Assessment of Diabetic Patients Dietary Habits after Coronary Artery Bypasses Graft surgery at IbnAl-Bitar Specialized Center for Cardiac Surgery in Baghdad City

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***Abstract*-** Diabetes is a serious public health problem with serious secondary complications, one of these problems are coronary artery disease. The global burden of diabetes is large and growing, affecting populations in every region of the world.

Objective: To assess the diabetic patients dietary habits after coronary artery bypasses graft surgery and find out the relationship between these patients dietary habits and their socio-demographic characteristics of. Age, Gender, Marital Status, Economic status.

Methodology: A descriptive analytical study was conducted on Non-probability (purposive sample) of (100) a diabetic patients who had done a coronary artery bypass graft surgery at (Ibn Al-Bitar specialized center for cardiac surgery).in Baghdad City A questionnaire was used as a tool of data collection for the period of 12th May to 12th July2016. Descriptive statistical analyses were used to analyze the data.

***Results*:** The results of the study shows that the majority of the age group were (60- 69) years old (41%). Most of the study samples (73%) were male. Most of them (69%) were married and (62%) the test of (HbA1c) indicates more than seven. More thanstudy samples (91%) do not follow the diet program.

Conclusions: The study results indicate highly significant differences association between age group with knowledge of the dietary habits. There is indicated that high significant association between marital status and dietary habitshigh significant differences association between marital statuses food frequency which are more frequent among married patients.

Recommendations: Diabetes self-management education (DSME) and support (DSMS) programs are appropriate for education and support to develop and maintain behaviors that can prevent or delay the onset of diabetes, a diet program to reduce excess weight, taking into account the patient's in general condition, Screening for and treatment of modifiable risk factors for cardiovascular disease is suggested follow-up for counseling may be important for health.

***Index Terms*-** Assessment of Diabetic Patients Dietary Habits after Coronary Artery Bypasses Graft surgery

I. Introduction

All forms of diabetes increase the risk of long-term complications. These typically develop after many years (10–20), but may be the first symptom in those who have otherwise not received a diagnosis before that time[1].The major long-term complications relate to damage to blood vessels. Diabetes doubles the risk of cardiovascular disease and about 75% of deaths in diabetics are due to coronary artery disease [2]. The role of nutrition in maintaining health and reducing the damage caused by diabetes and atherosclerosis heating helps keep your blood glucose, also called blood sugar, in the target range. Physical activity and, if needed, diabetes medicines also help[3].

One of the risk factor for the development of coronary artery disease is diabetes mellitus is approximately 20% to 30% of the patients undergoing Coronary Artery Bypass Graft (CABG) have diabetes mellitus There is not enough evidence to determine the impact of DM on short-term mortality and morbidity in the patients undergoing CABG[4].

Cardiovascular disease is the most common cause of mortality. Each year it accounts for 30% of deaths worldwide and 38.5% in the United States and Europe. Although the incidence of cardiovascular disease is decreasing in high-income countries due to education and advancement in medical therapy, it is rapidly rising in middle- and low-income countries as they become increasingly industrialized and urbanized[5].

II. Methodology

A descriptive study used to achieve the early stated objectives. The study was done from February 23th, 2016 up to July 23th, 2016.In order to obtain an accurate data and a representative sample, a purposive (non- probability) sample of (100) diabetic patients who had done a coronary artery bypass graft surgery (CABGs) in Ibn Al-Bitar specialized center for cardiac surgery were chosen.The data were collected in the period from 12th May to 12th July2016. The researcher collected the samples by interview with patients through a special designed questionnaire. This interview took a period of about 10- 15 Minutes for each sample. The answers for the third and fourth part of the questionnaire rated as (3) for always, (2) for sometimes and (1) for never. the questionnaires was constructed and composed of four parts**Part 1**: **demographic and socio-economic status**: consisted of (6) items which included: age, gender, occupation, marital status, (level of education, , and Housing expenses such as family type, home type and have a car) to calculate the economic status**Part medicalinformation:** 2.1: second part consists of (11) items. The first item is for Body mass indexThesecond item about smoker, the third item about drinking alcohol, the fourth item aboutthe cumulative rate of

sugar HbA1c, the fifth item aboutthedate of diagnosed the diabetes mellitus, the sixth item aboutthe diet without taking treatment, the seventh item aboutthe take tabletsfor diabetes mellitus, the eighth item aboutthe inject insulin, the ninth item aboutthetake some herbs therapeutic,the tenth item aboutthe history of diagnosis of a blockage in the coronary artery, and the eleven item aboutthedate of coronary artery bypass graft surgery.**Part III: dietary habits:**This part consists of (2) domains of the dietary habits which are consisted of (16) items which are divided into positive dietary habits (eight items) and negative dietary habits (eight items).**Part IV: (FFQ) Food Frequency Questioners:**This part includes the food frequency Questioners which consisted of different categories of food that contain food nutrients, the part consists of (9) domains which include (71) items.

III. RESULTS

Table (1): Socio-demographic characteristics of the diabetic patients:

No.	Characteristics		F	%
1	**Age group:**	30 – 39 year	1	1
		40 – 49 year	17	17
		50 – 59 year	30	30
		60 – 69 year	41	41
		70 ≤ year	11	11
		Total	**100**	**100**
2	**Gender:**	Male	73	73
		Female	27	27
		Total	**100**	**100**
3	**Socioeconomic status:**	Low	5	5
		Moderate	78	78
		High	17	17
		Total	**100**	**100**
4	**Marital status:**	Unmarried	0	0
		Married	69	69
		Separated	4	4
		Divorced	9	9
		Widowed	18	18
		Total	**100**	**100**

The analysis of socio-demographic characteristics shows that the more frequent age group is 60 – 69 years old among the patients (41%); two third of the sample are male (71%). Regarding socioeconomic status, 78% of them are having moderate level. More than half of the patients are living in a normal marital status, in which the finding shows that 69% of them are married.

Table (2): Medical characteristics of the diabetic patients

No.	Characteristics		F	%
1	**Body mass index:**	Underweight	0	0
		Normal weight	0	0
		Overweight	28	28
		Obesity I	54	54
		Obesity II	17	17
		Obesity III	1	1
		Total	**100**	**100**
2	**Smoking:**	Yes	76	76
		No	24	24
		Total	**100**	**100**
3	**Consuming Alcohol:**	Yes	18	18
		No	82	82
		Total	**100**	**100**
4	**Cumulative average of**	> 6.5	10	10

	blood sugar (HbA1c):	6.5 – 7	28	28
		7 >	62	62
		Total	**100**	**100**
5	**Diagnosis date of diabetes mellitus:**	1- 5 years	31	31
		6 – 10 years	32	32
		11 ≤ year	37	37
		Total	**100**	**100**
6	**Following diet without treatment:**	Yes	9	9
		No	91	91
		Total	**100**	**100**
7	**On tablets:**	Yes	73	73
		No	27	27
		Total	**100**	**100**
8	**On insulin:**	Yes	18	18
		No	82	82
		Total	**100**	**100**
9	**On herbs therapy:**	Yes	33	33
		No	67	67
		Total	**100**	**100**
10	**Diagnosis date of coronary heart occlusion:**	1- 5 years	54	54
		6 – 10 years	37	37
		11 ≤ year	9	9
		Total	**100**	**100**
11	**Date of coronary artery bypass graft surgery:**	Before 3 or 8 months	40	40
		Before 9 or 12 months	32	32
		More than 12 months	28	28
		Total	**100**	**100**

This table reveals that 54% of the patients have obesity class (I) according to body mass index; 76% of them are smoking cigarettes; and only 18% of them are consuming alcohol. The cumulative average of blood sugar test indicates more than seven (62%) among the patients. The date of diabetes mellitus is more than ten years (37%). 91% of the patients do not following a diet without treatment, 73% of them are taking anti-diabetic tablets and 82% of them didn't take an insulin and herbal treatment (67%) and only 33% take herbs as treatment. The diagnosis date of coronary heart occlusion is 1 – 5 years (54%) and the date of bypass graft surgery is before three or eight months ago (40%).

Table (3): Mean of score for the dietary habits among diabetic patients (N=100)

Dietary HabitsPositive Dietary Habits		**Never**	**Sometimes**	**Always**	**M.S**	**Severity**
1	**Eat three main meals**	0	44	56	2.56	H
2	**Eat meals support**	23	68	9	1.86	M
3	**Eat vegetables salad with every meal**	0	59	41	2.41	H
4	**Eat fresh fruits**	5	63	32	2.27	M
5	**Eating nuts**	4	74	22	2.18	M
6	**Drink large quantities of water**	0	44	56	2.56	H
7	**Drink free fat milk**	51	36	13	1.62	L
8	**Drink tea without sugar**	32	49	19	1.87	M
Total					**2.16**	**M**
Dietary HabitsNegative Dietary Habits		**Never**	**Sometimes**	**Always**	**M.S**	**Severity**
9	**Eat irregular meals**	0	72	28	1.72	M
10	**Eat canned food**	5	34	61	1.44	L
11	**Eat dried fruit**	0	28	72	1.28	L
12	**Eat fast food**	0	64	36	1.64	L
13	**Drink soft drinks**	14	63	23	1.91	M
14	**Drink tea with sugar**	23	58	19	2.04	M
15	**Drink whole milk**	5	25	70	1.35	L
16	**Drinking stimulants (coffee)**	28	63	9	2.19	M
Total					**1.70**	**M**

M.S: Mean of score, Sig.: Significance, L: Low, M: Moderate, H: High(Low= 1- 1.66, Moderate=1.67 – 2.33, High= 2.34 – 3)

This table shows that highly significant positive dietary habits in items (1, 3, 6) by diabetic patients (M.S= 2.56, 2.41, and 2.56) the remaining habits are moderately significant in items (2, 4, 5, 8) except the item (7) has low significant. The negative dietary habits are show to be low to moderate significant among the patients, items (9, 13, 14, 16) moderately significant while items (10, 11, 12, 15) are low significant.

Table 4: Food Frequency questionnaire by Diabetic Patients (N=100)

Food Frequency questionnaire		Never	Sometimes	Always	M.S	Severity
Protein	Sheep meat 210 g Boneless	5	46	49	2.44	H
	Beef meat 210 g Boneless	9	71	20	2.11	M
	Chicken 210 g Boneless	5	19	76	2.71	H
	Fish 210 g	4	43	53	2.49	H
	Eggs 50 gm	0	75	25	2.25	M
	Milk all kinds 100 ml	47	36	17	1.70	M
	Cream 50 gm	69	23	8	1.39	L
	Cooked cheese 250 g	4	79	17	2.13	M
Legumes	Lentils 90 g amount (a small cup)	16	70	14	1.98	M
	Phaseolus 90 grams (a small cup)	26	65	9	1.83	M
	Pisumsativum 90 g (a small cup)	31	65	4	1.73	M
	Cicerarietinum 90 g (a small cup)	8	59	33	2.25	M
	Vigna 90 g (a small cup)	39	61	0	1.61	L
	Mung bean 2-6 90 g (a small cup)	82	18	0	1.18	L
Grains	Rice 120 g	9	56	35	2.26	M
	Bread or loaf (wheat 120 g)	5	30	65	2.60	H
	Bread or loaf (hordeum 120 g)	5	42	53	2.48	H
	Bulgur 120 g	0	75	25	2.25	M
	Macaroni 120 g	32	41	27	1.95	M
Nuts	Almonds 90 g	0	70	30	2.30	M
	Walnuts 90 gm	30	54	16	1.86	M
	Pistaciavera 90 g	10	60	30	2.20	M
	Cashew 90 gm	5	65	30	2.25	M
	Corylus 90 g	44	40	16	1.72	M
Fruits	Apples 120 g medium-sized	4	34	62	2.58	H
	Banana 120 g medium-sized	37	51	12	1.75	M
	Orange 120 g medium-sized	19	32	49	2.30	M
	Pomegranate 120 g medium-sized	10	48	42	2.32	M
	Lemon 120 g medium-sized	5	34	61	2.56	H
	Peaches 120 g medium-sized	30	53	17	1.87	M
	Citrus reticulate 120 g medium-sized	18	52	30	2.12	M
	Grapefruit 120 medium-sized gm	46	27	27	1.81	M
	Berry 120 grams	0	46	54	2.54	H
Vegetables	Tomato (One serving is 250 g)	0	26	74	2.74	H
	Potato (250 g per meal)	0	40	60	2.60	H
	Cucumber (One serving is 250 g)	0	9	91	2.91	H
	Pepper (250 g per meal)	5	32	63	2.58	H
	Brassica (One serving is 250 g)	19	47	34	2.15	M
	Broccoli (meal per 250 g)	70	17	13	1.43	L
	Turnip (One serving is 250 g)	38	49	13	1.75	M
	Carrot (One serving is 250 g)	15	68	17	2.02	M
	Eggplant (One serving is 250 g)	4	76	20	2.16	M
	Okra (One serving is 250 g)	0	70	30	2.30	M
	Garlic (20 grams per meal)	13	35	52	2.39	H
	Onions (50 grams per meal)	4	29	67	2.63	H
	Marrow (One serving is 250 g)	14	56	30	2.16	M
	Cabbage (One serving is 250 g)	5	69	26	2.21	M

	Leafy vegetables (basil, mint, , ... etc) 50 g	0	14	86	2.86	H
Fat	**Animal fat (fat free) spoon cup 5 ml**	66	30	4	1.38	L
	Cups vegetable fat spoon 5 ml	83	17	0	1.17	L
	Olive oil cup 5 ml	18	58	24	2.06	M
	Palm oil cup 5 ml	0	23	77	2.77	H
Fluids	**Water 500 ml**	0	27	73	2.73	H
	Lemon juice 330 ml	48	26	26	1.78	M
	Pomegranate juice 330ml	64	31	5	1.41	L
	Orange juice 330 ml	51	39	10	1.59	L
	Cocktail juice 330 ml	65	26	9	1.44	L
	Cola 330 ml	52	35	13	1.61	L
	Seven up 330 ml	23	54	23	2.00	M
	Miranda 330 ml	70	25	5	1.35	L
	Soda330 ml	46	37	17	1.71	M
	Diet 330 ml	10	42	48	2.38	H
	Carbonate with caffeine	74	22	4	1.30	L
	Tea 30 ml	0	5	95	2.95	H
	Coffee 30 ml	10	51	39	2.29	M
	Cocoa 30 ml	52	44	4	1.52	L
Botanical Herbs	**Cinnamon (students) 10 g**	67	9	24	1.57	L
	Oliban 10 g	77	5	18	1.41	L
	Cyperus 10 g	62	0	38	1.76	M
	Ginger (race warm), 10 g	67	10	23	1.56	L
	Hawthorn 10 g	82	4	14	1.32	L
Total					**2.04**	**M**

M.S: Mean of score, Sig.: Significance, L: Low, Moderate, H: High(Low= 1- 1.66, Moderate=1.67 – 2.33, High= 2.34 – 3)

This table shows the food frequent intakes by diabetic patients; up the protein nutrients, sheep meat, chicken, and fish are highly significant (M.S=2.44, 2.71, & 2.49) while beef meat, eggs, milk, and cooked cheese are moderately significant except cream which has low significant among them. The legumes are moderately significant in all nutrients except vigna and mung bean which are low significant (M.S= 1.61 & 1.18). Regarding grains, most nutrient show moderate significant except bread of wheat and hordeum which are show high significant (M.S= 2.60 & 2.48). Nuts' nutrient items are show moderate significant in its entire item. The fruits show moderate significant n most of fruit's type except apples, lemons, and berry are highly significant (M.S= 2.58, 2.56, and 2.54). Vegetables reveal that are undertaking moderate to high; tomato, potato, cucumber, pepper, garlic, onions, and leafy vegetables are high significant intake by the patients while turnip, carrot, eggplant, okra, marrow, and cabbage are moderate significant except broccoli is show low significant among them. Regarding fat intake, palm oil is highly intake by the patients (M.S= 2.77) and olive oil is moderately intake while animal fat and cups vegetables are low intake. Among fluid, water, diet drink, and tea are highly significant (M.S= 2.73, 2.38, &2.95), lemon juice, seven up, soda, and coffee are moderate significant but the other fluid are low significant. The botanical herbs are rarely intake by the patients which are revealed low significant except Cyperus which is moderately significant among them (M.S= 1.76).

Table (5): Association between dietary habits, food frequency questionnaireand age group of Diabetic Patients (N=100)

Habits / Age	Low	Moderate	Total
30 – 39 year	0	1	1
40 – 49 year	4	13	17
50 – 59 year	0	30	30
60 – 69 year	1	40	41
70 ≤ year	0	11	11
Total	5	95	100
χ^2 obs.= 15.065 df = 4 χ^2 crit.= 9.49 P ≤ 0.05 Sig.= H.S			

FFQ / Age	Moderate	High	Total
30 – 39 year	1	0	1
40 – 49 year	17	0	17
50 – 59 year	26	4	30
60 – 69 year	41	0	41
70 ≤ year	11	0	11
Total	96	4	100
χ^2 obs.= 9.722 df = 4 χ^2 crit.= 9.49 P ≤ 0.05 Sig.= S			

This table shows that highly significant differences association between age group with knowledge of the dietary habits and food frequency questionnaire.

Table (6): Association between dietary habits food frequency questionnaireand Socioeconomic Status among diabetic patients (N=100)

Habits / Socioeconomic	Low	Moderate	Total
Low Socioeconomic	0	5	5
Moderate Socioeconomic	4	74	78
High Socioeconomic	1	16	17
Total	5	95	100
χ^2 obs.= 0.294 df = 2 χ^2 crit.= 5.99 P ≤ 0.05 Sig.= N.S			

FFQ / Socioeconomic	Moderate	High	Total
Low socioeconomic	5	0	5
Moderate socioeconomic	75	3	78
High socioeconomic	16	1	17
Total	96	4	100
χ^2 obs.= 0.370 df = 2 χ^2 crit.= 5.99 P ≤ 0.05 Sig.= N.S			

This table shows that no significant association between socioeconomic status and dietary habits and food frequency questionnaire.

Table (7): Association between dietary habits and food frequency questionnairewith marital status of diabetic patients (N=100)

Habits / Marital status	Low	Moderate	Total
Married	0	69	69
Separated	0	4	4
Divorced	5	4	9
Widowed	0	18	18
Total	5	95	100
χ^2 obs.= 53.216 df = 3 χ^2 crit.= 7.81 P ≤ 0.05 Sig.= H.S			

FFQ / Marital status	Moderate	High	Total
Married	69	0	69
Separated	4	0	4
Divorced	5	4	9
Widowed	18	0	18
Total	96	4	100
χ^2 obs.= 42.130 df = 3 χ^2 crit.= 7.81 P ≤ 0.05 Sig.= H.S			

The table above shows that high significant differences association between marital statusesdietary habits, food frequency which are more frequent among married patients.

IV. Discussion

Part I: Discussion of the Socio-demographic Characteristics of Studied Sample.

Through the data analysis of distribution of the socio-demographic shows in table (1) that the more frequent age groups are (60 – 69) years old among the patients (41%). This results were similar a study done byPertti et al., [6], who indicate that (46.9%) of the sample were less than 65 years old. The variables reveal that most of the samples were males (73%). This results were similar to a study done by Pertti et al., [7]who showed that (79.1%) of patients were males. But these results disagreed with Smeltzer, et al., [8], who stated that women have higher incidence of coronary artery disease and more exposed for CABG surgery. Regarding socioeconomic status, 78% of them are having moderate level (71 – 86). This results disagrees with a study done by Abbas, [9]who found that (87.8%) of patients were in a low economic status. This also disagrees with Nateghian, [10]who reported that patients with low economic status are at risk of coronary artery disease.More than half of the patients are living in a normal marital status, in which the finding shows that 69% of them are married, this result is similar to the study, by Noha et al., [11]who found that (84.2%) of the sample were married.

Part II: Discussion of the medical Characteristics of Studied Sample.

The medical characteristics of the patients in part two reveal that (table 2) 54% of the patients have obesity class one; (30.0 – 34.9) according to the body mass index this results were similar to a study done by Yap, [12]who reported that the age group (60 – 69) years with the highest prevalence of obesity.The search for smokers is 76% of the total sample result. This findings agrees with Abbas, [9]who found that (80%) of patients were smokers and Wang, et al;[13]who showed that (59.1%) of the sample are smoked. But this result disagrees with Helen et al., (1997) where findings uncovered that approximately (88%) of sample were not smokers. Regarding of alcohol only 18% of them consumed alcohol this ratio is acceptable in the Muslim countries compared to other communities in which to disagree from drinking alcohol (the researcher).The cumulative average of blood sugar test (HbA1c) indicates more than seven (62%) among the patients because the glucose level is affected by several factors, such as the psychological situation, nutritional status, and physical factors (the researcher).

Part III: Discussion of the dietary habits Characteristics of Studied Sample.

This part (table 3) indicates that the dietary habits positively and negatively paragraphs in patients with diabetes. Table of paragraphs positive reveals those eat three meals, eating salad vegetables with every meal, and drink more water and positive habits moral high food held by diabetic patients, This results were similar to a study done by*Kinley,* [14]who said eat foods with

adequate starch and fiber and select a nutritionally adequate diet from the foods available by consuming each day appropriate (the researcher). The habits of the remaining medium-large, such as eating a diet support, eat fresh fruit, eating nuts and drinking tea without sugar, these habits are varied among patients with diabetes because they are determined by the economic status for some patients and diet moods of some of the other patients with the exception of the habit of drinking whole milk free, which has a less important for some of them (the researcher).Dietary habits, negative and appear to be low to the great moderate among patients, eating irregular meals, drinking carbonated beverages, drinking tea with sugar, and coffee drinking significant moderate while canned food intake, eating dried fruits, eating junk food, drinking whole milk and low significant during these two table we conclude that the majority of patients with diabetes who are committed to programs on diet with indifference some food, they suffer from lack of control over sugar have also shown that they are turning direction of the positive food style but they are not in control in most cases, the sugar level and as a result it is possible that the researcher explains that they are not affected by aspects of nutrition be if non-compliance with medication or change the mental state to have (the researcher).

Part IV: Discussion of the food frequent questionnaireCharacteristics of Studied Sample.

This part show the food frequent questionnaire by diabetic patients (table 4) the protein nutrients, sheep meat, chicken, and fish are highly significant with diabetes appears because they are food items to help patients with diabetes and do not affect the muscular effort of the heart and are easily metabolic in the body while beef, eggs, milk, and cheese are relatively acceptable except cream which has low significant among them because it affects directly on the cardiac arteries, as well as diabetes. Reveal that the legumes are moderately significant (acceptable) because it is available it easier for everyone dealt with it does not directly affect the diabetic patients who Coronary Artery bypasses Graft the grains, most nutrient show moderate significant except bread of wheat and barley which are show high significant because the most of the patients who rely on these foods in our daily lives reveal that the nuts' nutrient items are show moderate significant in its entire itembecause they contain omega-3 ingredients that help improve circulation and give energy to people with diabetes also the fruits show moderate significant in most of fruit's type except apples, lemons, and berry are highly significant most available,and prices suitable for everyone as well as its benefits for patients reveal that Vegetables reveal that are undertaking moderate to high; tomato, potato, cucumber, pepper, garlic, onions, and leafy vegetables are high significant intake by the patients because it is cheap and beneficial for patients this vegetable is unfavorable when people, especially cardiac disease patients while turnip, carrot, eggplant, okra, marrow, and cabbage are moderate significant except broccoli is show low significant among them unknown to most people, and a little availability the fluid, water, diet drink, and tea are highly significant, it does not harm the health of the body and the habits of the people in these areas to allow taking it at any time lemon juice, seven up, soda, and coffee are moderate significant but the other fluid are low significantbeing hurt directly to patients the fat intake, palm oil is highly intake by the patients and olive oil is moderately intake while animal fat and cups vegetables are low intake,this result is identical to the instructions of the physician of patients with diabetes and patients with C.A.B.G. the botanical herbs are rarely intake by the patients which are revealed low significant except cyperus which is moderately significant among them,Herbs in general is slow and preventive treatments and patients generally need quick fixes hits in addition it is weak in the culture of our society (the researcher).

Regarding (table 5) the dietary habits and food frequency questionnaire are more frequently held by patients with age group (60 -69) years; the indicates high significant association between age group and dietary habits,food frequency questionnaire because the old age usually need most to the quality of food will help them to overcome the deficits they face as well as concern for the health after *C.A.B.G*. (the researcher).
Table (6) shows that dietary habits and food frequency questionnaire are more frequent among those who are moderate level of socioeconomic status; but the table indicates that there is no significant association between socioeconomic status withboth dietary habits and food frequency questionnaire (the researcher).

The table (7) indicates that dietary habits and food frequency questionnaire are associated with married patients; the table indicates high significant association between marital status with dietary habits and food frequency questionnairebecause the married constitute the majority from among (69 %), the study similar to the Kari et al., [15]who showed that (68.4%) of study sample were married

V. Conclusion

Reveals the study sample that (73%) of the study sample were male, (69%) was married, (76%) were smokers, and (78%) of them are having moderate level of economic statuses,the majority of study samples (91%) do not follow the diet program, (54%) were obesity class one,the test of (HbA1c) indicates more than seven (62%) among the patients,andreveals to those (eat three meals, eating salad vegetables with every meal, and drink more water) as positive habits moral high food held by diabetic patients the results indicate highly significant differences association between age group with knowledge of the dietary habits. There is indicated that high significant association between marital status and dietary habitshigh significant differences association between marital statuses food frequency which are more frequent among married patients.

VI. Recommendations

Diabetes self-management education (DSME) and support (DSMS) programs are appropriate for education and support to develop and maintain behaviors that can prevent or delay the onset of diabetes, Diabetes self-management education (DSME) and support (DSMS) programs are appropriate for education and support to develop and maintain behaviors that can prevent or delay the onset of diabetes, Screening for and treatment of modifiable risk factors for cardiovascular disease is suggested follow-up for counseling may be important for health, Perform the A1C test at least two times a year in patients who are meeting

treatment goals (and who have stable glycemic control), Activating the role of nutrition Nutrition Research Institute at the National Centers for diabetes about diet programs for patients with diabetes, In adults, a screening lipid profile is reasonable at the time of first diagnosis, at the initial medical evaluation twice yearly.

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