

Konya Bölgesinde Yaşayan Yetişkin Poliklinik Hastalarında, Kan Lipit Düzeyleri, Yaşam Biçimleri Ve Etli Ekmek Yeme Alışkanlıkları Arasındaki İlişki

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ÖZET

Amaç: Konya ili, nüfus, yaşam biçimi ve beslenme alışkanlıkları açısından, orta Anadolu bölgesinin karakteristik özelliklerini yansıtır. Bu popülasyon ile yapılan çalışmalar, burada yaşayan bireylerin düzenli olmayan egzersiz yaptığını ve doymuş yağ asitleri içeren besinleri çok tükettiğini ortaya koymuştur. Bunlara ek olarak bu bölgede, 'Etli Ekmek' diye adlandırılan ve Konya bölgesine özel olan gıda çok tüketilmektedir. Bizim bu çalışmadaki amacımız, kan lipit düzeyleri, egzersiz sıklığı ve patenti Konya lokantacılar derneği tarafından alınan 'Konya usulü etli ekmek' tüketimi arasındaki ilişkinin saptanmasıdır.

Materyaller ve Yöntemler: Bu çalışma'ya katılanların yaş sınırlaması 25-55 arasında olup, çalışma Çumra devlet hastanesinin iç hastalıkları, genel cerrahi, enfeksiyon ve acil polikliniklerine başvuran 1006 hasta üzerinde yapılmıştır. Kan örnekleri, 12 saat açlığı takiben, sabah saat 08.00'de alınmıştır. Trigliserit (TG), total kolesterol ve Yüksek dansiteli lipoprotein (HDL) Kolesterol spektrofotometrik yöntemle ölçülürken, düşük dansiteli lipoprotein (LDL) kolesterol düzeyleri Friedewald formülü ile hesaplanmıştır. Yaşam biçimlerine göre gruplama ise şu şekilde gerçekleştirilmiştir: L0, L1, L2 ve L3 (en azdan en çok olana göre) günlük yaptıkları egzersiz miktarına göre. L0 grup: 101 hasta (% 10), L1 Grup: 195 hasta (% 20), L2 Grup: 354 hasta (% 35), L3 Grup: 356 hasta (% 35). etli ekmek yeme alışkanlıklarına göre ise, EE1, EE2 ve EE3 (en azdan en çok olana

göre) olarak gruplama yapılmıştır. EE1 Grup: 201 hasta (% 20), EE2 Grup: 266 hasta (% 26), EE3 Grup 539 hasta (% 54). Elde edilen veriler, SPSS istatistik programı ile analiz edilmiştir.

Sonuçlar: Etli ekmek tüketen gruplarda kan lipit düzeyleri yüksek bulunmuştur. Her ne kadar L0 grubu içinde lipit parametreleri arasında fark saptanmamışsa da, L3 grubunda bulunan alt gruplar arasında lipit parametrelerinin farklı olduğu gözlenmiştir. Bu bulgu bize egzersizin lipit parametreleri üzerinde etkili olduğunu göstermiştir. Diğer yandan, E2 grubu içinde oldukça az bir fark görülürken, TG arasındaki fark oldukça belirgindir.

Tartışma: Bu çalışmayı iki başlık altında özetleyecek olursak, 1. kan lipit düzeyleri, egzersiz yapma sıklığı ve Konya usulü etli ekmek tüketimi arasındaki ilişki vardır ve en belirgin etki TG düzeyleri üzerindedir. 2. etli ekmek çok tüketen poliklinik hastaları (E3 grubu) içinde, düzenli egzersiz yapanlarda (L3 grubu), lipit profilinin negatif yönde etkilenmediği gözlenmiştir.

Anahtar Kelimeler: Yaşam Biçimi, Etli ekmek, Lipitler.

THE RELATIONSHIP AMONG LEVELS OF BLOOD LIPID LEVELS, LIFESTYLE, GENDER AND EATING HABITS OF 'ETLİ EKMEK' IN ADULT POLICLINIC PATIENTS LIVING IN THE KONYA REGION ABSTRACT

Objective: Konya reflects the characteristics of middle Anatolia, in means of population, lifestyle and nourishment habits. The researchers assessing the nutriti-

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on and lifestyle of this population documented that this community do not regular exercise and have an eating habit which contains a lot of saturated fatty acids. In addition, they consume the regional special food named 'Etli Ekmek', baked mostly in Konya. Our purpose is to display the relationship among the levels of blood lipids, the frequency of exercise and consumption of 'Konya style, Etli ekmek', which had been standardized by the restaurant tribe in Konya. **Materials and Methods;** This work has been applied to 1006 adult patients, between 25 -55 ages that applied to Internal Medicine, General Surgery, Infection and Emergency polyclinics of Çumra Government Hospital. These patients have been added to the study by their written consent. Blood was withdrawn by vacuum tubes at 08:00 a.m. in the morning after 12 hours of fasting. Levels of Triglycerides, Total Cholesterol and HDL Cholesterol were analyzed by spectrophotometric methods and LDL Cholesterol was analyzed by Friedewald formula. They were grouped for lifestyle as L0, L1, L2 and L3 (least to most) considering the level of daily exercises they do. 'Etli ekmek' consuming groups were classified as EE1, EE2 and EE3 (least to most). We grouped the patients as follows: L0 group: 101 patient (% 10), L1 Group: 195 patient (% 20), L2 Group: 354 patient (% 35), L3 Group: 356 patient (% 35), EE1 Group: 201 patient (% 20), EE2 Group: 266 patient (% 26), EE3 Group 539 patient (% 54). The data observed in this work was analyzed by SPSS statistical packet programme.

Results: The values of blood lipids were found to be high in . We did not find any difference in lipid parameters among L0 group, however in L3 group, all lipid parameters were altered. So, we had seen that, exercise has positive impact on lipid values. On the other hand; there was a slight difference among blood lipid values in the group E2. and, only TG levels was found statistically significant. **Conclusions** If we try to summarize the findings of this study in two main topics; 1.The relationship among lifestyle, habits of eating 'Etli ekmek' and blood lipid values is confirmed and there is a relation between gender and lipid levels, in means of TG levels. 2. The second outcome of this study is that; in the adult polyclinic patients who consumed 'etli ekmek' a lot (EE3 in group), and had the regular exercise (L3 in group), their lipid profiles were not effected negatively.

Keywords: Life style, eating habits 'Etli ekmek', lipids.

INTRODUCTION

Turkish people have a dynamic life style and eating habits between the ages of 25 and 55 1, 2. Konya region reflects the eating habits and life style of Turkish population and consume 'etli ekmek' so much. The bread named 'etli ekmek' (figure1) is a private food rich in saturated fatty acids (one portion 'etli ekmek' has; 100 gr red meat, 100 gr vegetables and 90 gr bread, figure 1). An adult person usually consumes 1,5 portion per meal, so in this reason their blood lipid levels have a dramatic alterations. Our study tries to determine the relationship among the levels of blood lipids, lifestyle, gender and eating habits of 'etli ekmek' in adult patients.

Şekil 1: Konya style 'Etli ekmek'



It is well known that regular exercise is useful to lower blood lipid levels. It has not been studied if etli ekmek, life style, gender and blood lipid levels as well as was assessment in people living in the Konya region (central Anatolia region, Turkey). For this reason in this study we intended to determine the changes in blood lipids and the relationship among lifestyle, gender and 'etli ekmek' eating frequency.

MATERIAL and METHODS

General Procedure

The represented study has been applied to 1006 adult internal medicine, general surgery, infection and emergency policlinic patients, between the ages of 25 -55 years who were suitable for the thesis patient acceptance and consulting criteria of Çumra Government Hospital. The criteria to be included were as follows;

Tablo 1: Patient including criteria.

1. Fasting Blood Glucose (FBG), C Reactive Protein (CRP), Alkalen Phosphatase (ALP), Serum Glutamic Oxaloacetic Transaminase or Aspartate Aminotransferase (SGOT/ASAT), Serum Glutamic Pyruvic Transaminase or Alanine Transaminase (SGPT/ALT), Thyroid Stimulating Hormone (TSH), Free Thyroid 3 (FT3), Free Thyroid 4 (FT4), Blood Urea and Blood Creatine levels within normal limits.
2. Dialysis patients
3. Not being in the treatment of malign cancer
4. Not to have been undergone any serious surgical treatment in the last three months,
5. Being between the ages of 25 - 55

Tablo 2: The effect of Life style on Blood lipid levels.

Life style	Etli Ekmek	Frequency	TG(mg/dl)		TK(mg/dl)		HDL(mg/dl)		LDL(mg/dl)	
			Mean	Std. Devia.	Mean	Std. Devia.	Mean	Std. Devia.	Mean	Std. Devia.
L0	EE1	9	163,778	61,163	192,000	57,832	42,000	12,217	113,556	55,628
	EE2	27	175,667	113,051	194,519	43,108	45,370	12,527	117,444	36,929
	EE3	65	167,969	109,053	195,846	52,579	49,031	11,535	113,769	40,794
L1	EE1	30	133,067	53,041	191,067	37,438	50,833	14,244	119,100	31,834
	EE2	41	191,341	128,606	190,927	46,564	47,488	11,465	108,707	42,275
	EE3	124	140,573	66,455	197,274	41,272	54,653	10,033	116,379	35,908
L2	EE1	74	165,392	88,876	188,378	42,605	44,243	10,881	114,535	37,221
	EE2	115	177,835	97,947	193,609	41,569	45,870	12,075	115,231	37,731
	EE3	165	163,491	96,527	203,370	45,410	54,164	11,278	118,018	39,317
L3	EE1	88	186,386	109,624	179,864	38,098	45,580	13,854	101,630	31,895
	EE2	83	195,145	119,219	203,313	52,511	47,964	10,995	120,920	40,452
	EE3	185	162,930	94,837	203,481	44,682	56,546	10,740	118,670	40,416

1. Fasting Blood Glucose (FBG), C Reactive Protein (CRP), Alkalen Phosphatase (ALP), Serum Glutamic Oxaloacetic Transaminase or Aspartate Aminotransferase (SGOT/ASAT), Serum Glutamic Pyruvic Transaminase or Alanine Transaminase (SGPT/ALT), Thyroid Stimulating Hormone (TSH), Free Thyroid 3 (FT3), Free Thyroid 4 (FT4), Blood Urea and Blood Creatine levels within normal limits.

2. Dialysis patients

3. Not being in the treatment of malign cancer

4. Not to have been undergone any serious surgical treatment in the last three months ,

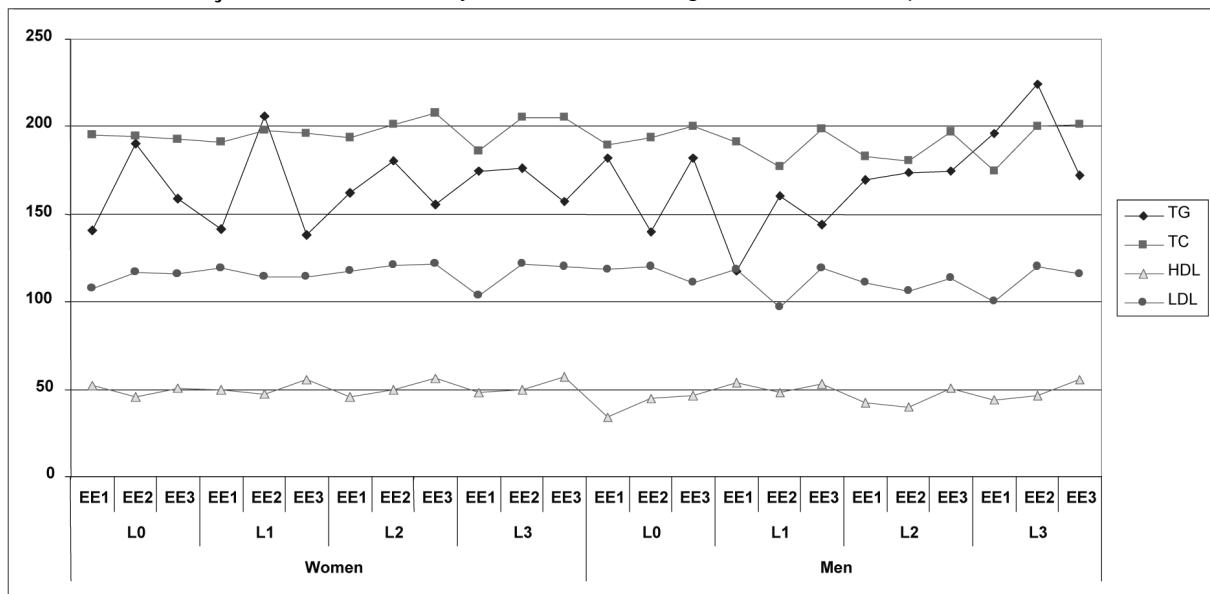
5. To be between the ages of 25 – 55, that is, being adult patients.

In Policlinics where the study was applied to those patients who fit the study criteria , physical measurements were made and blood was withdrawn into vials in the morning (08:00-09:30am) after 12 hours fasting. From collected samples, serum was separated after centrifugation, and, TG, Total Cholesterol, HDL-C, LDL-C analysis were performed simultaneously. These tests were performed using Thermo Electron HDL:981657 kits on Conelab 60 i Automated Test Device.

Tablo 3: According as Life styles and 'etli ekmek' eating habits of blood lipid levels.

Life style	Triglycerides (mg/dl)		Total Cholesterol(mg/dl)		HDL Cholesterol(mg/dl)		LDL Cholesterol(mg/dl)	
	Calculate	p value	Calculate	p value	Calculate	p value	Calculate	p value
L0	Chi-square=0,734	0,693	Chi-square=0,341	0,843	Chi-square=4,554	0,103	Chi-square =0,446	0,800
L1	Chi-square=7,284	0,026*	F=0,509	0,602	Chi-square=14,541	0,001*	F =0,872	0,420
L2	Chi-square=2,624	0,269	F=3,553	0,030*	Chi-square=54,202	0,000*	F=0,287	0,750
L3	Chi-square=6,152	0,046*	Chi-kare=19,177	0,000*	F=32,443	0,000*	Chi-square=15,479	0,000*

Şekil 2: Gender, Life style, 'etli ekmek' eating habits and blood lipid levels.



Eating Habits

In this study, adult patients were classified into 3 groups as follows:

The group of 'Etli ekmek' is made by the ones group EE1: one times a month, the second group EE2: two times a month and the last group EE3: three meals and much more.

Life Style Groups

Life style groups were determined in 4 groups as follows;

L0 group: Sedentary life style with no exercise or no

regular walking; inert life style (not working in garden or field). L1 group: Very restricted daily exercise, under 1 km walking or low physical activity, on the other word, irregular exercise (working in the garden and field for less than one hour per day). L2 group: Moderate exercise activity, 1 km regular walking or medium physical activity, on the other word, regular exercise (regularly working in the garden or field, for one hour per day). L3 group: Efor capacity, more than 1 km walking or highly physical activity (regular working in garden or field for more than one hour per day).

Statistical Assessments

Parameters were measured according to the Z-test or kruskal-wallis H test using the statistical data analysis program SPSS 15.0.

RESULTS

The lipid values of groups are presented in table 1,2 and 3: L0 group: 101 adult patients (% 10), L1 group: 195 patients (% 20), L2 group: 354 patients (% 35), L3 group: 356 patients (% 35), EE1 group: 201 adult patients (% 20), EE2 group: 266 adult patients (% 26), EE3 group: 539 adult patients (% 54).

The values of difference among blood lipids are analyzed in three main topics as shown in table 2. There was no difference in lipid parameters among L0 group patients, however in Y0, all lipid parameters were found to be different. So, we have seen that, exercise has positive impact on lipid values. As a second finding; there was a difference among blood lipid values in EE2 group. Thirdly; only TG levels were statistically different among the blood lipid values.

The levels of TG in 1006 adult patients were found to be 167.80 98.43mg/dl, TG levels of men were 174.37 102.69mg/dl and was 163.31 95mg/dl in women. The overall average total cholesterol level was found to be 196.66 44.93mg/dl, it was found to be 191.76 43.55mg/dl in men and 200.00 45.59mg/dl in women. Average HDL cholesterol in total population was found to be 50.67 12.30mg/dl, as 48.11 12.59mg/dl in men and 52.41 11.80mg/dl in women. The mean LDL-C was 115. 49 38.52mg/dl in overall, 112.23 36.19mg/dl in men and 117.71 39.90mg/dl in women.

DISCUSION

In many countries, researches on the relationship between dietary intake and coronary heart disease have

attracted wide attention as well as the role of cholesterol control in reducing the risk of coronary heart disease^{3, 4}. The levels of serum cholesterol are correlated with the incidence of atherosclerosis and coronary artery disease (CAD)^{3, 5}. Turkish adults have a high incidence of CAD⁶. In Turkish people living in the various regions, researchers documented the relationship between CAD and the levels of lipids^{7, 8, 9}. The data of this study comprises adult patients living in the Konya region (central Anatolia region, Turkey). The inhabitants usually stay on the countryside and consume a lot of 'etli ekmek' (Figure 1). Etli ekmek means "bread with meat" in Turkish and is rich in saturated fatty acids. We found that the blood lipid levels within L0 group were not altered in spite of the change in the amount of Etli ekmek consumed. This finding is in agreement with the international WHO MONICA research and national TEKHARF research. In addition, in this study, 'etli ekmek' eating custom was included to life style data in people working in garden and field. We observed that total cholesterol and LDL-C levels were elevated in high etli ekmek consumed groups whereas decreased in exercise groups. High density lipoprotein cholesterol (HDL-C) levels were elevated in higher in groups that do more exercise. Our findings are in agreement with the statement that exercise and a diet low in saturated fat content can each lower plasma total cholesterol and low-density lipoprotein (LDL) cholesterol^{10, 11}.

In conclusion, we have been able to discuss the impact of a local food (etli ekmek) on blood lipid levels as well as the association of regular exercise (working in garden and field) or eating habits (poor diet which saturated fatty acids) on blood lipid levels. Our finding highlights the importance of low diet and physical activity in reducing total and LDL cholesterol levels.

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