

Research Article

The study of knowledge and practice of mothers about soft drink in the north of Iran, 2013

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ABSTRACT

Background: Lack of knowledge and proper practice are the abstractive in balance diet. In some communities, many beverages have been intake in high rates for their taste. The main aim of this study was to determine the knowledge and practice rates of rural mothers about some kinds of beverage in the north of Iran in 2013. **Materials and Methods:** This is a retrospective, cross-sectional study with analytical approach that carried out on the 2538 mothers of under-five children. Among 118 villages, 20 of them were randomly selected and all the mothers who have under-five children for completing of the questionnaire have been called to health house. P-value under 0.05 included signification. **Results :** The knowledge rate about yoghurt as a proper food was 93.5% and it was common in Fars-native Turkman and Sisstani 97.8%, 94.2% and 89.6%, respectively ($P < 0.001$). Generally, practice rate about it was 61.0% whoever statistical differences was not significant among three ethnic groups. Significant positive association were seen between economic status and knowledge and practice about yogurt ($P < 0.001$) whereas education only significantly effect on knowledge rate ($P < 0.004$). **Conclusion:** We found a high knowledge rate about proper soft drink while one-third of them didn't have a good practice and it was more in Sisstani ethnic group than others. Good economic status has been increased the knowledge and practice but education only effect on the knowledge rate

Key words: Soft drink, knowledge, Economic, Ethnicity, Iran

INTRODUCTION

Balance diet have a positive association with health (1,2) and it saves the casts of health care (3). Carbohydrates are the main sources of human food such as bread, crackers, juices, beverages and fruit and provide more than 60% of daily energy requirements (4). Despite the important role of carbohydrate to provide energy intake a high carbohydrates diet can cause many

diseases.g. diabetes, obesity and tooth decay (5). High prevalence of non-communicable diseases such as obesity, diabetes, osteoporosis and hypertension in addition reduced the age morbidity of them in one hand and their relationship with the food behaviour in other hand, establishing of proper food policy for improving of health indices is necessary more

than over (6). Carbonated beverages have a substantial contribution to energy intake and hence the risk of overweight and obesity. Due to the phosphorus content, high intake of them is resulted to calcium depletion in body and makes osteoporosis (7). Obesity as cardio-metabolic risk factors increases the coronary heart disease, brain stroke, diabetes and cancer. Hypertension and hypercholesterolemia are closely related to excessive consumption of fat, carbohydrates and salt (6).

Increasing of renal excretion of calcium up 17% in adult people, the risk of heart attack increased up 20-40% among them (8). Foodstuffs rich in calcium included milk and dairy products except butter effect on children's growth and strong bones and teeth (9).

High consumption of soft drink is reduced the calcium absorption and it was included 15% of total energy intake in young people (10). Calcium deficiency and osteoporosis are the major health problems in Iran and are prevalent in northern people more than other regions (11).

In developed countries, however, prevention programs and use of fluoride have been reduced the tooth decay but due to increasing consumption of soft drinks, obesity, behavioural disorders and tooth erosion it was increased. In these countries, as well as excessive consumption of soft drinks, consumption of milk, vegetables and fruits have been reduced (12-13). In spite the consumption of saccharose has been recommended up 10% in daily diet but it was seen up to 25% in some countries (14-15).

According to the some studies (16,17), low knowledge and improper practice about their nutrition are the health problem among Iranian families.

Golestan province located in north of Iran (southeast of Caspian Sea) and 25.6% of people live in rural areas. Agriculture is the main job in rural area where different ethnic groups such as Fars-native, Turkman and Sistani are living in (18).

Regards to the main role of mothers in family's nutrition, this study designed for determine of food knowledge rate and practice about soft drink among women in a rural area in the north of Iran.

MATERIAL AND METHOD

This was a retrospective, cross-sectional study with analytical approach, which carried out on 2538 from 20 villages in the north of Iran. Villages and mothers have been chosen by simple sampling. The sample size was estimated based on the amount of 50% prevalence and an accuracy of 0.01 and probability of error of less than 0.05 for number 2401. For all of cases, a questionnaire with contain questions on the social-demographic condition of families and a mini Food Frequency Questionnaire (FFQ) were completed by a learned team. The data were recorded by 20 taught interviewers using a questionnaire.

With regards to Iranian life style and the real income status of families, the economic ranking of them were assessed on the base of 12 items and principles. In that way, the economic status was divided as 1) good [8-12 items], 2) intermediate [4-7 items] and 3) poor [≤ 3 items]. Educational level was classified into three groups: 1) Uneducated (unable to read or write a phrase); 2) 1-12 years schooling and 3) College educated.

The ethnic groups in this study were divided into three groups: 1) Fars -native: The natural inhabitant of this province, which they are recognized with same name in the society 2) Turkman: The inter marriage of this ethnic group with other ethnic group were rare therefore this ethnic group can be recognized as pure race. 3) Sistani ethnic group: This ethnic group were immigrated from Sistan and Baluchestan province from the east of Iran far earlier.

SPSS software (version 18, Chicago II, USA) was used for statistical data analysis. Chi-2 test was used for comparing qualities groups and logistic regression was used for estimation of odds ratio. P-value under 0.05 included significations. The

mothers who did not like to participate in our study, has been excluded.

This study approved by Ethical Research Committee of Golestan University of Medical Sciences (G-P-35-1112). Verbal informed consent was received from all cases.

RESULTS

Generally, 93.5% of the subjects were aware, about the yoghurt as the best beverage and this ratios in the Fars-native, Turkmen and Sistani ethnic groups were 97.8%, 94.2% and 89.6% respectively and statistical differences is significant among three ethnic groups ($p < 0.001$). In our community, practice about yoghurt consumption was 61% while statistical differences was not significant among ethnic groups ($P = 0.283$). In added, 32.5% of individuals despite of adequate knowledge, didn't have enough practice about yogurt.

The knowledge about yogurt as a suitable beverage has been significantly increased with economic status ($P < 0.001$). It was 6.3% in good economic status more than in poor economic status. Yogurt consumption in good economic group was 9.6% more than in poor economic group.

Positive association was seen between knowledge rate and educational levels and it was in college educated group was 10.5% more than in uneducated group ($P = 0.004$). Yogurt consumption differences among three education groups was not significant ($P = 0.293$).

DISCUSSION

An interesting result of our study was the high knowledge and low practice of rural women about soft drink. Also socioeconomic factors were associated with increasing levels of knowledge but had no effect on practice rate.

Today, nutrition status is one the criteria for social welfare classification in different communities (19). Food behaviours are formed in childhood and continue to older age and

families have a main role in this situation (20). Educational interventions have been resulted to increase knowledge and food behaviours practice about vitamin D and calcium intake (21).

In present study, the knowledge rate about soft drink among rural mothers is appropriate while one-third of them didn't have a good practice. In an epidemiologic study on the women in Zanjan province (west of Iran) (22) about cardiovascular disease has been shown that the knowledge rate is more than practice rate. In this society, 68% of individuals has been used the hydrogenated vegetable oils as edible oil while 76.8% of them believed it was harmful.

In a quality study in USA (23), in spite of high knowledge about cardiovascular disease risk factors whereas the practice about them is low. In England older people (24), the knowledge rate about beneficial of fruit and vegetable are low but poor economic status was the main cause of intake of them. As like as above studies, we found the high knowledge rate and low practice rate about soft drink in rural women in the north of Iran.

In present study, economic status, educational level and ethnicity were the same related factors on the knowledge rate. Educational level and economic status has a positive association with knowledge rate. The major obstacles women's behaviour about cardiovascular risk reduction was the culture and income in study (23).

Baghiani and et al (25) has been found a significant association between income and knowledge whereas no significant association was seen between education level and idea and practice.

In spite of, enough knowledge and positive idea about balance diet, but low socio-demographic factors were the main obstacle factors (26,27).

Romyin a study in 2002 (28), reported that 47% of patients with heart ischemic were at low education level. The average income of ischemic patients was \$20,000 and 35 percent of them had income

less than average of their social and this has made some problems for the management of their lives.

The World Health Organization believes that poverty threatens health. Acquaintance levels of poverty with diseases are limited due to the low level of their knowledge and their idea is negative or indifferent towards Health (29).

In another study (30), was shown that mothers are decision maker in families food behaviours and education of the can cause the improving of milk consumption in children.

Similar to other results, level of education and the economy in our study was associated with an increased knowledge but had no significant effect on practice. It seems that despite high levels of knowledge, intervening factors is effect on practice of rural women which should be considered in a separate study.

In our study knowledge rate was significant among Fars-native Turkmen and Sistani ethnic group but were the same aspect of practice. The study about food behaviours and ethnicity is rare in the north of Iran. An epidemiologic study in this area, was shown the metabolic syndrome in Turkman group more than the others (31). Also, hydrogenated vegetable oil in Sistani ethnic group was more than other ethnic groups (32). Obesity in primary school children was seen in Fars-native more than other group (33).

In present study the differences of food practice among ethnic groups, maybe related to socio-demographic factors that should be consider in a comprehensive study in future.

In these studies all of the factors related to the food behaviours as food intake, jobs, food security weren't evaluated. We did not provide a proper statistical test to consider the design effect caused by cluster sampling. They are the factors limiting our study.

CONCLUSION

The study showed that rural women in north of Iran have the sufficient knowledge about the benefits of soft drinks whereas the practice is not

enough. Increasing of education level and economic status positively associated with knowledge practice only increasing with booming economic status. The knowledge rate of Sistani group is lower than other ethnic groups whereas practice differences are not significant among them. A comprehensive study with approach of socio-demographic factors is necessary to investigation the causes of reduces practice in this area women.

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Table 1. The comparison of knowledge and practice rate of the rural mothers about kinds of soft drink based on ethnicity in the north of Iran.

Ethnicity	N	Knowledge				Practice			
		Yogurt	Soft Drink	Artificial Juice	Unknown	Yogurt	Soft Drink	Artificial Juice	Unknown
Fars-native	647	633(97.8)	8(1.2)	5(0.8)	1(0.2)	411(63.5)	195(30.1)	8(1.2)	33(5.1)
Turkmen	1018	959(94.2)	36(3.5)	17(1.7)	6(0.6)	618(60.7)	308(30.3)	3(0.3)	89(8.7)
Sisstani	873	782(89.6)	48(5.5)	38(4.4)	5(0.6)	520(59.6)	323(37)	18(2.1)	12(1.4)
Total	2538	2374(93.5)	92(3.6)	60(2.4)	12(0.5)	1549(61)	826(32.5)	29(1.1)	134(5.3)
<i>P-Value</i>		0.001				0.283			

N (%) # Chi-2 between Yogurt and others

Table 2. The comparison of knowledge and practice rate of the rural mothers about kinds of soft drink based on economic status in the north of Iran.

Economic Status	N	Knowledge				Practice			
		Yogurt	Soft Drink	Artificial Juice	Unknown	Yogurt	Soft Drink	Artificial Juice	Unknown
Poor	595	543(91.3)	37(6.2)	12(2)	3(5)	335(56.3)	226(38)	6(1)	28(4.7)
Moderate	1319	1226(92.9)	44(3.3)	40(3)	9(7)	803(60.9)	430(32.6)	21(1.6)	65(4.9)
Good	624	605(97)	11(1.8)	8(1.3)	0(0)	411(65.9)	170(27.2)	2(3)	41(6.6)
Total	2538	2374(93.5)	92(3.6)	60(2.4%)	12(0.5)	1549(61)	826(32.5)	29(1.1)	134(5.3)
<i>P-Value</i>		0.001				0.002			

N (%) # Chi-2 between Yogurt and others

Table 3. The comparison of knowledge and practice rate of the rural mothers about kinds of soft drink based on education in the north of Iran.

Education	N	knowledge				Practice			
		Yogurt	Soft Drink	Artificial Juice	Unknown	Yogurt	Soft Drink	Artificial Juice	Unknown
College	58	57(98.3)	0(0)	1(1.7)	0(0)	43(74.1)	14(24.1)	0(0)	1(1.7)
1-12 Y Schooling	2291	2151(93.9)	81(3.5)	49(2.1)	10(4)	1391(60.7)	751(32.8)	23(1)	126(5.5)
Uneducated	189	166(87.8)	11(5.8)	10(5.3)	2(1.1)	115(60.8)	61(32.3)	6(3.2)	7(3.7)
Total	2538	2374(93.5)	92(3.6)	60(2.4)	12(0.5)	1549(61)	826(32.5)	29(1.1)	134(5.3)
<i>P-Value</i> #		0.004				0.293			

N (%) # Chi-2 between Yogurt and others