaning that family members can no longer manage daily routines (Berge JM, 2013) (Walton, et al., 2018).

In families when one person makes healthier choices, it can inspire others to do the same, creating a ripple effect. Families that prioritize

nutrition tend to have better health outcomes. Good nutrition can prevent chronic diseases, reduce obesity rates and improve overall health for all ages. Eating together strengthens family bonds and improves communication. Eating together can also be a time to discuss nutrition and health, reinforcing positive habits.

Families often pass on cultural food practices and traditions. Educating families about nutrition can help them create healthier versions of traditional foods, preserving culture while improving health. Focusing on family nutrition can help overcome common challenges such as picky eating. Involving children in meal planning and preparation can increase their willingness to try new foods. Families who plan meals together can save money and reduce food waste.

Teaching families about budgeting and healthy food choices can lead to more sustainable diets. Family nutrition encompasses multiple aspects-physical health, mental well-being, and social interaction-making it a holistic approach to health. Families play an important role in their communities. By promoting nutrition within families, healthier communities can emerge, leading

to broader public health benefits. Targeting families in nutrition efforts not only benefits individual members but also strengthens the family unit as a whole, fostering a culture of health that extends to the community.

METHODS

The research method used in this study was literature review research using a cluster-randomized controlled trial design. Determination of literature is by sorting from the most relevant, relevant, to quite relevant to the research. Searching for articles in journals and theories in textbooks on the internet with search engines, namely science direct, ResearchGate and CINAHL. The articles used are articles from 2019 - 2024 that are available in full text. Searching for journal articles is done by typing keywords or keywords that can make it easier to find research journal articles. The keywords used in this study are family, nutrition, meals, diet, and nutrition.

Table 1. Literature Review

Researcher	Destination	Sample	Intervention	Duration	Results
Tara Shrout Allen (2023) Nutritional Avocado Intervention Improves Physical Activity Measures in Hispanic/Latino Families: A Cluster RCT	To assess how two different avocado levels among Latino families affect specific physical activity outcomes in an RCT cluster	72 families with 235 Hispanic/Latino participants	Families given 14 avocados/week vs. 3 avocados/week	2 weeks	Intervention group had 2.197 MET more minutes/week ($p<0.01$), mainly in moderate activity ($p<0.01$), not severe ($p=0.06$)
EFFECTS Trial Engaging Fathers & Bundling Nutrition and Parenting in Rural Tanzania	To assess effects on children and caregivers from (1) nutrition only vs. combined parenting, and (2) interventions involving both parents vs. mothers only	80 village groups (PKM)	5 groups: standard care, maternal nutrition, partner nutrition, maternal & child care, spousal nutrition & childcare. Delivered 2x/week for 24 sessions	24 sessions	Community health workers provided integrated programs effectively, promoting gender equality more than women-only nutrition programs

Nourmayansa Vidya Anggraini (2024) Family Nursing Care Using Nutrition Education on BMI in School-Age Children with Obesity (Depok)	To evaluate the effectiveness of nutrition education in reducing BMI in children	Children aged 5–18 years	Health education on obesity, dieting, and healthy food	2 meetings	Intervention group showed 0.60 SD BMI decrease; non-intervention group had 0.59 SD decrease
Marta Rojo (2022) ENTREN-F: Family-Based Intervention for Childhood Obesity (RCT)	To modify children's diet and physical activity habits	Not specified	3 groups: ENTREN-F (habit + lifestyle + CBT), ENTRY (habit + lifestyle), Control. Includes 2h nutrition + 2h physical activity workshops	10 sessions (2h/session); family workshops: 6 sessions (2h)	Changes in BMI z-scores, psychological well-being, and family functioning over 6 months
Li Kheng Chai (2019) Web-based Family Telehealth Nutrition Intervention (Pilot RCT)	To evaluate a 12-week online telehealth + SMS nutrition intervention for child weight and diet	Children aged 4–11 years with BMI >21.5 kg/m ²	2 telehealth consultations by dietitian; SMS group received additional messages	12 weeks	Telehealth+SMS group reduced nutrient-poor food intake (p=.038) and increased healthy food intake (p=.045) vs. control
Fiona J. Kinnear (2020) Nutrition & Physical Activity Intervention for Familial Hypercholesterolaemia (Pilot RCT)	To evaluate feasibility and acceptability of intervention for families with FH	24 individuals aged 10–18 and parents	Dietary targets: ≤30% TEI fat, ≤10% saturated fat, ≤300mg cholesterol, ≥5 fruit/veg servings, fiber (20–30g/day), 2g plant sterols; promote physical activity	Not specified	Reduced sedentary time and improved age-appropriate physical activity; control group only monitored with standard treatment

RESULT AND DISCUSSION

Strategy for E-Book Guidelines

(1) Introduction to family nutrition Importance of nutrition for all family members

It is important to recognize the importance of nutrition for all family members, as it directly impacts overall health, development and quality of life.

a. Children

In children, parents should be knowledgeable and pay attention to aspects of growth and development such as proper nutrition supporting

physical growth, brain development, and the formation of a strong immune system, cognitive function: Nutrients such as omega-3 fatty acids, iron, and vitamins are essential for optimal brain health and learning ability, and health habits e.g. Teaching children about nutrition encourages lifelong healthy eating habits and helps combat childhood obesity.

b. Teens

In adolescents the things to consider are physical changes which include Nutritional needs increase during adolescence due to rapid growth and

hormonal changes, mental health as a balanced diet can improve mood, energy levels, and mental clarity, helping adolescents navigate the challenges in this stage of development, and performance as nutrition supports athletic performance and academic achievement, improving focus and stamina.

c. Adults

The nutrition lessons needed in adults are disease prevention by incorporating nutrients that prevent chronic diseases, monitoring body weight (BMI), and Good nutrition increases energy and productivity, improving work performance and daily life.

d. Elderly

In the elderly there is a decrease in body function, muscle mass, bone, and cognition, so they need knowledge of nutritional fulfillment to support this, need to approach health services to monitor their disease conditions, and do social interactions by sharing food.

Overview of common dietary guidelines

The creation of balanced meals that promote the health and well-being of each family member is emphasized in the general dietary guidelines for family nutrition. Families are advised to provide a wide variety of fruits and vegetables on half of their plate, and lean proteins and whole grains on the other half. Whole foods and minimally processed foods should be preferred over processed foods, and portion control should be practiced with attention to portion size. Prioritizing water as the main beverage and limiting sugar and sodium is essential. It is also recommended to ensure that your protein intake is varied, including plant-based options, and incorporating healthy fats from foods such as nuts and avocados. To encourage healthy eating habits, families should plan meal times and provide healthy snacks. In addition, incorporating . In addition, integrating regular physical activity into the daily routine complements good nutrition, creating a holistic approach to family health and wellness.

(2) Nutritional Needs for All Ages

Customizing diets for different stages of life-children, adolescents, adults and seniors-requires an understanding of the unique nutritional needs and specific dietary requirements of each group. For children, whose bodies and brains are developing rapidly, a diet rich in essential nutrients is crucial. This includes adequate calcium and vitamin D for bone health, iron for cognitive development, and a variety of fruits and vegetables to support immune function. Portion sizes should suit their smaller stomachs, and meals should encourage healthy eating habits early on. Adolescents experience rapid

growth and hormonal changes, resulting in higher nutritional requirements, especially for protein, iron and certain vitamins. This stage is often characterized by increased independence in food choices, so providing education on a balanced diet and the importance of whole foods can help them make healthier decisions. For adults, the focus shifts to maintaining a healthy weight and managing stress, with an emphasis on whole grains, lean proteins, and healthy fats, while minimizing processed foods. Nutritional needs can vary significantly for adults with certain conditions such as diabetes, heart disease, or food allergies, necessitating a meal plan tailored to their health goals.

Lastly, seniors face unique dietary needs as their metabolism slows down and they may experience changes in taste and appetite. Adequate protein intake is essential to prevent muscle loss, while fiber-rich foods can aid digestion. In addition, seniors often need to monitor sodium and sugar intake to manage chronic conditions such as hypertension and diabetes. Hydration is also very important, as thirst may decrease with age. By recognizing the various nutritional needs of different age groups and incorporating special dietary requirements, families can foster a more sustainable diet healthy that supports the well-being of every member at every stage of life.

(3) Preparation for food preparation

Creating balanced meals and managing an efficient grocery shopping and budget can significantly improve family nutrition while saving time and money. To create balanced meals, start by ensuring that each plate contains a variety of food groups: aim to have half the plate filled with fruits and vegetables, a quarter filled with whole grains, and a quarter filled with lean protein. Incorporating different colors and types of food can increase nutritional diversity and appeal to family members. Meal planning is a key strategy; set aside time each week to outline a meal plan, which can help streamline grocery lists and prevent impulse purchases. When grocery shopping, stick to a list based on your meal plan, and consider shopping around the perimeter of the store first, where fresh foods like farm produce, dairy, and meat are typically located, avoiding processed foods often found in the center aisle. Buying in bulk can also save money on non-perishable items like grains and canned goods, while shopping for seasonal produce can lower costs and improve flavor. To further manage your budget, consider preparing a weekly budget that allocates specific amounts to different food categories and explore sales, coupons or loyalty programs offered by local stores. Involve the family in the food preparation process to teach them about healthy food choices while making cooking a fun

and engaging activity. By implementing these strategies, families can create balanced meals that not only nourish their bodies, but also align with their financial goals, thus fostering a fun and sustainable healthy eating environment.

(4) Feedback and Community

Encouraging readers to share their experiences and recipes can significantly enrich the conversation around family nutrition, fostering a sense of community and support among those who want to improve their eating habits. By creating an online forum designed specifically for families, individuals can exchange tips, share favorite recipes, and discuss the challenges they face in maintaining a healthy diet. Such a platform can serve as a valuable resource where members can post questions, give advice, and celebrate successes, creating a collaborative environment that is easy to navigate motivating everyone to stay committed to their health goals. Families can share their culinary adventures, from quick weeknight dinners to healthy snacks for kids, highlighting diverse cultural influences and innovative ideas that might inspire others.

In addition, the e-book can facilitate discussions on meal planning, budgeting strategies, and dealing with picky eaters, allowing participants to learn from each other's insights and experiences. By nurturing this online community, readers can feel less isolated in their journey towards better nutrition and more empowered to make positive changes. The exchange of knowledge and encouragement not only enhances an individual's understanding of healthy eating, but also cultivates relationships that can lead to lasting friendships and support networks, so that the effort to create healthier family meals can be an enjoyable experience.

(5) Future Trends in Family Nutrition

Emerging nutrition trends, such as plant-based and sustainable diets, are changing the way families approach food and their overall health. Plant-based diets, which emphasize fruits, vegetables, legumes, nuts and seeds and reduce or eliminate animal products, are growing in popularity due to their numerous health benefits, including lower risk of chronic diseases and better weight management. This shift not only supports personal health, but also promotes environmental sustainability by reducing the carbon footprint associated with meat production. Families are increasingly aware of the impact their food choices have on the planet, leading to greater interest in sourcing locally grown produce and choosing seasonal ingredients.

Technology plays an important role in facilitating this trend, especially through various apps and online resources that aid in meal planning and grocery shopping. For example, meal planning

apps can help families create balanced menus tailored to their dietary preferences, thus taking the stress out of daily cooking. Many of these apps allow users to input ingredients they have on hand, generating recipe ideas that minimize food waste. Additionally, online platforms offer access to a wealth of information on nutrition, sustainability practices and seasonal recipes, empowering families to make informed choices.

Grocery delivery services and online shopping can also simplify the process, making it easier to access fresh produce and lifestyle-enhancing specialty items.

Plant-based. By utilizing technology, families can easily integrate these emerging dietary trends into their routines, fostering healthier eating habits while contributing positively to the environment.

CONCLUSION

This innovative family nutrition e-book focuses on providing a comprehensive and practical guide for families looking to improve their eating habits and overall health. The book emphasizes the importance of balanced meals tailored to different age groups - children, teens, adults and seniors - and addresses specific dietary needs and restrictions. The e-book incorporates emerging trends, such as plant-based and sustainable diets, highlighting their benefits to health and the environment.

The e-book offers tips for making nutritious meals, efficient grocery shopping, and budgeting strategies, so that healthy eating can be easily accessed and managed. In addition, the e-book encourages community engagement by promoting the sharing of experiences and recipes, which can be done through online forums. Technology is leveraged to help families with meal planning through apps and online resources, providing tools to integrate healthy practices into daily life. Overall, this innovative e-book serves as a valuable resource, empowering families to cultivate healthier eating habits, improving their well-being and supporting sustainable food choices.

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