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Awareness of food and nutrition in adolescents

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Abstract

The research done by us mainly focuses on the amount of awareness about nutrition among adolescents in urban areas. This study primarily focused on understanding the extent of peoples awareness regarding food and nutrition investigating the grasp on fundamental principles of nutrition and implementing these principles like balanced diet etc. in there day to day life The primary motive in selecting the adolescent age group for study stems from the significant stage or juncture of life where actually nutritional habits are established, thus helping in knowing the extent of nutritional habits adopted by them. Significantly we selected 3 main objectives from our study to accurately know about “awareness of nutrition among adolescence. The three objectives include Awareness of people on terms like nutrition and diet, basic knowledge in balanced diet, number of people checking food labels etc. Specifically, the data collected showed that about 60% of people somewhat were aware about nutrition and 78% of participants had basic knowledge on balanced diet 26% respondents constantly checked food labels before purchasing any food product. Despite the positive findings regarding people's Awareness on Nutrition over half of surveyed participants experienced daily health issues. Further investigation revealed that insufficient implementation and partial knowledge were primary obstacles to achieve optimal health. This highlights a compelling necessity to raise awareness about daily nutritional habits; this can be accomplished through conducting nutritional programs in education Institutions, organizing conference workshops, fostering discussions on health and disease etc.

Keywords: Nutrition, diet, adolescents, urban, awareness, balanced diet

Introduction

Adolescence refers to the stage of human development that occurs between childhood and adulthood. It is a transitional period characterized by significant physical, emotional, cognitive, and social changes. Adolescence typically begins with the onset of puberty and continues until the individual reaches adulthood, usually in the late teens or early twenties. During adolescence, individuals experience rapid physical growth and development, marked by the maturation of sexual and reproductive organs. Secondary sexual characteristics, such as breast development in girls and the deepening of the voice in boys, emerge during this time. Hormonal changes also occur, leading to increased sexual maturation and the development of sexual desires. In terms of cognitive development, adolescence is a period of expanding thinking abilities and intellectual growth. Adolescents develop more complex reasoning skills, abstract thinking, and the capacity for introspection. They also begin to form their own values, beliefs, and personal identities.

Adolescence physical activity refers to the level and type of physical movement and exercise that individuals in the adolescent age group engage in. It is an essential aspect of their overall health and well-being, playing a significant role in their physical, mental, and social development. Regular physical activity during adolescence has numerous benefits, including: physical health, mental health, cognitive development, social development, bone health, sleep quality. Here are some of the most common physical activities that adolescents usually participate in: Sports, cycling, jogging, swimming, and recreation and fitness activities etc.

Nutrient requirements

During adolescence, there are specific nutrient requirements that support the growth, development, and overall health of adolescents. Here are the key nutrients and their requirements during this stage.

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1. **Protein:** Protein is essential for growth, tissue repair, and the development of muscles and organs. Adolescents should consume approximately 0.85 grams of protein per kilogram of body weight per day. Good sources of protein include lean meats, poultry, fish, eggs, dairy products, legumes, and nuts.
2. **Calcium:** Calcium is crucial for bone development and strength. Adolescents need about 1,300 milligrams of calcium per day. Good sources of calcium include milk, cheese, yogurt, fortified plant-based milk, tofu, leafy green vegetables, and calcium-fortified foods.
3. **Iron:** Iron is necessary for the production of red blood cells and oxygen transport. Adolescents, especially females, are at a higher risk of iron deficiency. The recommended daily intake is 11-15 milligrams for males and 15-18 milligrams for females. Good sources of iron include lean meats, poultry, fish, legumes, fortified cereals, and leafy green vegetables.
4. **Vitamin D:** Vitamin D is essential for calcium absorption and bone health. Adolescents require about 600-800 International Units (IU) of vitamin D per day. The main source of vitamin D is sunlight exposure, and it can also be obtained from fortified milk, fatty fish (e.g., salmon, mackerel), and fortified cereals.
5. **B Vitamins:** B vitamins, including thiamin, riboflavin, niacin, vitamin B6, folate, and vitamin B12, play a crucial role in energy production, metabolism, and brain function. Adequate intake of these vitamins can be achieved through a balanced diet that includes whole grains, lean meats, poultry, fish, eggs, dairy products, legumes, and leafy green vegetables.
6. **Omega-3 Fatty Acids:** Omega-3 fatty acids, particularly DHA (docosahexaenoic acid), support brain development and cognitive function. Good sources of omega-3 fatty acids include fatty fish (e.g., salmon, tuna, mackerel), flaxseeds, chia seeds, and walnuts.
7. **Fiber:** Adequate dietary fiber intake promotes digestive health and helps prevent constipation. Adolescents should aim for about 25-30 grams of fiber per day. Good sources of fiber include whole grains, fruits, vegetables, legumes, nuts, and seeds.

Advantages of Sustaining a Nutritious Eating Pattern

Proper Growth and Development: Adolescence is a period of rapid growth and development. A healthy diet provides the necessary nutrients, such as proteins, vitamins, and minerals, to support proper growth, bone development, muscle strength, and organ function.

Enhanced Cognitive Function: Good nutrition is essential for optimal brain development and cognitive function. Adequate intake of nutrients like omega-3 fatty acids, B vitamins, iron, and antioxidants supports concentration, memory, learning abilities, and overall mental performance.

Energy and Vitality: A balanced diet consisting of whole grains, lean proteins, fruits, vegetables, and healthy fats provides the necessary energy for physical activities, academic pursuits, and daily tasks. It helps adolescents maintain high energy levels and stay alert throughout the day.

Healthy Weight Management: A healthy diet helps adolescents maintain a healthy weight, reducing the risk of overweight or obesity. A diet rich in fruits, vegetables, whole grains, and lean proteins, coupled with regular physical

activity, promotes a healthy body composition and supports weight management.

Strong Immune System: Adequate intake of essential nutrients, such as vitamins A, C, and E, zinc, and selenium, strengthens the immune system. A healthy immune system helps adolescents fight off infections and reduces the risk of illness.

Reduced Risk of Chronic Diseases: A nutritious diet in adolescence lays the foundation for a healthy adulthood by reducing the risk of chronic diseases later in life. Consuming a variety of nutrient-rich foods can help prevent conditions such as obesity, cardiovascular disease, type 2 diabetes, and certain cancers.

Healthy Skin: A diet rich in antioxidants, vitamins, and minerals promotes healthy skin. Nutrients like vitamin E, vitamin C, zinc, and omega-3 fatty acids contribute to skin health, reducing the risk of acne, inflammation, and other skin problems.

Improved Mental Health: Emerging research suggests a link between nutrition and mental health. A healthy diet, including whole foods and limited processed foods, may contribute to improved mental well-being, reduced risk of depression, anxiety, and other mental health issues.

Establishing Lifelong Healthy Habits: Adolescence is a critical time for establishing healthy eating habits. By adopting a nutritious diet during this stage, adolescents are more likely to continue making healthy choices throughout their lives, promoting long-term health and reducing the risk of chronic diseases in adulthood.

Consequences of Unhealthy Dietary Habits

Taking a poor diet, characterized by a lack of essential nutrients and an overconsumption of unhealthy foods, can have several disadvantages and negative effects on adolescents' health. Here are some key disadvantages of poor diet:

Nutritional Deficiencies: A poor diet often lacks essential nutrients such as vitamins, minerals, and antioxidants. This can lead to nutritional deficiencies, impairing proper growth, development, and overall health. **Increased Risk of Chronic Diseases:** Poor dietary choices, including excessive intake of unhealthy fats, sugars, and processed foods, increase the risk of chronic diseases such as obesity, type 2 diabetes, cardiovascular disease, and certain cancers. **Obesity and Weight-Related Issues:** A poor diet that is high in calories, unhealthy fats, and added sugars contributes to weight gain and obesity.

Reduced Cognitive Function: A diet lacking in essential nutrients, especially omega-3 fatty acids, B vitamins, and antioxidants, can negatively affect cognitive function, learning abilities, memory, and concentration. **Weakened Immune System:** Inadequate intake of nutrients weakens the immune system, making adolescents more susceptible to infections. **Poor Bone Health:** Inadequate intake of nutrients like calcium, vitamin D, and magnesium can compromise bone health and increase the risk of conditions like osteoporosis and fractures later in life. **Low Energy Levels and Fatigue:** Consuming a diet high in processed and sugary foods, while lacking in nutrient-dense options, can lead to low energy levels.

Methodology

Sampling - Participants: 150 adolescents aged 13-18 years were surveyed, maximum respondents were of age group 15 - 18. The survey link was shared through social media platforms like Whatsapp and Instagram aiming to get responses from at least 150 teens. The use of social media platforms like WhatsApp and Instagram allowed us to reach a diverse group of teenagers, ensuring that our findings represent different perspectives and backgrounds within our community. This approach also helps us identify any variations in awareness levels across various areas.

A structured questionnaire was developed for assessing awareness of nutrition, including questions on dietary habits, knowledge of nutritional components, and sources of nutrition information. Demographic details were collected such as age, gender, height and weight and collected data from different areas of our locality to capture variations in awareness levels.

The structured questionnaire helped us understand their eating habits, knowledge about nutritional components, and the sources from which they gather information about food. Additionally, by collecting demographic details such as age, gender, height, and weight, we hope to paint a more complete picture of the factors that might influence their understanding of nutrition.

Objectives and measures

In the survey conducted, each participant was asked to complete a brief questionnaire on food habits and its awareness, containing about 27 questions regarding food nutrition awareness. The different aspects of survey were examined like: the awareness on physical activity, sleep cycle, diet, exercise, food groups etc.

Understanding of Balanced Diet among Participants

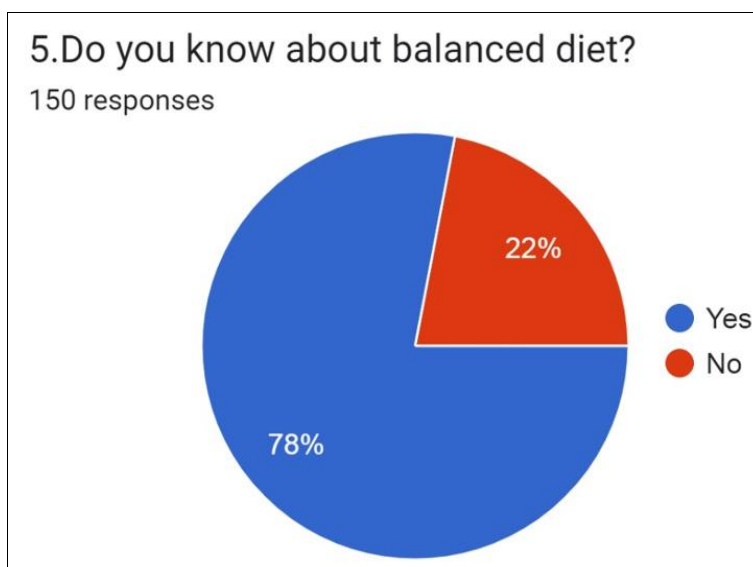


Fig 1: Do you know about balanced diet?

In a study involving 151 participants, responses indicated that approximately 78% were familiar with the concept of a balanced diet.

This awareness was assessed through surveys and interviews, highlighting the significance of understanding nutritional principles for overall health. The research employed quantitative methods to gauge participants' knowledge levels, providing valuable insights into public awareness of balanced diet concepts.

Food Choices

Our study found that when participants picked their food, a significant 73% based their decisions mainly on taste and quantity. This indicates a tendency to prioritize flavor and portion size over health considerations. We used surveys and interviews to explore what influences people's food choices, revealing a common trend in decision-making patterns.

Food label scrutiny and awareness

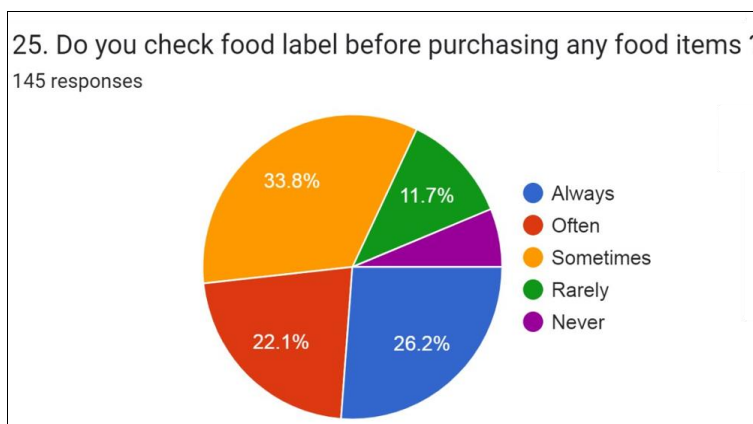


Fig 2: Do you check food label before purchasing any food items?

Our survey revealed that a mere 26% of participants consistently checked food labels before making purchases. This suggests a notable lack of awareness regarding food products and their nutritional values among the surveyed

individuals.

Awareness on nutrition

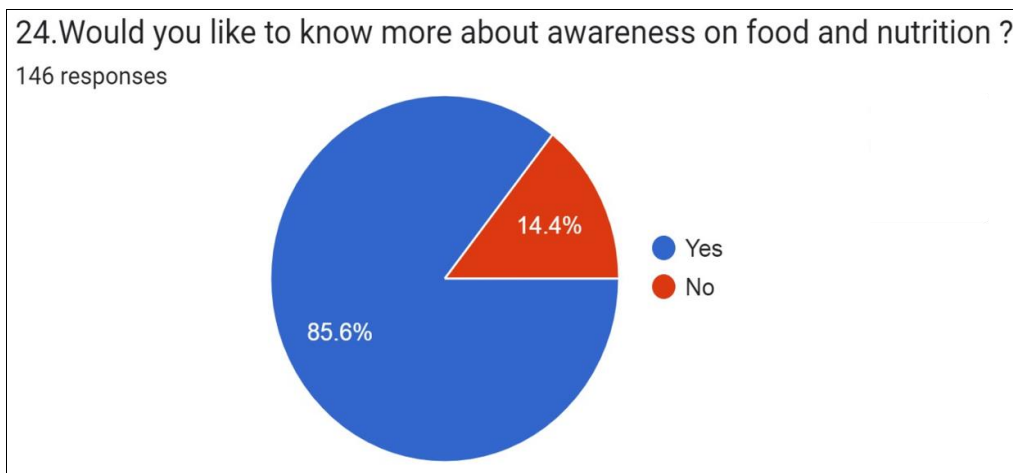


Fig 3: Would you like to know more about awareness on food and nutrition?

Despite 85.6% of individuals having a prior understanding of nutrition, our survey highlighted that while awareness on the topic was substantial, there was a noticeable deficit in

implementing the principles learned.

Results

Table 1: Would you like to know more about awareness on food and nutrition?

S. No.	QUESTIONS ASKED	YES % (No. out of 150)		NO % (No. out of 150)			
1.	Do you know about a balanced diet?	78% - (117)		22% - (33)			
2.	Do you follow meal timing?	62% - (93)		38% - (57)			
3.	Are you aware of five food groups?	46% - (69)		54% - (80)			
4.	Do you know about micro and macro nutrients?	60% - (90)		40% - (59)			
5.	Do you know the difference between malnourished and nourished	67% - (98)		33% - (49)			
6.	How many liters of water do you drink every day?	Tick: 1-62%(93) 2-14%(21) 3- 17%(26) 4-6.5%(10) 1 2 3 4 5 6 7 8					
7.	Do you have any diseases? If yes, do you follow any diet?.	37(24.6%)		113 (75.4%)			
8.	If you followed any diet, Did you observed any changes in health?	44% - (64)		56% - (82)			
9.	How far you are aware about food and nutrition?	Somewhat Yes 18 (12%)	Somewhat Agree 6 (4%)	Somewhat Disagree 65 (43.3%)	Agree 4 (2.6%)	Disagree 57 (38%)	
10.	How often you take junkfood?	Daily 82 (54.6%)	Alternate 27 (18%)	Weekly 29 (19.3%)	Monthly 7 (4.6%)	No 5 (3.3%)	
11.	Do you maintain nutritional status of every person in your family?	44% - (64)		56% - (82)			
12.	While picking the foods/snacks, what influence your decision?						
13.	How frequently do you involve yourself in physical activity?	Daily 40 (26.6%)	Weekly 19 (12.6%)	Monthly 17 (11.3%)	No 74 (49.3%)		
14.	Do you know effect of bad sleep cycle on health?	77% - (112)		23% - (33)			
15.	Do you know effect of sugar on health?	85% - (125)		15% - (22)			
16.	Do you know about portion control?	36%-(53)		64% - (93)			
17.	Do you know about drug (medicine) and diet interaction?	50% - (75)		50% - (75)			
18.	Are you gym person? If yes, do you take protein shake	85% - (125)		15% - (22)			
19.	Do you take supplements?	14% - (20)		86% - (124)			
20.	Would you like to know more about awareness on food and nutrition?	97 (64.6%)		53 (35.4%)			
21.	Do you check food label before purchasing any food items?	Always 36 (24%)	Often 87 (58%)		Sometimes 17 (11.3%)	Rarely 7 (4.6%)	Never 3(2%)
22.	How many meals do you have every day?	1 0	2 7 (4.6%)	3 113 (75.3%)	4 24 (16%)	5 6 (4%)	6 0
23.	How often do you skip breakfast?	Always 49 (32.6%)	Often 31 (20.6%)		Sometimes 39 (26%)	Rarely 12 (8%)	Never 19 (12.6%)

Conclusion

In undertaking this research to evaluate the awareness of nutrition among adolescents aged 13-18, a methodical approach was employed, encompassing sampling, questionnaire development, and detailed analysis of survey responses. The primary objective was to gain insights into the dietary habits, knowledge of nutritional components, and sources of nutrition information among teenagers. This approach facilitated the collection of responses from 150 adolescents, with a particular focus on the age group of 15-18. The structured questionnaire played a pivotal role in assessing awareness levels, covering crucial aspects. The research objectives centered around different dimensions of nutrition awareness, including awareness of balanced diets, understanding of food groups, knowledge of micro and macro nutrients, awareness of the impact of lifestyle factors on health, and habits related to food label scrutiny.

The results underscored both positive and concerning aspects of adolescent nutrition awareness. While a substantial percentage (78%) demonstrated awareness of balanced diets, there were notable deficits in areas such as understanding the five food groups (46%), knowledge of micro and macro nutrients (60%), and practicing portion control (36%). The survey also highlighted a significant lack of consistency in checking food labels before making purchases, with only 48% indicating this habit. Despite a high overall awareness of nutrition (85.6%), the research revealed a gap between awareness and implementation. This is evident in areas such as maintaining the nutritional status of family members (44%) and recognizing the effects of a bad sleep cycle (77%). In conclusion, the findings from this research provide valuable insights into the state of nutrition awareness among adolescents and found that despite being aware about food and nutrition, partial knowledge and lack of implementation were two main obstacles in leading a

Healthy life. Thus helped us find out the solutions for filling the gaps between being aware and implementing. This gap can be met by interventions like educational programs, discussions, promoting daily health practices through small conferences and seminars etc.

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