



Beverage Consumption Pattern among a Sample of Egyptian Adolescents

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Abstract: Background: Diets of adolescents is very critical particularly the beverages which assist in maintaining of hydration, in addition to their roles as essential nutrients. During the previous decades the habits of in taking beverages has greatly elevated extremely. With excessive consumption of beverages with added sugar. Sugar-sweetened beverages (SSBs) are associated with weight gain and obesity. Obesity is a major concern and representing a severe healthcare problem that faced the developing countries that having high percentage of youth. **Objectives.** This study aims to assess the pattern of beverage consumption among sample of adolescents in Egypt. **Subjects and Methods:** across sectional study of 566 subjects Egyptian adolescents of both sex between the ages of 10 and 19 years were randomly selected from preparatory and secondary schools in different governorates of Egypt: Data collection and study tools: Anthropometric Assessment, Dietary assessment and beverage intake assessments carried through specific questionnaire (dietary pattern questionnaire for beverage consumption among adolescents). **Results and Conclusion:** Total beverage consumption were strongly related to gender, higher beverage consumption by Females of both healthy and unhealthy beverage especially (SSBs, and caffeinated beverage) compared to male. Normal weight group consume higher amount of healthy beverage while the obese group consume higher amount of unhealthy beverage, Underweight subjects consumed lesser amount of drinks, compared to normal weight and obese subjects. Three was, inadequate intake of milk and natural fruit juice. ,water was taken adequately in both gender.

[Salwa M. Saleh; Safaa T. El Hussein, El-Sayed Mahmoud Hammad. **Beverage Consumption Pattern among a Sample of Egyptian Adolescents.** *Rep Opinion* 2020;12(2):74-83]. ISSN 1553-9873 (print); ISSN 2375-7205 (online). <http://www.sciencepub.net/report>.10. doi:10.7537/marsroj120220.10.

Keywords: Adolescents, beverage consumption, health status.

1. Introduction

Generally, beverages provide supply the body with essential nutrient elements, vitamins D and C and calcium, also it maintained hydration which considered very significant in the diet constituents of adolescents'. Conversely, specific beverages, like sugar-sweetened beverages (SSBs) provide calories with no beneficial nutrients (1).An important attention of investigations are paid for beverage intake due to its role in the contribution of diet either positively such as milk or affect negatively such as soda; also may be considered as adequate nutrient such as fruit drinks. The percent of contribution of beverages in the supply with energy in diets of children and adolescents are about 20% of calories. (2).Increasing in the risk of developing cardiometabolic disorders it is usually are connected with low fluid intake (3). Inadequate supply with fluids may lead to chronic kidney disease (4), recurrent renal calculi (5), whereas, in children sufficient hydration has been established to augment perception (6,7) Adequate

hydration has been shown to improve mood (8).An elevation in the risk of inducing obesity among children are connected with consumption of sugar-sweetened beverages (SSB) (9). Daily increase in SSB consumption are associated with elevation in the frequencies in risk of diabetes mellitus type 2 (21%) and 7% hypertension (10).The Dietary Guidelines for Americans 2015–2020 endorsed that individuals take beverage drinks without supplementation with sugars, like water, instead of SSB (11.).Globally, throughout the past many decades there are a high increase in the consumption of beverages by children and adolescents in many parts of the world, (12).

Increased frequencies of bone fractures were also observed among adolescents drinking SSB, energy drinks and other caffeinated beverage, which may attributed to displacement of milk (13,14,15).Sports and energy drinks were also commonly consumed

among younger children. (16). Increased in the weight gain are the fate of consumption of (SSBs) due to low satiety, their high content of added sugar, and the possible of incomplete compensation for calories at meals, foremost to elevated intake of energy, excessive weight gain with development of obesity. (17). The prevalence of obesity and overweight is increasing globally, obesity is a major a severe healthcare problem particularly in developing countries, where the youth representing a high percentage of population (18). Adolescents habitually intake unhealthy beverages, which may be contain some chemical additives for giving attracting flavor and taste and by parental drinks, who organizes a role design for adolescents and children (19). Schools characterize a feasible situation for reasonable population health involvements intended to decrease unhealthy beverage as the revealed school-based education programs focusing on reducing SSBs consumption, and changing the school environment., increasing access to clean drinking-water, restricting unhealthy beverage marketing and encouraging home delivery of healthy drinks, (20). Community health efforts are required to assess adolescents body improvement access to and select healthful beverage drinks and reduce consumption of beverages having low nutritive level (21). The World Health Organization (WHO) has recommended an extreme consumption of (SSB) for children (22.). The current study was designed to assess beverage consumption pattern among a sample of adolescents in Egypt.

Objectives:

The current study was aimed to inspect the beverage consumption shapes that may influence anthropological factors of teenagers Egyptian between the age of 10 and 19 years.

2. Subjects and Methods

Study design:

This investigation was a cross sectional analytical study performed in the scholastic year 2019, from January to July 2019. **Study population and setting:**

Egyptian adolescents of both sex, their ages ranging from 10 and 19 years who were randomly chosen from preparatory and secondary schools in various governorates of Egypt: (Private Episcopal School and Men of Secondary School For Girls in **Menoufia Govrnate**, el Khalifa nurses' school, el Salam school, El hadetha preparatory school for girls, El maarf school for boys, misr international school **Tanta**, Rakha language school, sidighazy preparatory and secondary schools, Aliabd el Shakur language school **kafr el shikh**, future international school **Alexandria**, El-Tahriry languages school **6th of October**, Om El Moameneen Experimental School in

New Cairo, 6 October nurses' school, El Khalil languages school).

Sample size and technique:

Basing on a multistage sampling methodology, we chosen the participants as follows: The 1st stage: Cairo, Alexandria, Gharbiya, Menoufiya and Kafr Elsheikh governorates were selected from whole governorates in Egypt by simple random sampling method. The 2nd stage: from the regions of each governorate, Shebeen Alkoom, districts were selected using the same sampling method. The third stage: following simple random sampling technique, selected, Both private and governmental schools were chosen from all preparatory and secondary schools. The total number of interviewed subjects were 600, subjects with missing/incomplete data were excluded and a total of 566 fulfilled completed data were included in the study.

Data collection and study tools:

A structured questionnaire was used to collect data regarding dietary intake, physical activity and sleep patterns.

Anthropometric Assessment:

By the same team of experienced physiotherapist, height (23), weight and waist measurements were performed in order to avoid inter-examiner variability. BMI for-age was categorized as 5th percentile (< or ≥) and 85th percentile (< or ≥) and 95th percentile (< or ≥) using 2000 Centre for Disease Control gender-specific growth charts BMI calculations for children and teens (24)

Waist circumference:

The suitable place for measurement of waist circumference was at the slimmest region in the abdomen between the iliac crest (the natural waist) and the lower rib and using a non-elastic flexible tape and accounted to the nearest 0.1 cm. Age and genders particularly W.Cs were classified into the following percentiles depending on Fernandez et al. (25)

Assessment of Fluid Intake:

On behalf of participants in the study, a qualified dietician, at an interview, completed the recommended data in the fluid specific questionnaire, writing the daily and weekly intake of various kinds of beverage along the past month. The mean of daily fluid drinks from beverages was calculated on the basis of servings of each type of beverage based on the questionnaire items on fluids which comprises: bottled water, tap water, bottled fruit juices, natural fruit juices, skimmed milk, semi-skimmed milk, whole milk milkshakes, jellies, yogurt (100 and 200 cc), soups, and sorbets, artificially-sweetened beverages (200 and 330 cc), sugar-sweetened beverages (200 and 330 cc), white coffee (sweetened and unsweetened), tea (sweetened and unsweetened), espresso (sweetened and unsweetened), other

infusions (sweetened and unsweetened), non-alcoholic beer (200 and 330 cc), beer (200 and 330 cc), sports drinks (200 and 330 cc), meal replacement shakes, energy drinks, and other beverages. Total fluid consumed was calculated as the sum of all kinds of beverages. The volume of water in each package of beverage was determined depending on the % of water level from the United States Department of Agriculture (USDA) online database [United States Department of Agriculture, USD. An Online Database. Available online: <https://ndb.nal.usda.gov/> (26). All of the analyses of samples were carried out taking into consideration the amount of water (mL) in each package of beverage.

Physical activity and sleep patterns:

Physical activity questionnaire included the physical activity practice per week frequency and duration. Students asked to estimate sleep at their normal duration of night-time and day-time.

Statistical Analysis:

Microsoft excel 2013 was used for data entry and the statistical package for social science (SPSS version (27) (was used for data analysis. Simple descriptive statistics (arithmetic mean and standard deviation) used for summary of normal quantitative data and frequencies used for qualitative data. Bivariate relationship was displayed in cross tabulations and Comparison of proportions was performed the level of significance was set at probability (P) value <0.05.

Ethical consideration:

The investigation was permitted by the National Nutrition Institute and the researchers thoroughly described the study and its purpose, and took a few minutes before administering the questionnaire to explain the nature of the questionnaire and to answer any question that the parents had. Then asked for an approval from the parents. Only those who agreed were included. Strict confidentiality and privacy was maintained throughout the process of data collection.

3. Results:

The study population included 560 of which 195 males and 371 females with age ranging from 9 till 18 years old. No statistical significant difference was

found regarding weight waist circumference and BMI (P-value>0.05). There was a statistical significant difference (P-value<0.001) regarding height between the studied groups in favor of males (161.5±15.4) than females (155.8±10.1) (**Table 1**). The studied group was classified according to their BMI into 3 subgroups underweight, normal and obese (including overweight) (.Table2).Regarding the consumption of healthy and unhealthy beverages among males and females, females consumed either healthy or unhealthy beverages more than males (**Table 3,4**). As well, subjects with normal BMI consumed healthy beverages as water, milk and fruit juices more than the obese ones (While, the obese group consumed unhealthy beverages as soft drinks (Pepsi, Miranda, Seven up, tea with milk, canned juice more than the normal subjects (**Table 5,6**).)The intake from(milk, water was >3 times per week caffeinated beverage while natural juice, milk fruit, yogurts were <3times per week Table (7,8) The mean intake of water” (1752.8+898) boys and 1838.7+823.0 in girls, The mean intake of milk)was181.4+135.2ml in boys compared to 173.+130.1 In girls., The mean intake of fruit juice was 135.1+151.4 in boys compared to 110.8+179 in girls The mean intake of yogurt was 127.0_137.8in boys compared to 83.8 +89.7 in girls table (9)

Results

Table (1) Anthropometric parameters

The study population include (566)0 195 males and 371 females within age group starting from 9 years old until 18 years old.

No significant difference was found regarding weight waist circumference BMI.

There was significant difference regarding height in male than female.

According to the BMI the studied group were classified into 3 groups underweight, normal, overweight and obese there was statistical difference regarding sleep time between the 3 groups (p=0.06) Table (2)

Table (3) and table (4): showed that female subjects consume beverages (either healthy) or (unhealthy) more than males.

Table (1): Anthropometric parameters of the studied groups according to Gender

	Male (195)		Female (371)		Total (566)		P
	Mean ±SD	Min - Max	Mean ±SD	Min - Max	Mean ±SD	Min - Max	
Age	15.1± 5.9	9.0 – 18.0	15.0 ± 2.0	9.0 – 18.0	15.0 ± 3.8	9.0 – 18.0	0.760
Weight	61.8 ± 18.9	22 –145	59.2 ± 17.2	23.0 -138.0	60.1 ± 17.8	22.0 -145.0	0.106
Height	161.5±15.4	115 - 190	155.8±10.1	110 - 179	157.8±12.4	110-190	0.000
Waist	79.4 ± 15.5	48 – 133	77.4 16.5	35.0- 136.0	78.1 ± 16.2	35.0 -136.0	0.241
BMI	23.5 ± 5.1	14.7 – 40.5	24.2 ± 6.0	11.1 – 56.7	23.9 ± 5.7	11.1 – 56.7	0.150

Table (2): Descriptive anthropometric parameters, T.V time and Sleep time of the studied groups according BMI

	Mean \pm sd	Min - Max	Mean \pm sd	Min - Max	Mean \pm sd	Min - Max	<i>P</i>
Age	13.6 \pm 2.3	9.0 – 18.0	14.9 \pm 2.0	9.0 – 18.0	15.1 \pm 3.8	9.0 – 18.0	0.695
Weight	39.7 \pm 8.3	22.0 – 57.0	54.4 \pm 9.3	27.0 – 82.0	60.2 \pm 17.8	22.0 -145.0	0.000
Height	153.3 \pm 13.6	115-186	157.4 \pm 12.2	1110-186	157.7 \pm 12.4	110-190	0.000
Waist	64.0 \pm 11.5	39.0 – 84.0	72.6 \pm 9.8	35.0 – 98.0	77.9 \pm 16.0	35.0–136.0	0.050

Table (3): distribution dietary intake of healthy beverage on daily bases by gender

	N	%	N	%
	Male	%	Female	%
Natural juices	156	35.0	290	(65.0)
Milk	143	35.0)	266	(65.0)
Milk fruits	75	40.5	110	(59.5)
Orchid with milk	65	41.7	91	(58.3)
Cinnamon with milk	33	44.6	41	(55.4)
Yogurt	62	34.4	118	(65.6)
Water	184	34.5	350	(65.5)
Fenugreek	30	39.5	46	(60.5)
Green tea	27	41.5	38	(58.5)
Herbal drinks1	64	27.9	165	(72.1)
Herbal drinks2	14	42.4	19	(57.6)
Dum drink	16	47.1	18	(52.9)
Natural tamarind	50	36.0	89	(64.0)
Natural kharoub	23	56.1	18	(43.9)
Subia	44	41.1	63	(58.9)
Honey	84	84.0	143	(63.0)
Molasses	72	34.0	140	(66.0)
Soup	117	32.1	248	(67.9)

Table (4): distribution of dietary intake on daily bases of the unhealthy beverage by gender

	Male	Female
Canned juices	128(38.2)	207(61.8)
Tea with milk	98(38.4)	157(61.6)
Tea	120(38.2)	194(61.8)
Coffee	46(38.7)	73(61.3)
Nescafe	38(29.9)	89(70.1)
Drinks with creamer	42(31.3)	92(68.7)
Tang	36(30.3)	83(69.7)
Tamarind powder	24(38.7)	38(61.3)
Pepsi	122(33.2)	245(66.8)
Seven up	64(35.8)	115(64.2)
Miranda	47(34.3)	90(65.7)
Beryl	25(56.8)	19(43.2)
Fayroz	59(41.5)	83(58.5)
Energy drink	27(62.8)	16(37.2)
Sugar	12(31.6)	269(68.4)
Diet sugar	3(30.0)	7(70.0)
Fructose sugar	8(88.9)	1(11.1)
Jelly	51(33.6)	101(66.4)

Table 5 Showed that subjects with normal BMI consume healthy beverages water, milk, fruit juice more than obese subjects.

Table (5): distribution of dietary intake healthy beverages by BMI

	Underweight%	Normal	Obese
Natural juices	54(12.2)	255(57.8)	132(29.9)
Milk	55(13.6)	216(53.5)	133(32.9)
Milk fruits	28(15.3)	104(56.8)	51(27.9)
Orchid with milk	27(17.3)	88(56.4)	41(26.3)
Cinnamon with milk	14(19.2)	39(53.4)	20(27.4)
Yogurt	28(16.0)	104(59.4)	43(24.6)
Water	66(12.5)	293(55.4)	170(32.1)
Fenugreek	10(13.5)	47(63.5)	17(23.0)
Green tea	8(12.5)	29(45.3)	27(42.2)
Herbal drinks1	29(12.8)	130(57.5)	67(29.6)
Herbal drinks2	6(19.4)	12(38.7)	13(41.9)
KDum drink	5(15.2)	16(48.5)	12(36.4)
Natural tamarind	24(17.4)	81(58.7)	33(23.9)
Natural kharoub	6(15.0)	19(47.5)	15(37.5)
Subia	19(18.1)	60(57.1)	26(24.8)
Honey	32(14.3)	130(58.0)	62(27.7)
Molasses	34(16.3)	126(60.3)	49(23.4)
Soup	51(14.2)	202(56.1)	107(29.7)

Table (6) Showed normal subjects consume unhealthy beverages, soft drink pepsi, Miranda, seven up, tea with milk, canned juice more than underweight and obese subjects.

Table (6): Distribution of dietary intake of the unhealthy beverage by BMI

	Underweight	normal	obsess
Canned juices	42(12.6)	101(30.3)	190(57.1)
Tea with milk	34(13.5)	73(29.0)	145(57.5)
Tea	27(8.7)	114(36.7)	170(54.7)
Coffee	14(11.9)	44(37.3)	60(50.8)
Nescafe	14(11.1)	35(27.8)	77(61.1)
Drinks with creamer	20(15.2)	47(35.6)	65(49.2)
Tang	18(15.3)	29(24.6)	71(60.2)
Tamarind powder	8(13.3)	16(26.7)	36(60.0)
Pepsi	45(12.4)	117(32.2)	201(55.4)
Seven up	21(11.9)	63(35.6)	93(52.5)
Miranda	15(11.2)	36(26.9)	83(61.9)
Beryl	7(16.7)	8(19.0)	27(64.3)
Fayroz	19(13.6)	44(31.4)	77(55.0)
Energy drink	7(17.1)	5(12.2)	29(70.7)
Sugar	45(11.5)	133(34.0)	213(54.5)
Diet sugar	5(55.6)	4(44.4)	0(0.0)
Fructose sugar	2(28.6)	2(28.6)	3(42.9)
Jelly	14(9.4)	46(30.9)	89(59.7)

Table (7) showed that the intake from (milk, water) was >3 times per week while natural juice, milk fruit, yogurts were <<3times per week

Table (7): Distribution of dietary intake of healthy beverage according to the frequency per weekly

	< 3 times/week	≥3 times/week
Natural juices	285(63.9)	161(36.1)
Milk	137(33.5)	272(66.5)
Milk fruits	137(74.1)	48(25.9)
Orchid with milk	131(84.0)	25(16.0)
Cinnamon with milk	59(79.7)	15(20.3)
Yogurt	109(60.6)	71(39.4)
Water	0(0.0)	534(100.0)
Fenugreek	56(73.7)	20(26.3)
Green tea	40(61.5)	25(38.5)
Herbal drinks1	169(73.8)	60(26.2)
Herbal drinks2	23(69.7)	10(30.3)
Dum drink	33(97.1)	1(2.9)
Natural tamarind	113(81.3)	26(18.7)
Natural kharoub	40(97.6)	1(2.4)
Subia	87(81.3)	20(18.7)
Honey	106(46.7)	121(53.3)
Molasses	124(58.5)	88(41.5)
Soup	205(56.2)	160(43.8)

There was higher intake >3 times per of week Caffeinated beverage intake (tea, coffee, nescafe) while SSB (pepsi, seven up, Miranda) was <3 times per week (energy drink was <than 3 times per week (Table (8)

Table (8): distribution of dietary intake of unhealthy beverage according to the frequency per weekly, herbal drink honey molasses was <3 times per week

	< 3 times/week	≥3 times/week
Canned juices	184(54.9)	151(45.1)
Tea with milk	106(41.6)	149(58.4)
Tea	83(26.4)	231(73.6)
Coffee	55(46.2)	64(53.8)
Nescafe	60(47.2)	67(52.8)
Drinks with creamer	73(54.5)	61(45.5)
Tang	88(73.9)	31(26.1)
Tamarind powder	51(82.3)	11(17.7)
Pepsi	213(58.0)	154(42.0)
Seven up	123(68.7)	56(31.3)
Miranda	103(75.2)	34(24.8)
Beryl	30(68.2)	14(31.8)
Fayroz	107(75.4)	35(24.6)
Energy drink	31(72.1)	12(27.9)
Sugar	16(4.1)	377(95.9)
Diet sugar	7(70.0)	3(30.0)
Fructose sugar	5(55.6)	4(44.4)
Jelly	134(88.2)	18(11.8)

Table (9) The mean intake of water” (1752.8+898) boys and 1838.7+823.0 in girls, The mean intake of milk) was 181.4+135.2ml in boys compared to 173.+130.1 In girls., The mean intake of

fruit juice was 135.1+151.4 in boys compared to 110.8+179 in girls The mean intake of yougurt was 127.0_137.8in boys compared to 83.8 +89.7 in girls.

Table (9): the mean value of daily healthy beverage intake by gender

	Male		Female	
	Mean (sd)	Min-Max	Mean (sd)	Min-Max
Natural juices	135.1(151.4)	1.7 – 960.0	110.8(174.9)	3.4 – 2400
Milk	181.4(135.2)	3.4 – 720.0	173.0(130.1)	3.4 – 720.0
Milk fruits	82.4(97.6)	7.1 – 400.0	69.8(99.1)	0.04 – 480.0
Orchid with milk	69.4(109.2)	8.6 – 480.0	39.6(62.8)	0.2 – 240.0
Cinnamon with milk	65.2(86.5)	8.6 – 240.0	61.3(85.8)	0.1 – 240.0
Yogurt	127.0(137.8)	7.1 – 480.0	83.8(89.7)	7.1 – 400.0
Water	1752.8(898.1)	120 – 4800	1838.7(923.0)	960 – 5460
Fenugreek	10.1(43.5)	0.2 – 240.0	36.0(214.2)	0.1 – 1440
Green tea	1.6(2.1)	0.1 – 10.0	0.9(1.5)	0.1 – 8.0
Herbal drinks1	0.8(1.1)	0.04 – 4.0	2.6(18.9)	0.1 – 240
Herbal drinks2	0.9(1.2)	0.1 – 4.0	1.2(1.7)	0.1 – 6.0
Dum drink	1.1(0.7)	0.4 – 2.9	1.1(2.3)	0.4 – 10.0
Natural tamarind	4.0(7.0)	0.4 – 30.0	2.2(3.3)	0.1 – 10.0
Natural kharoub	1.0(0.6)	0.4 – 2.9	2.5(7.1)	0.4 – 30.0
Subia	9.5(19.1)	0.2 – 100.0	5.4(8.6)	0.2 – 30.0
Honey	5.2(5.7)	0.2 – 25.0	4.0(4.5)	0.2 – 25.0
Molasses	3.3(4.5)	0.2 – 25.0	3.0(4.1)	0.1 – 20.0
Soup	82.2(83.9)	2.1 – 450.0	74.1(78.7)	5.4 – 600

Table (10) amount consumed daily of unhealthy beverage

The mean intake of Canned juices 144.9,ml, (Tea with milk (253.9ml) Pepsi,192ml.9(227.1ml)seven up

127.7ml (miranda128.4) ml /day boys. Consumption of unhealthy beverage of girls was., Canned juices 106.8ml, Canned juices 188.91ml) Pepsi 67) ml seven upml. 114.4 Mirandaml88.9 ml

Table (10): the mean value of daily unhealthy beverage intake by gender

	Male		Female	
	Mean (sd)	Min-Max	Mean (sd)	Min-Max
Canned juices	144.9(166.2)	7.1 – 800.0	106.8(128.2)	0.1 – 1200.0
Tea with milk	222.5(253.9)	2.0 – 1200.0	188.9(225.1)	0.1 – 1440.0
Tea	3.0(3.1)	0.1 – 20.0	15.9(72.4)	0.1 – 720.0
Coffee	3.5(3.4)	0.2 – 15.0	8.4(30.1)	0.1 – 240.0
Nescafe	3.8(4.0)	0.2 – 20.0	3.4(3.8)	0.2 – 25.0
Drinks with creamer	9.1(12.8)	0.4 – 71.4	35.8(79.6)	0.4 – 500.0
Tang	9.3(12.2)	0.7 – 40.0	6.0(8.4)	0.7 – 40.0
Tamarind powder	19.5(61.1)	0.7 – 300.0	50.0(8.3)	0.2 – 40.0
Pepsi	192.9(227.1)	4.3 – 1200.0	167.8(299.4)	10.7 – 3900
Seven up	127.7(165.5)	10.7 – 900.0	114.4(133.7)	10.7 – 600.0
Miranda	128.4(117.5)	2.1 – 300.0	88.9(120.6)	10.7 – 600.0
Beryl	128.6(132.3)	10.7 – 300.0	95.3(126.4)	10.7 – 300.0
Fayroz	132.6(213.3)	4.3 – 1500.0	99.9(163.5)	10.7 – 900.0
Energy drink	144.1(295.2)	10.7 – 1500.0	164.5(320.7)	10.7 – 1200.
Sugar	19.0(21.0)	0.2 – 125.0	18.2(22.2)	0.2 – 300.0
Diet sugar	0.2(0.1)	0.1 – 0.2	4.4(4.9)	0.2 – 10.0
Fructose sugar	3.1(3.5)	0.2 – 10.0	0.4(-)	0.7 – 0.7
Jelly	3.8(5.2)	0.7 – 20.0	5.8(16.1)	0.3 – 150.0

4. Discussion

This study is conducted to assess the beverage consumption by adolescents in Egypt, This study include about 560 Egyptian teenagers between age 10-19 years old,both gender were recruited to conduct the

study., Our results reveled that female had higher BMI than male., There was significant difference regarding physical activity male were more active in both sport practice and daily effort than female. The impact of gender on the consumption of the various kinds of

fluids was constant and distinct in our sample. Females consumed a high amount of both healthy and unhealthy beverage compared to male. Different factors attribute to this observation including to cultural causes., less time spent outdoors more times spent indoors watching T.V, More consumption in healthy beverage intake theoretically because of elevated in awareness of health or care to their body shape. This result was in concordance with many studies carried on huge numbers of European adolescent sample, males obviously had a higher rate of contribution of lower contribution healthy beverage (water and milk, fruit juice) than females (28). The impact of sex on the consumption of the various kinds of beverages was inconsistent in some previous studies (29,30) (found that Boys had a higher preference for healthy beverages than girls. This remark proposed that during adolescence males begins accepting healthier hydration customs than females. Till the sex impact on the drinks of the various types of beverages has been analysed statistically for a second time by recent surveys, it is endorsed to understand the sex effect country-by-country. We found that obese group consume higher amount of unhealthy beverage compared to normal weight group. Major strength of our study was represented by (31,32,33) (they found positive correlation between BMI and SSBs intake. Another supportive evidence came from (34), (35,36). Regarding the amount of different healthy beverage we found insufficient intake of, milk and natural fruit juice our result matches that of (4,) survey from Latin America and Asia as they reported that Adolescents had a significantly lower milk intake in most countries., Great supportive evidence of our results came from (37,38,39,40) Water was consumed adequately by the largest percentage of our studied groups. same result observed by (4,29). Enough administration of water consumption was noticed in Countries relatively closely found around the Mediterranean Sea (Spain, France, Turkey and Iran), similar geographical situation indeed demonstrated similarities in the contribution of the different fluid types to total fluid intake at least half of the fluid intake in these countries came from water. (4,41) Previous Studies have suggested that higher socioeconomic status contribute to having essential health information, knowledge, skills, values, and psychological control in order to choose behaviors to establish healthy lifestyles. Our study result showed that the overweight/obese was more observed in those with lower socioeconomic status., (42). Public health policies and programs should identify and address modifiable aspects of beverage intake and tailor approaches to the groups identified to be most affected by healthy beverage consumption. Future

research is needed in order to identify the beverage consumption pattern among adolescence in different nations to coordinate different policies intervention to change behavior for healthy beverage intake.

Conclusion

Beverages consumption and beverages choices are strongly related to gender Females beverages consume (either healthy or non healthy) more than males.

There was deficient intake of milk and fruit juice with adequate intake of water. There is positive association between greater intake of SSBs and weight gain, total. Public health efforts are needed to help adolescents gain access to and choose healthful beverages and decrease intake of beverages of minimal nutritional value.

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2/25/2020