

Knowledge, Attitudes, and Consumption Habits of Junk Food among School Students

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Abstract

Background: The consumption of junk food has a detrimental impact on the health of school-age children. These children are in the midst of an intricate society experiencing significant transformations. **Aim of the study:** to assess the nutritional knowledge, attitude, and pattern of junk food consumption's complications \ hazards among school students. **Subject and Method:** The study was conducted at Omer Ebn Abd-Elaziz Primary School in Beni Suef City; this school is located in the Elramad section beside the Ophthalmology Hospital using the descriptive design on a sample of the fifth and sixth primary stage, numbering 254 students out of 700 students, which is the total number of school students. An interview questionnaire was used to measure Demographic data, students' knowledge, attitude about balance knowledge about balanced food junk food consumption habits, and consumption complications \ hazards of junk food. **Results:** more than two-thirds of school students (69%) have unsatisfactory knowledge regarding junk & balanced food, nearly three-quarters of school students (74.8%) had a positive attitude toward junk food, and more than one-third had the highest consumption complications \ hazards of junk food. **Conclusion and Recommendation:** The students studied had low knowledge and a positive attitude toward junk. Also, one-third had the highest consumption of junk food. Promoting student knowledge about junk food and decreasing consumption of junk food is recommended through counseling and educational programs.

Keywords: Attitude, Consumption's Complications, Hazards, Junk Food, Nutritional Knowledge, School Students.

Introduction:

Optimal health is essential for a thriving existence during the school years and requires consistently practicing a nutritious diet and healthy lifestyle habits throughout one's lifetime. A balanced diet is necessary for the growth and development of every child due to its delectable flavor. The majority of adolescent children consume unhealthy food during their mealtime and develop a dependency on the taste of such food. While junk foods may be enjoyable, they have limited nutritional value and contain many calories. A significant number of individuals make an effort to evade or restrict the consumption of unhealthy food in their dietary habits. Despite the wide range of junk food products manufactured by numerous food manufacturers, it is essential to note that such food is unhealthy. Food encompasses anything fast, delicious, convenient, and trendy (Kigaru, 2015).

The prevalence of indulging in unhealthy food is steadily rising, leading to a bleak and unhealthy future, particularly for our younger generations. Parents must be highly conscious of their children's consuming behavior, as young

ones cannot discern and determine what is beneficial or detrimental. Consequently, parents are responsible for cultivating their children's positive or negative eating habits. Parents must instill proper eating habits in their children from a young age and educate them about the distinctions between nutritious and unhealthy foods. (Balbir Yadav & Mandeep Kaur, 2019).

A survey on nutrition among school-age children in Ireland has found that 48.6% of the lunches consumed by children are classified as unhealthy or junk food. Attending school entails facing numerous educational obstacles that demand sustained focus and endurance. Inadequate dietary practices can compromise these essential conditions for learning and diminish the vitality children require for establishing social connections, engaging with their family, participating in physical activities, or experiencing positive self-esteem. Nutritionists concur that the primary factor contributing to attention deficit hyperactivity disorder in children is predominantly the type of food they consume (Banik et al., 2020).

Junk food enables individuals to consume food without the need for prior meal

planning, allowing them to eat during designated meal times but also during periods of leisure. The ingredients found in junk foods contribute to their appealing taste and have the potential to create addictive qualities. The combination of fat and sugar can induce a dopamine-driven surge of intense pleasure in individuals who have a predisposition for addictive behavior. However, it is essential to acknowledge that they also pose health risks. Consuming foods with high-fat levels, specifically cholesterol, sugar, and salts, can negatively impact one's health. Consuming sugar, which has a high-calorie content, can contribute to obesity (Majumdar, 2019).

Acquiring sufficient knowledge about the negative impacts of fast food is beneficial for teenagers. Acquiring adequate knowledge enables individuals to mitigate the detrimental consequences early. Consequently, it will motivate individuals to pursue suitable and prompt medical guidance actively. Despite numerous studies on the damaging impact of fast food on health, the researcher could not locate any reliable study that evaluated the efficacy of a structured teaching program in enhancing adolescents' knowledge about the harmful effects of fast food on health (Suraksha Subedi, 2020).

The community health nurse plays a vital role in facilitating the acquisition of nutrition knowledge and promoting nutrition-related practices. Evidence suggests that dietary habits developed during childhood continue into adulthood. Moreover, research also suggests that childhood nutrition plays a significant role in adult health. The school serves as a primary social environment where individuals cultivate their lifestyles. Food habits have transformed, as nutritious and healthy foods have been substituted with trendy and convenient junk food that tastes appealing. These foods have high salt, sugar, fat, or calorie levels but lack significant nutrients. Children's preference for junk food has been influenced by the accessibility of such food in school canteens and nearby locations and the evolving lifestyles of children (Amitha et al., 2016).

Significance of the Study

An optimal diet and lifestyle are essential for achieving lifespan. Regrettably, the current food system has numerous adverse health consequences. The prevalence of lifestyle changes has significantly impacted our ability to prioritize our dietary habits. Several fast food items contain detrimental food coloring agents

and/or unhealthy Trans fats, while food preparation safety concerns further complicate the matter. Regularly consuming fast food more than three times a week is associated with atopic disorders and diseases such as diabetes, hypertension, kidney disease, neurological disorders, cancer, hypoxia, behavioral problems, high cholesterol, obesity, heart disease, addiction, dental cavities, cognitive disorders, asthma, eczema, and rhinitis. The severity of asthma is nearly 40% higher in teenagers and 25% higher in younger children who consume fast food frequently (Thomas, 2018).

Eating unhealthy food Consuming junk food 4-6 times a week is associated with decreased proficiency in math and reading, in contrast to children who consume less junk food. In Egypt, the majority of school students are enrolled in general primary schools, representing approximately 12.8 million students during the 2020 school year (Elareed & Senosy, 2019).

Aim Of The Study:

The current study is conducted to assess the nutritional knowledge, attitude, and pattern of junk food consumption's complications \ hazards among school students.

Research questions

1. What is the school students' nutritional knowledge regarding balanced food and junk food?
2. What is the school student's attitude toward junk food consumption?
3. What are the school student's consumption habits regarding junk food and its complications \ hazards of junk food?

Subject and method

Research Design:

A descriptive research design was used to achieve the aim of the current study.

Setting:

The study was conducted at Omer Ibn Abd-Elaziz Primary School in Beni Suef City. This school is located in the Elramad section, adjacent to the ophthalmology hospital. It consists of two buildings.

The first building is dedicated to the nursery and divided into three classes. The second building is for the primary stage and has five floors, housing a total of five classes. The first floor contains administrative room and classes for the first stage. The second floor is for the second stage, the third floor for the third stage, the fourth floor for the fourth stage, and the fifth floor for the fifth and sixth stages. The primary school has a total of 700 students, with each class having an average of 40-45 students.

Sample:

Our sample included all students at levels 5 and 6 from academic years, their age 10:12 years in the selected school. Their numbers were 254 students (166 male & 88 female), divided into 130 students at the fifth stage and 124 students at the sixth stage, subdivided into six classes equally.

Inclusion criteria:

The investigator determines many criteria for this sample as the following:

- Age 10:12 years at the level 5&6 academic years from both genders.
- Accept to participate in the study.
- Present at the selected school during the time of the study.
- Conscious, cooperative, and able to communicate maturely and with awareness.

Tools for data collection:

The investigator developed it after reviewing the national and international related literature (Ujwal 2013); data was collected through an interview questionnaire composed of 4 parts:

Part one: Demographic data designed to collect data about the students as (gender, age, father & mother education, parents' monthly income, setting etc.). (Chhibber 2014).

Part two: Interview questionnaire to assess student knowledge about balanced food and junk food consumption habits such as (protein, carbohydrates, fats, minerals.....etc.) (Ibrahim and Mohammed, 2014).

Part three: interview questionnaire to assess student attitudes regarding balanced food and junk food, such as (trust in the environment, junk foodetc.) It was developed through reviewing related literature (Ibrahim and Mohammed, 2013; Ujwal, 2013; Chhibber, 2014).

Scoring System:

The students' answers related to attitudes regarding balanced food and junk food were scored and calculated; the answers were given a score from one to four according to the following (Always = 1, often = 2, rarely =3, never=4).

Part four: Interview questionnaire to assess consumption of students' junk food and the complications \ hazards of junk food such as (eating fast food, how much.....etc.); it was developed through reviewing related literature (Hassanzadeh et al., 2013, Ashakiran, 2012, Pizza and Rather, 2012).

Scoring System:

The student's answers related to complications \ hazards of junk food were scored and calculated; the score was from one to five according to the following (I know and use it = 1, I know and do not use it = 2, I don't know and do not use it = 3, I don't know=4, I don't interest=5).

NB: results don't contain score of two choices (I know and do not use it & I don't know and do not use it) because it had no answers, so deleted it from the results schedule.

Validity:

The tool went through content validity testing by a panel of 5 experts from various fields, including two assistant professors from the community health nursing department, one assistant professor from the pediatric nursing department, and two assistant professors from the medical surgical nursing department. After necessary modifications were made, the tool was then subjected to internal reliability testing using Cronbach's alpha test.

Reliability:

The reliability of the tools was assessed by conducting a coefficient test to verify its consistency. The reliability of the tool was evaluated to determine the degree to which the questionnaire items were interrelated. The answers obtained from repeated testing were then compared. The test-retest reliability for knowledge was 0.831, the reliability for effect was 0.862, and the Cronbach's Alpha for reported practice's reliability was 0.901.

Pilot study:

Prior to commencing data collection on the entire sample, a pilot study was conducted on 10% of the subjects. The purpose of this study was to assess the clarity, comprehensiveness, and applicability of the tool as well as to estimate the time needed to complete the questionnaire. If the tool exhibits fundamental errors and the investigator makes significant modifications, the pilot study will be excluded from the study. However, if the errors are not fundamental, the pilot study will be included in the study sample.

Fieldwork:

The sampling process was initiated and concluded within six months after the start of the study. Data collection took place two days per week from October to April 2022, between the hours of 9 and 5 o'clock. The investigator conducted the data collection at Omer Ibn Abd-Elaziz Primary School in Beni Suef City. The purpose of the study was clearly explained to the dean of the Faculty of Nursing and the school director, who obtained written consent. The study was also explained in a simplified manner to the school students, who provided an oral agreement to participate before any data collection took place. The investigator collected data by conducting interviews using a questionnaire, and the students completed a sheet with the assistance of the investigator.

Ethical consideration:

Data was collected after obtaining ethical approval from the scientific research ethical committee at the Faculty of Medicine, Beni-Suef University. The participants in the study were volunteers who were provided with comprehensive information about the study's objectives and their role. Prior to giving the

oral consent, they were informed about the ethical considerations, including the purpose and nature of the study, the option to withdraw at any time, and the guarantee of confidentiality for their information. Furthermore, the study respected ethics, values, culture, and beliefs. Subsequently, the ethical committee granted legal approval to proceed with the study.

Administrative design:

The dean of the Faculty of Nursing at Beni Suef University granted permission to conduct this study. Additionally, official permission was obtained from the director of Omer Ibn Abd-Elaziz Primary School. A written letter, including the study protocol and tool in Arabic, was sent to the manager. The study steps were explained to the director and school students, and their consent was obtained.

Statistical Analysis:

The statistical analysis of data was done by using the computer software Microsoft Excel program and Statistical Package for Social Science (SPSS) version 25; data were presented using descriptive statistics in the form of frequencies and percentages for categorical data, the arithmetic mean (\bar{X}) and standard deviation (SD) for quantitative data, qualitative variables were compared using chi-square test (χ^2), in addition, r- test were used to identify the correlation between the study variables and measure the statistical significance of the study.

Degrees of significance of results were considered as follows:

- P-value > 0.05 Not significant (NS)
- P-value \leq 0.05 Significant (S)
- P-value \leq 0.01 Highly Significant (HS)

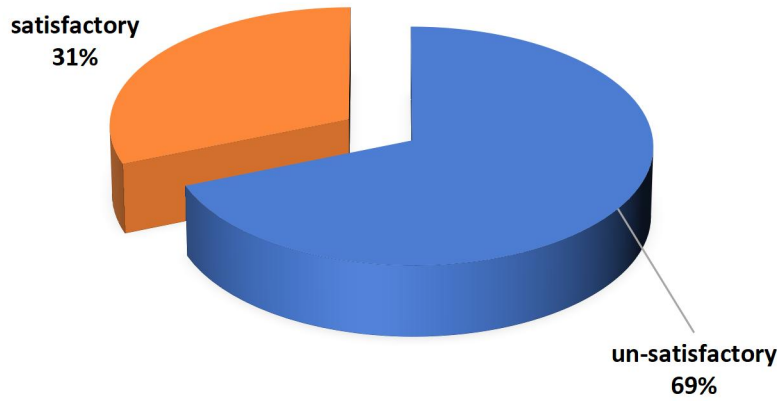
Results

Table 1: Demographic characteristics of primary students at Omer Ibn Abd-Elaziz School (2021-2022) (N=254).

demographic characteristics	Frequency	Percent
1-Age		
a-<10years	0	0.0
b-10:12 years	254	100.0
2-Gender		
a-Male	88	34.6
b-Female	166	65.4
3-Father education		
a-Uneducated	0	0.0
b-basic education	0	0.0
c-Diploma	46	18.1
d-University	204	80.3
e-Master	4	1.6
4-Mother education		
a-Uneducated	1	0.4
b-basic education	0	0.0
c-Diploma	66	26.0
d-University	179	70.5
e-Master	8	3.1
5-Parent's monthly income		
a-Enough	48	18.9
b-Not- enough	26	10.2
c-Not know	180	70.9
6-Residence		
a- Rural	2	0.8
b- Urban	252	99.2

Table 1 illustrates that all school students' age (100%) ranges between 10:12 years. Nearly two-thirds of school students (65.4%) were female, *according to* their father & mother's education (80.3% &70.5%) "university education," **respectively**, while the majority of the sample (99.2%) live in Urban residences.

TOTAL STUDENTS' KNOWLEDGE



(Note: satisfactory knowledge $\geq 75\%$)

Figure1: Distribution of total Students' knowledge score (N=254)

The above figure indicates that more than two-thirds of school students (69%) have unsatisfactory knowledge regarding junk & balanced food, while one-third of them (31%) have satisfaction knowledge.

Total Students' attitude

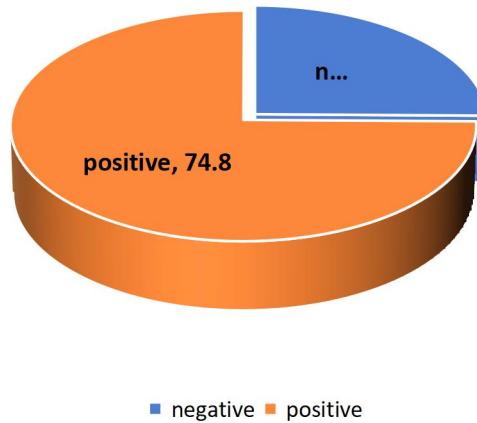


Figure 2: Total score of students' attitude regarding junk food at Omer Ibn Abd-Elaziz School (2021-2022) (N=254).

Figure 2 illustrates that nearly three-quarters of school students (74.8%) had positive attitudes toward junk food, While only one-quarter (25.2%) of them had negative attitudes.

Table 2: comparison between consumption and dangers of junk food among school students at Omer Ibn Abd-Elaziz School (2021-2022) (N=254).

Consumption-dangers dimensions	Low		High	
	No	%	No	%
Consumption	52	20.5	202	79.5
Consumption-dangers	225	88.6	29	11.4
Alternatives	123	48.4	131	51.6
Total consumption & dangers	165	65.0	89	35.0

As regards consumption-danger dimensions, table 2 demonstrates that the highest dimension was "consumption" (79.5%), followed by "alternatives" (51.6%). Finally, "consumption dangers" (11.4%).

Table 3: Relations between primary students' knowledge score and their demographic characteristics at Omer Ibn Abd-Elaziz School (2021-2022)(N=254).

Items Demographic characteristic	Knowledge				X ² test	p-value
	Un-satisfactory		Satisfactory			
	No.	%	No.	%		
Age						
<10years	0	0.0	0	0.0		
10:12 years	175	68.9	79	31.1	--	--
Gender						
Male	75	29.6	13	5.1		
Female	100	39.4	66	25.9	16.76	0.000**
Father education						
Uneducated	0	0.0	0	0.0		
basic education	0	0.0	0	0.0		
Diploma	38	15.0	8	3.1		
University	133	52.3	71	28.0		
Master	4	1.6	0	0.0	7.146	0.028*
Mother education						
Uneducated	1	0.4	0	0.0		
basic education	0	0.0	0	0.0		
Diploma	48	18.9	18	7.1		
University	118	46.5	61	24.0		
Master	8	3.1	0	0.0	5.254	0.154
Parent's monthly income						
Enough	41	16.1	7	2.8		
Not- enough	18	7.1	8	3.1		
Not know	116	45.7	64	25.2	7.780	0.020*
Residence						
Rural	2	0.8	0	0.0		
Urban	173	68.1	79	31.1	.910	0.340

(*) Statistically significant at $p < 0.05$ (--) invalid test (**) Statistically significant at $p < 0.01$

Table 3: our study describes that: more than two-thirds had un satisfaction knowledge about junk food toward demographic data of primary school students & present **High** statistically significant relation between student knowledge & their gender $p < 0.01$, **While** statistically significant relation between student knowledge with father education & parents monthly outcome as (0.028 & 0.020) PV is < 0.05 , **But** Present invalid test between knowledge & age as PV =no result **and** No relation with mother education and family residence as (0.154 & .340) as PV is < 0.05

Table 4: Relations between primary students' attitude score and their demographic characteristics at Omer Ibn Abd-Elaziz School (2021-2022)(N=254).

Items Demographic characteristics	Attitude				X ² test	p-value
	Negative		Positive			
	No.	%	No.	%		
Age						
<10years	0	0.0	0	0.0		
10:12 years	64	25.2	190	74.8	--	--
Gender						
Male	20	7.8	68	26.8		
Female	44	17.4	122	48.0	436	0.509
Father education						
Uneducated	0	0.0	0	0.0		
basic education	0	0.0	0	0.0		
Diploma	13	5.1	33	13.0		
University	51	20.1	153	60.2		
Master	0	0.0	4	1.6	1.581	0.454
Mother education						
Uneducated	0	0.0	1	0.4		
basic education	0	0.0	0	0.0		
Diploma	19	7.5	47	18.5		
University	45	17.7	134	52.8		
Master	0	0.0	8	3.1	3.483	0.323
Parent's monthly income						
Enough	9	3.6	39	15.4		
Not- enough	11	4.3	15	5.9		
Not know	44	17.3	136	53.5	5.151	0.076
Residence						
Rural	1	0.4	1	0.4		
Urban	63	24.8	189	74.4	.658	0.417

(*) Statistically significant at $p < 0.05$ (--) invalid test

Table 4: Our study describes that most of the females from the total sample had positive attitudes toward junk food, But **No** statistically significant relation between primary students' attitude score & the gender, father's education, mother's education, parent monthly & residence (0.509,0.454 0.323,0.076 &0.427) as $p < 0.05$ & no validity with the age.

Table 5: Relations between primary students' demographic characteristics and total consumption \ danger level of junk food at Omer Ibn Abd-Elaziz School (2021-2022) (N=254).

Demographic characteristics	Total consumption & dangers				X ² test	p-value
	Low		High			
	No.	%	No.	%		
Age						
<10years	0	0.0	0	0.0		
10:12 years	165	65.0	89	35.0	--	--
Gender						
Male	73	18.7	15	5.9		
Female	92	36.2	74	29.1	19.15	0.000**
Father education						
Uneducated	0	0.0	0	0.0		
basic education	0	0.0	0	0.0		
Diploma	36	14.2	10	3.9		
University	127	50.0	77	30.3		
Master	2	0.8	2	0.8	4.62	0.099
Mother education						
Uneducated	1	0.4	0	0.0		
basic education	0	0.0	0	0.0		
Diploma	47	18.5	19	7.5		
University	110	43.3	69	27.1		
Master	7	2.8	1	0.4	4.42	0.219
Parent's monthly income						
Enough	29	11.4	19	7.5		
Not- enough	17	6.7	9	3.5		
Not know	119	46.9	61	24.0	0.54	0.763
Residence						
Rural	2	0.8	0	0.0		
Urban	163	64.2	89	35.0	1.087	0.297

(*) Statistically significant at $p < 0.05$ (--) invalid test (**) Statistically significant at $p < 0.01$

Table 5: our study presents a **High** statistically significant relation between school students' total consumption \ danger level of junk food and their gender ($p < 0.01$), **While No** statistically significant relation with the father's education, mother's education, parents' monthly income & residence (0.099, 0.219, 0.763 & 0.297) $p < 0.05$, & Present invalid test between total consumption \ dangers & age as $p < 0.05$ = no result.

Table 6: Relations between primary students' knowledge \ attitude and total consumption \ dangers of junk food at Omer Ibn Abd-Elaziz School (2021-2022) (N=254).

Personal Characteristics	Total consumption and dangers				X ² test	p-value
	Low		High			
	No.	%	No.	%		
Knowledge						
Un-satisfactory	136	53.5	39	15.4		
Satisfactory	29	11.4	50	19.7	40.2	0.000**
Attitude						
Negative	46	18.1	18	7.1		
Positive	119	46.9	71	27.9	1.797	0.180

(**) Statistically significant at $p < 0.01$

Table 6: our study describes the present **High** statistically significant relation between student knowledge score and total consumption and dangers ($p < 0.01$). **But No** statistically significant relation with Positive attitude.

Discussion

School-age child development ranges from Omar Bin Abdul Aziz Primary School to 6 to 12 years of age. During this period, observable differences in height, weight, and build of children may be prominent. Amongst schoolchildren, many strategic ideas can be incorporated in schools, such as bringing fruit to school, which aims to cut down on junk food consumption and its addiction, promoting healthy food habits amongst them. Some of the school-based research and initiatives can open doors for identifying promising strategies to develop a fruit and vegetable environment amongst students in school settings. Finally, not all foods are junk; moreover, our body has enough stamina to take care of occasional junk food eating. One does not have to avoid junk food all the time if one doesn't want to do so (Khongrangjem et al., 2018).

Practices and attitudes about food learned as a child stay with a person throughout their life. Schoolchildren are known to eat foods that are outside the home, much to the dismay of their elders. They have developed strong preferences for certain foods. Student diets are characterized by an excessive intake of junk food, such as magi noodles, burgers, sandwiches, hot dogs, patties, pastries, popcorn, potato chips, carbonated drinks, biscuits, muffins, toast, and chocolates (Soon et al., 2023)

Our current study results illustrated that all school students' age ranges between 10:12 years, nearly two-thirds of school students were female, *according to* their father & mother education, more than two-thirds had "university education" respectively, and the majority of them lived in urban residence.

Regarding the age of students (Table 1), **our current study** results were supported by the study by **Ghofranipour & Tavousi (2018)** about the effect of health education on the knowledge, attitude, and practice of fast-food consumption among primary students in Tehran, which clarified that; more than two-thirds of children age ranged between 10-12 years old.

Regarding gender, **our current study results agreed** with the study by **Mahmoud & Taha (2017)**, who studied the association

between eating habits and body mass index among students and stated that two-thirds of their students were females.

Our current study results contradicted the study by **Yadav & Kaur (2019)** about knowledge regarding the health hazards of junk food and its prevention among adolescents and concluded that more than half of the sample was found to be males and females less than half.

From the researcher's point of view, the current study results may be because the school has more female than male students.

These results were agreed with Bake (2016), who studied " Food Habits of Children and Adolescents of Kathmandu Valley" and found that community health nurses should give health education about alternatives to junk foods to school students.

Regarding the education of mothers and fathers (Table 1), these results were supported by **Ghofranipour & Tavousi (2018)**, who studied the effect of health education on the knowledge, attitude, and practice of fast-food consumption among primary students in Tehran. Cleared that the majority of fathers and mothers had a university education.

On the other hand, these study results contradicted **Subedi et al. (2020) study about knowledge and practice regarding** junk food consumption among higher-level students at selected educational institutions in Kathmandu, Nepal. *Cleared that the majority of the respondent's fathers and mothers had higher secondary levels of education.*

From the researcher's point of view, the current study results may be because I collected the sample from Bandar beni suef, so their education is high.

Regarding residence, our current study results agreed with the study by **Mohamed et al. (2023)**, who studied the effect of designed nursing program regarding Junk food on school-age children's awareness and their growth, cleared that more than two-thirds of school-age children reside in urban regions.

The researcher's point of view is that a new trend in our country(Egypt) is the acceptance of students at school according to geographical distribution.

Present study findings cleared that more than two-thirds of school students have unsatisfactory knowledge regarding junk & balanced food, while one-third of them have satisfactory knowledge.

The present study findings were the same as those of Mohamed et al. (2023), who concluded that the majority of school-age children had unsatisfactory knowledge levels. In contrast, only the minority did so at the pretest.

Also, Elbastawey et al. (2022) revealed that the majority of primary school students regarding junk food in the pre-educational intervention had unsatisfactory knowledge.

From the investigator's point of view, these results might be due to the low awareness of the Egyptian population about what a balanced food or junk diet is. Also, advertisements on all social media sites do not clarify or explain the ingredients of fast food.

Our Current study results illustrated that nearly three-quarters of school students had a positive attitude toward junk food, while only one-quarter had a negative attitude (Figure 2)

Our Current study results were supported by the study of Mohamed et al. (2023) about the effect of designed nursing program regarding junk food on school-age children's awareness, and their growth concluded that the majority of school children had a positive attitude toward fast food.

Current study results were supported by the study of Hassan & El Magrabi (2021), which revealed that more than half of students had a positive attitude toward fast food.

Our study results were contradicted by the study by Elbastawey et al. (2022), who observed that more than two-thirds of students had a negative attitude toward junk food pre-intervention. Additionally, one-third of them had a positive attitude toward junk food pre-intervention.

From the investigator's point of view, these results might be due to the fact that junk food is attractive, available at any place and time & saves time, is delicious, and attracts students' attention due to store advertisements.

As regards consumption- dangers dimensions, it demonstrated that the highest dimension was "consumption" (79.5%) followed by "alternatives" (51.6%). Finally, "consumption dangers" (11.4%)

This finding is in line with a study in Greece by Gketsios et al. (2022), which evaluated the impact of environmental influences

on Greek preadolescents' junk food consumption and found that nearly 3 out of 10 preadolescent students were identified as having high junk food consumers.

The researcher's point of view, at this stage of life, nutrition, and health are essential; children's unhealthy nutritional behaviors, which are very common among them, including eating lots of prepared foods and junk food due to their attractive flavors, their reasonable price, and the possibility of eating at leisure.

There is no educational training about healthy food and the dangers of junk food consumption in students' health part of school. This leads to a lack of knowledge among students about junk food and its harms.

Our study describes that more than two-thirds had a satisfaction knowledge about junk food toward demographic data of primary school students & presents a high statistically significant relation between student knowledge & their gender and a statistically significant relation between student knowledge and father education and no relation with mother education and family residence.

Current study results were supported by the study of Shah et al. (2022) about knowledge and behavior related to junk food among adolescent students in a Private School: they found no significant relationship between respondents' knowledge of junk food and the educational attainment of their mothers & residence.

Our results agreed with the study by Subedi et al. (2020) about knowledge and practice on junk food consumption among higher-level students at selected educational institutions of Kathmandu, which cleared that there was a significant association between respondent's gender & father's education with the level of knowledge on junk food consumption.

Current study results were inconsistent with the study by Shah et al. (2022) about knowledge and behavior related to junk food among adolescent students in a Private School: they found no significant relationship between respondents' knowledge of junk food with their age and gender.

Our study describes that most of the females from the total sample had positive attitudes toward junk food, But No validity with age & no statistically significant relation between primary students' attitude score with gender & mother education.

Current study results were supported by the study of **Shah et al. (2022)** about attitudes related to junk food among adolescent students in a Private School: they found no significant relationship between respondents' knowledge of junk food and their age & gender.

Our Current study results were not supported by the study by **Lee & Allen (2020)**, who studied mothers' educational attainment and their young adult daughters' fast-food intake: The role of race/ethnicity concluded that gender & the mother's education were statistically associated with the scores of (attitude).

From the researcher's point of view, education is essential for parents, especially if they have enough knowledge concerning their children's health. In our study, the majority of mothers had a university education, so they had enough knowledge about healthy food components and preparation, which enabled them to prepare food for their children instead of buying junk food from their children.

Our results illustrated that there was a High statistically significant relation between knowledge score and total consumption and dangers of junk food; there is no statistically significant relation with Positive attitude (Table 15).

Our results agreed with **Matias et al. (2018)**, who studied the clustering of diet, physical activity, and sedentary behavior among Brazilian adolescents in the national school-based health survey, indicated that there is no significant relation between junk food and students' nutritional attitude ($r = 0.099$, $P < 0.05$). However, he disagrees with me that there is an increasing amount of knowledge and nutritional behavior, and the frequency of consumption of junk food has decreased.

Conclusion

Based on our study results, the conclusion is that,

- ❖ half of the sample had **wrong knowledge** regarding most items of junk food, so more than two-thirds of primary school students have **unsatisfactory** knowledge regarding junk & balanced food, and nearly three-quarters of school students had **positive attitudes** toward eating junk food.
- ❖ Most of the sample know the dangers \ complications of junk food **despite the fact that** they still use it or eat it.
- ❖ Present a **High** statistically significant relation between student knowledge & their gender, **While** statistically significant relation between student

knowledge with father education & parents' monthly outcome.

Recommendations

Based on the main study findings, the following is recommended.

- Establish documented and approved sources to present and explain the importance of healthy food and the dangers of fast food on the health and growth of school-age children.
- The healthy nutrition curriculum must be added as a teaching curriculum for school students
- School health team members should promote students' knowledge of:
 - **Healthy food:** Types, Importance, and balanced eat.
 - **Junk food:** potential side effects, short/long term consequences, consumption danger
- Regular educational programs and workshops are held to improve students' and their parents' knowledge and to modulate positive attitudes toward junk food.
- Further research is proposed to examine the effect of educational programs on changing knowledge, attitudes, and consumption habits of junk food among school students.

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