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Vitamin E Levels in People With both well-controlled and poorly-controlled typr 2 diabetes

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Abstract:

History: Increased oxidative stress and decreased antioxidant are linked to diabetes type 2 Diabetes In diabetic people, vitamin E administration lowers oxidative stress. We aimed to gauge the amount of this vitamin using these techniques:By planning the current study, patients will be able to evaluate its impact on patient-controlled diabetes. This descriptive and cross-sectional research, which involved 186 individuals with type 2 diabetes, was conducted. Patients were put into two groups[1] depending on whether their HbA1C levels were less than or greater than 7 (measured using the HPLC technique), as well as the levels of TG, cholesterol, HDL, and Cr. A check list with questions about each patient's age and information related to their measured vitamin levels was created.

Keywords: Vitamin E, levels, diabetes

INTRODUCTION

Insulin is a condition that is on the rise throughout. The prevalence of diabetes is increasing worldwide, especially in poorer nations.1 In Iran, there are 7.5 million diabetes people as of right now.[2] The number of people with diabetes worldwide has significantly grown during the past 20 years, rising from 30 million as of 2010 to 285 million in 1985. If the current trend keeps going, the diabetes international federation estimates that there will be 438 million diabetic people globally in 2030. Even if type 1 and type 2 diabetes are growing increasingly widespread globally. Type 2 diabetes,3 however, is spreading far more fast than type 1. This phenomenon undoubtedly has a number of contributing elements, including the growth in obesity and the fall in physical activity. In both men and women, the frequency of this condition is about the same across all age groups (11.8% in males over 20 Global estimates indicate that the majority of diabetes will be between the ages of 45 and 64 in 2030 (10.8% in women over 20).4 levels in plasma. Diabetes risk doubles by roughly 22%.Another study shown that taking vitamin E can considerably lower levels of micro albuminuria and thromboxane A2 in

diabetic people who had it.13 Another study looked at how individuals with diabetes mellitus lipid profiles were affected by vitamins E and C. The findings of this study demonstrated that vitamin E and C ingestion can dramatically lower blood pressure and result in remission of insulin activity and fat profile.14 Studies have demonstrated that vitamin E helps people with type 2 diabetes lower their blood pressure and blood glucose levels.15 Of fact, some research have shown that vitamin E does not help patients' blood sugar levels.516 In a study executed by Onyesom and colleagues, vitamin

METHODS

According to a standard survey responses questions about diabetes, 6where you live and your food were asked. The patient's information and measured vitamin E levels were put into a checklist, and finally the results were evaluated. Data were gathered, coded, and processed into the statistical program SPSS V16. Following the use of analytical statistical techniques like the t-test and Pierson statistical exam, descriptive methods of statistical analysis were used to examine the data. The test error significance for confidence level was 0.95 smaller than 0.05 in all tests stated. Information was kept private, and results were reported confidentially in compliance with medical ethical standards. Study constraints were patient refusal of assisting with testing, expensive test fees,7 and patient overdose on vitamin supplements.

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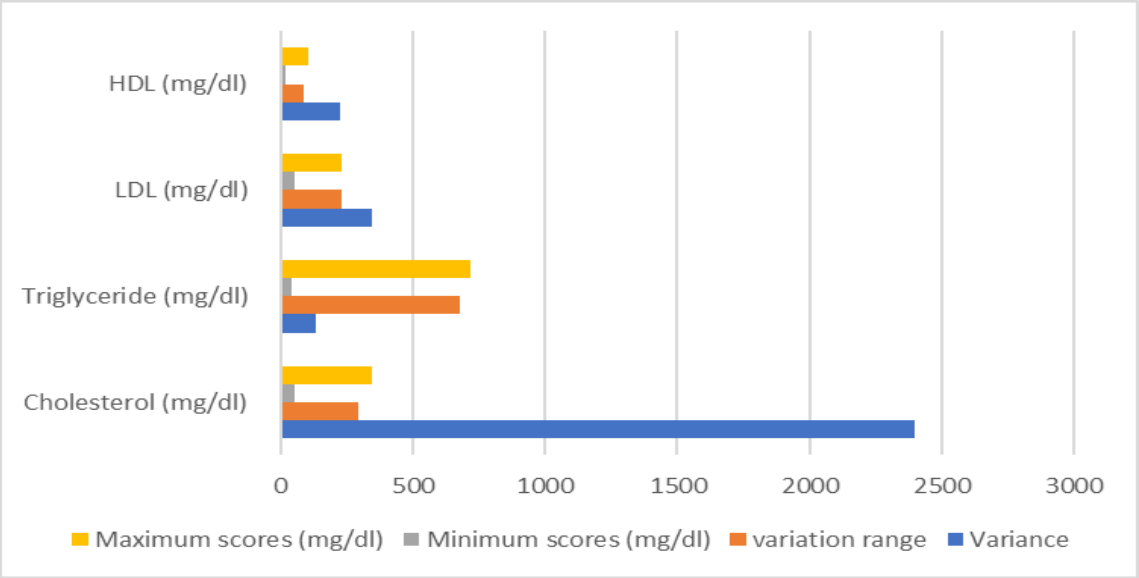
Table -1-Results of the lipid profile in diabetic individuals are shown in.

Test	Cholesterol (mg/dl)	Triglyceride (mg/dl)	LDL (mg/dl)	HDL (mg/dl)
Mean (mg/dl)±SD	198.3±49	195.1±107.24	106.05± 43.5	49.32± 14.90
Variance	2400	132.2	345.2	222.2
variation range	291	676	230	86
Minimum scores (mg/dl)	55	40	50	16
Maximum scores (mg/dl)	346	716	230	102

Figure . -1-Results of the lipid profile in diabetic individuals are shown in.



The source based on Table No. -1-

Table 2: Outcomes of hepatic enzyme testing in patients with diabetes .

Test	ALT(IU/l)	AST(IU/l)
Number of samples	186	186
Mean(IU/l)±SD	25.78±16.02	26.64±17.2
Variance	256.6	259.8
variation range	137	172
Minimum scores (IU/l)	4	5
Maximum scores (IU/l)	141	177

Figure . -2Outcomes of hepatic enzyme testing in patients with diabetes

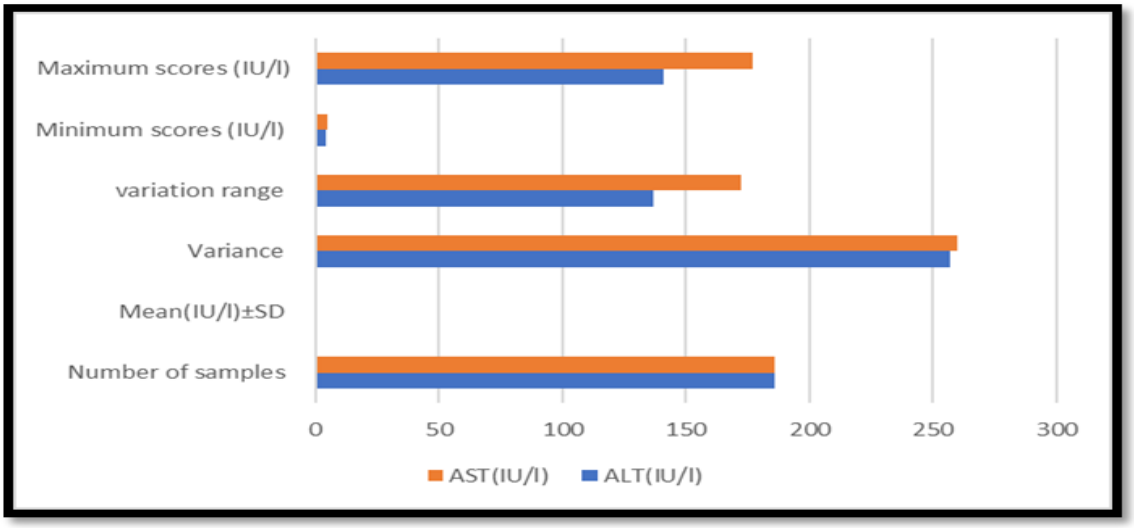


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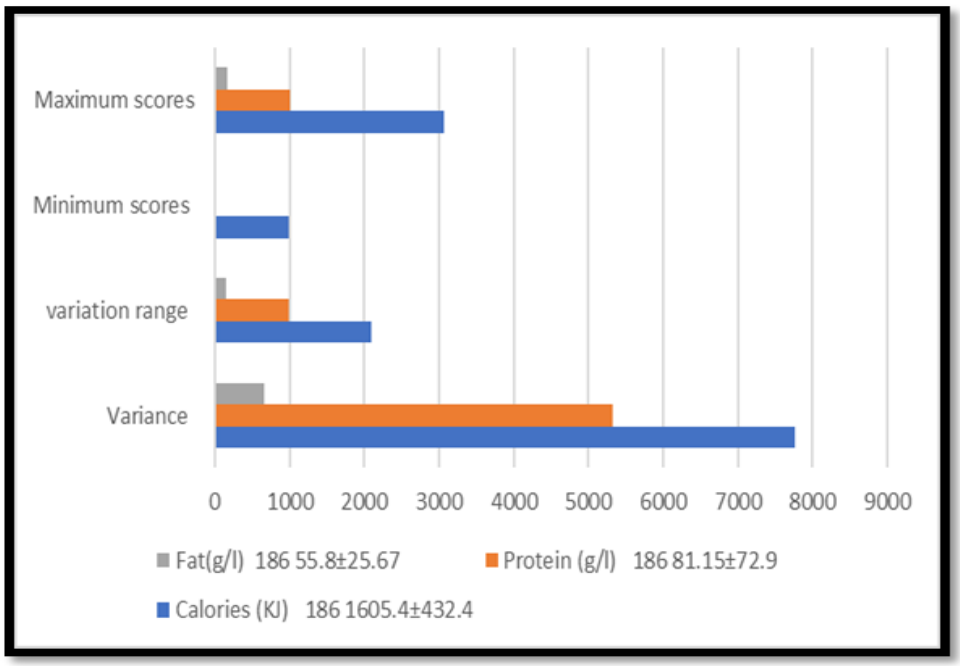
Table 3: Effects of caloric, amino acids, and fat intake in diabetic patients.

Test	Calories (KJ)	Protein (g/l)	Fat(g/l)
Number of samples	186	186	186
Mean±SD	1605.4±432.4	81.15±72.9	55.8±25.67
Variance	7769.6	5316.2	658.9
variation range	2090	995.6	151
Minimum scores	980	4.4	12
Maximum scores	3070	1000	163

In the existing study 186 diabetic patients were examined. From within examined patients, 129 (69.3%) were women

Figure . -2- Effects of caloric, amino acids, and fat intake in diabetic patients



53.33 11.2. 158 (84.9%) of the 186 patients were city dwellers, 28 (15.1) were from rural areas, and 171 (91.9%) were to Ardabil. The findings revealed that 114 patients' (61.3%) sole method of blood sugar management was insulin. The remainder (51.6%) of the patients did not use lipid-lowering medications, whereas 90 patients (48.4%) did. The findings indicated that 144 individuals (77.4%) had a family history of diabetes type 2 that was positive. And 2 patients (1%) had a history of type 1 diabetes, with an average lifespan of 8.46.6 years for patients. Additionally, the patients' average BMI was 28.324.1 kg/m2. According to the findings, patients' average blood sugar levels were 217.5100.5 mg/dl. lowest blood sugar level. [8]

Mean AST values in patients were 26.6417.2 IU/l and 25.7816.2IU/L, respectively (Table 2).

Table 3 summarizes the patients' calorie, protein, and fat intake levels. [9]

Additionally, the average amount of vitamin E consumed by diabetes individuals was 4.53 to 4.24 nmol/l. The average amount of food consumed by patients was 1277.4337.01 gr. Based on HBA1C levels, patients were split into two groups: those with levels that were equal to or less than 7 (managed) and those with levels that were greater than 7 (uncontrolled). A total of 97

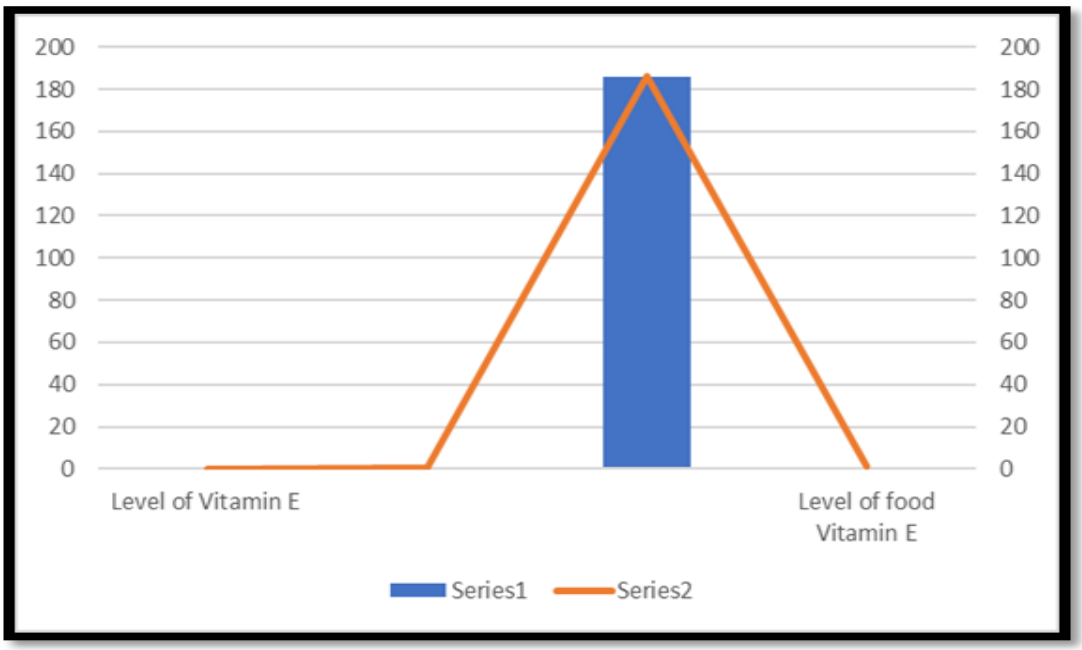
individuals (52.2%) had their diabetes under control at this stage, while the remaining diabetics were uncontrolled.

Table 3: The correlation with vitamin E levels and dietary vitamin E has been demonstrated using Pearson's coefficient.

Parameters quantity of vitamin EAmount of food E vitamin

Table 4- Findings of the Pearson correlation coefficient were employed to assess if vitamin E levels and food vitamin E were related.

Parameters		Level of Vitamin E	Level of food Vitamin E
Level of Vitamin E	Pearson correlation coefficient	1	0.032
	Significance level	-	0.66
	Number of samples	186	186
Level of food Vitamin E	Pearson correlation coefficient	0.032	1



quantity of vitamin EPearson
Researchers have shown that there is no statistically significant distinction in LDL levels between diabetics who are under control and those who are not (p=0.538) and that there is a disparity in HDL levels, with uncontrolled patients having higher levels than controlled patients, but this difference is not statistically significant. The average dietary glucose (gr/kg) in the uncontrolled group, however, was greater than in the controlled patients group, according to the data. Average food protein levels were higher in controlled patients compared to uncontrolled patients, but this difference was not statistically significant either. Average food fat levels and weight were lower in uncontrolled diabetic patients compared to controlled patients, but this difference was not statistically significant either.[10] poorly than in those who have low glycemic diabetes.[13] Controlling blood sugar had no effect on cholesterol, HDL, or LDL levels, according to the study's findings (p=0.284, p=0.362, and p=0.538, respectively). However, individuals with uncontrolled diabetes had significantly higher triglyceride levels than those with well managed blood sugar (p=0.046). According to Taheri et al.'s study, unhealthy People exhibited decreased HDL serum levels and higher levels of LDL and VLDL (p). levels have decreased (p 0.001). According to a study, persons with diabetes who did not have neuropathy had lower FBG and HBA1C levels than those who did. by Sawant et al.22 (p 0.05). According to a research by Gazis et al.23, diabetes patients' diastolic blood pressure levels were not significantly greater than those of people in excellent health, despite having considerably higher systolic blood pressure (145 vs 130, p0.01) and HBA1C (6.9 vs 4.8, p0.01) values. Tocopheryl A levels in the two groups did not significantly differ from one another or from the control group (p>0.001).9 In aIn the research carried out by Khabbaz and coworkers, it was shown that type 2 diabetes patients' blood sugar, blood fat, glycolized hemoglobin levels, fasting insulin, and blood pressure levels could not be improved by vitamin E prescription with 800 units per day for three months.36 In the study by Lonn and colleagues, it was shown that daily vitamin E supplementation of 400 units had no impact whatsoever in reducing the risk of cardiovascular illnesses in diabetes patients.[11] In the study by Boshtam et al., it was shown that prescribing diabetic patients 200 units of vitamin E daily resulted in a negligible reduction in FBS levels and insulin resistance.39 Also untouched by the vitamin prescription were the levels of triglyceride and total cholesterol. [12] In Protective vitamins like

vitamin E are given excessively and without justification owing to cost, as well as patient non-compliance with taking too many medications. Additionally, these treatments should only be A. Vitamin E levels in patients with controlled and uncontrolled type 2 diabetes mellitus . Int J Community Med Public Health 2018;5:864-70.

DISCUSSION

Vitamin E is one of the vitamins known as antioxidants whose levels are decreased by eliminating free radicals. The process of oxygenation free radicals may rise in conjunction with plasma glucose and the index of glycemic control. As a result, it is probable that vitamin E levels are lower in diabetics than in healthy people, and that they are lower in those who manage their blood sugar administered for certain conditions like fatty liver, high triglycerides, and so forth. Of course, this too needs further study. The group of people in good health was not included as a control group in this study. As a result, we were unable to properly compare vitamin E levels to the majority of studies that included control groups. Vitamin C along with additional antioxidants weren't investigated in this study..

CONCLUSION

Results of existing study indicated that there is absolutely no significant diversity between controlled and uncontrolled diabetic individuals in vitamin E levels.

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مستويات فيتامين (هـ) في الأشخاص المصابين بداء السكري من النوع 2 الذي يتم التحكم فيه جيدًا والسيطرة عليه بشكل سيئ

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مستخلص البحث:

التاريخ: زيادة الإجهاد التأكسدي وانخفاض مضادات الأكسدة مرتبطان بمرض السكري من النوع 2. كنا نهدف إلى قياس كمية هذا الفيتامين باستخدام هذه التقنيات: من خلال التخطيط للدراسة الحالية ، سيتمكن المرضى من تقييم تأثيره على مرض السكري الذي يتحكم فيه المريض. تم إجراء هذا البحث الوصفي والمستعرض ، والذي شمل 186 شخصًا يعانون من مرض السكري من النوع 2. تم تقسيم المرضى إلى مجموعتين 1 اعتمادًا على ما إذا كانت مستويات HbA1C لديهم أقل أو أكبر من 7 (تم القياس باستخدام تقنية HPLC) ، بالإضافة إلى مستويات TG والكوليسترول و HDL و Cr.تم إنشاء قائمة مراجعة بأسئلة حول عمر كل مريض ومعلومات تتعلق بمستويات الفيتامينات التي تم قياسها. كانت ثلاث منها عبارة عن مراجعات سردية وثلاثة كانت دراسات عشوائية محكومة. يتم أيضًا تقييم الأهمية السريرية لعلاج فيتامين د في مرض السكري من النوع 2 في هذه الدراسة من منظور استقلاب الجلوكوز والآثار الضارة مثل اعتلال الشبكية والسمية العصبية والبيلة البروتينية. فيما يتعلق بخفض الهيموجلوبين (HbA1c) A1c، وتخفيف أعراض الاعتلال العصبي السكري واعتلال الكلية، وتقليل الإجهاد التأكسدي الناجم عن نقص السكر في الدم في خلايا الشبكية، فقد أدى فيتامين د إلى تحسين مستويات الجلوكوز سريريًا.

الكلمات المفتاحية: فيتامين هـ ، المستويات ، السكري.