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The Effect of Nutrition on Quality of Life in White Collar Employees According to Sociodemographic Characteristics

Beyaz Yakalı Çalışanlarda Sosyo-demografik Özelliklere Göre Beslenmenin Yaşam Kalitesine Etkisi

Burcu Korkut [1*], Nergiz Sevinç [2]

[1] Karabük Provincial Health Directorate Community Health Center, Karabük, Turkey
[2] Karabuk University, Faculty of Medicine, Department of Public Health, Karabuk, Turkey

ABSTRACT

Aim: The aim of our study is to investigate the factors affecting the relationship between healthy eating attitudes and quality of life of white-collar workers who have to sit and work for a long time.

Material and Methods: The universe of this cross-sectional descriptive study was created by 257 white-collar employees working in Karabuk Provincial Health Center between 01 October 2020-01 January 2021. Participants were asked 14 questions about their sociodemographic characteristics, disease and drug use status, 30 questions about their professional life quality, and 21 questions to evaluate their nutritional attitudes. The difference between the two groups with normal distribution was analyzed with the independent sample t-test, and the relationship between the two variables was analyzed with the pearson correlation test. Questionnaires and scales were administered to the participants online.

Results: It was determined that 61.5% of the participants were male, 38.5% were female, and the mean age was 30.9 years. It was determined that male participants had higher nutritional attitude scale scores than females. It was determined that there was a weak and negative relationship between the Nutrition Attitude Scale and the Occupational Quality of Life Scale mean scores, but strong relationships in the subscales. Knowledge about nutrition and positive eating habits have a strong and positive relationship with compassion satisfaction. There is a positive relationship between feelings about nutrition and bad eating habits and burnout. A positive correlation was found between feelings about nutrition and bad eating habits and compassion fatigue.

Discussion: White-collar employees do not pay attention to their main meals, financial difficulties are effective in insufficient and unbalanced nutrition problems, and their nutrition is not at a good level due to poor working conditions. In this context, the fact that white-collar employees have healthy and high-quality living conditions affects the increase in their professional life quality, productivity and professional satisfaction, and measures should be taken in this direct.

Keywords: White-collar workers, Healthy Nutrition Attitude, Quality of Life

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ARAŞTIRMA MAKALESİ

*Corresponding author: dr.burcutezcan@hotmail.com

ÖZET

Amaç: Sağlıklı beslenme; çalışan bireylerde performansın, konsantrasyonun, motivasyonun ve işe devamlılığın yüksek olmasını sağlamakla beraber iş gücü kaybını azaltmaktadır. Bu araştırmanın amacı, uzun süre masa başında oturarak çalışmak zorunda kalan beyaz yakalı çalışanlarda sağlıklı beslenme tutumları ile yaşam kaliteleri arasındaki ilişkiyi değerlendirmektir.

Materyal-Metot: Kesitsel tanımlayıcı tipteki bu çalışmanın evrenini 01.10.2020-01.01.2021 tarihleri arasında Karabük İl Sağlığı Merkezinde çalışan beyaz yakalı 257 çalışan oluşturdu. Örneklem seçimi yapılmayarak tüm katılımcılar çalışmaya dahil edildi. Katılımcılar çalışma hakkında bilgilendirilerek sözlü onamları alındı, anket ve ölçekler online olarak uygulandı. Katılımcılara sosyodemografik özellikleri sorgulayan 14 soru, mesleki yaşam kalitesini sorgulayan 30 soru, beslenme tutumlarını değerlendiren 21 soru soruldu. Mesleki Yaşam Kalitesi Ölçeği 6'lı likert tipinde olup puanlama 0-5 arasında yapıldı. Ölçeğin Cronbach Alfa Katsayısı 0,86 bulundu. Beslenme Tutum Ölçeği 5'li likert tipinde olup puanlama 1-5 arasında yapıldı. Ölçeğin Cronbach Alfa Katsayısı 0,83 bulundu. Normal dağılıma uygun iki grup arasındaki fark, bağımsız örneklem t testiyle, iki değişken arasındaki ilişki pearson korelasyon testi ile analiz edildi.

Bulgular: Katılımcıların %61.5'inin erkek, %38.5'i kadın olup yaş ortalamaları 30,9 olarak belirlendi. Beslenme Tutum Ölçeği ve Mesleki Yaşam Kalitesi Ölçeği ile alt ölçeklerinden elde edilen puanların ortalama ve standart sapma değerleri ile sosyodemografik özellikleri açısından farklılıkları analiz edildi. Beslenme Tutum Ölçeği ile Mesleki Yaşam Kalitesi Ölçeği puan ortalamaları arasında zayıf ve negatif bir ilişki olduğu, ancak alt ölçeklerde güçlü ilişkiler olduğu belirlendi. Beslenme hakkında bilgi ve olumlu beslenme alışkanlıkları, merhamet tatmini ile güçlü ve pozitif bir ilişkiye sahipti ($p<0.05$). Beslenmeye yönelik duygu ve kötü beslenme alışkanlıkları ile tükenmişlik arasında pozitif ilişki mevcuttu ($p<0.05$). Beslenmeye yönelik duygu ve kötü beslenme alışkanlıkları ile merhamet yorgunluğu arasında pozitif korelasyon tespit edildi ($p<0.05$).

Tartışma: Çalışmada erkek katılımcıların beslenme tutum düzeyleri daha yüksek bulundu. Kronik hastalığı olanların merhamet düzeyleri hastalığı olmayanlara göre daha yüksek saptandı. Düzenli ilaç kullanmayanların yorgunluk düzeyleri düzenli ilaç kullananlara göre daha yüksek belirlendi. Psikolojik hastalığı olmayanların beslenme bilgi düzeyleri, rahatsızlığı olanlara göre daha yüksek saptandı. Psikolojik hastalığı olan beyaz yakalıların kötü beslenme alışkanlıkları hastalığı olmayanlara göre daha yüksek düzeydeydi.

Sonuç: Yaşam standartlarındaki değişimler nedeniyle toplumdaki insanların çoğu ofis ortamında çalışmaya başlamış ve daha hareketsiz hale gelmiştir. Çalışan bireylerin yeterli ve sağlıklı beslenmesi, bağışıklık sistemlerini geliştirerek hastalıkları, iş hatalarını ve işe devamsızlığı azaltır; performansı, verimliliği ve işyeri huzurunu artırır.

Anahtar Kelimeler: Beyaz yakalılar, Sağlıklı Beslenme Tutum Ölçeği, Mesleki Yaşam Kalitesi Ölçeği

1. Introduction

Studies show that white-collar workers as a result of unhealthy diets are more likely to have risk factors [1]. These factors related to health risk behaviors were attributed to the demographic characteristics of white-collar workers and the nature of their work (burnout, stress and job dissatisfaction), and it was reported that later emerging health problems could be observed [2]. Additionally, jobs for white-collar workers tend to be less physically, but more psychologically demanding. Therefore, low physical activity levels and high psychological stress are important risk factors for employees [3].

Nutrition is the use of the nutrients required for growth, development, and long life in a healthy and productive manner and using them in the body. Healthy nutrition should be more appropriate; considering the age, gender and physiological condition of the individual, it is to meet all the nutrients

they need in sufficient amounts [4]. Healthy nutrition should be more appropriate; it is the consumption of all nutrients by enjoying the food consumed, eating a varied and balanced diet, eating all nutrients in the amount required for the individual and maintaining the ideal body weight [5]. It has been determined that white-collar workers generally do not pay attention to their main meals, financial difficulties are effective in insufficient and unbalanced nutrition problems, and their nutrition is not at a good level due to poor working conditions [6].

Being physically and mentally healthy and maintaining health is possible with adequate and balanced nutrition at every stage of life [7]. Employees who do not have adequate and balanced nutrition and who move less are less resistant to diseases and there is a decrease in their job performance [8]. Economic insufficiency, lack of education and wrong eating habits are the main reasons for the nutritional problems found in employees [9]. Adequate and balanced nutrition not only supports the health of employees, but also increases the quality of life and contributes to the increase of work efficiency [10]. Being aware of changes in dietary habits and identifying their relationship to economic, sociodemographic factors and health shed significant light on understanding the impact and consequences on the quality of life of employees [11].

The aim of this study is to examine the effects of healthy nutrition and quality of life among white-collar employees and the factors affecting the relationship between healthy eating habits and quality of life of employees [12].

2. Material and Method

This study was approved by non-interventional clinical research ethics committee of Karabuk University Faculty of Medicine Department of Public Healty (E-77192459-050.99-9597/2020/341). All the study subjects were assured that participation in the study was voluntary and that all information provided would remain confidential. The study population consisted of white-collar workers (n = 257) working in Karabuk Provincial Health Directorate Community, Turkey between 01 October 2020 and 01 January 2021 who agreed to participate in the study. The sample of the participants in the research; It consists of information on gender, age, marital status, educational status, occupation, social security, place of residence, economic status, smoking and alcohol use, and chronic illness.

Quality of Life Scale for Employees (Professional Quality of Life Scale, ProQOL): The participants' quality of working life was measured using the "Quality of Life Scale for Employees" developed by Stamm [13] and adapted to Turkish by Yeşil et al. [14]. The test, which is used as a self-assessment tool, has a total of 30 items divided into three subscales, each with ten items. The professional satisfaction compassion satisfaction subscale is the first of the subscales and the second subscale, the burnout subscale, and the compassion fatigue subscale, is the third subscale [13]. A six-digit likert-type scale ranging from "Never" (0) to "Very often" (5) is used to evaluate the items in the scale. At the stage of evaluating the scores obtained from the scale, items 1, 4, 15, 17, and 29 are the items scored in reverse. The lowest score that can be obtained from each of the subscales is 88 and the highest score is 119.Alpha coefficients calculated to reveal the reliability level of the scale were calculated as 0.87 for professional satisfaction sub-dimension, 0.72 for burnout sub-dimension, and 0.80 for compassion fatigue sub-dimension [16].

Attitude Scale Towards Healthy Nutrition (Nutritional Attitude Scale, NAS): The scale was developed by Demir and Ciciolu [15], and the same researchers assessed its validity and reliability. Knowledge About Nutrition, Towards Nutrition Feeling, Positive Eating Habits, and Bad Eating Habits are the four sub-sections of the scale, which involve a total of 21 queries [16]. The scale's lowest possible score is 21 and its highest possible score is 105. It is explained that the participants will get 21 points from the scale as very low, 23-42 points low, 43-63 points medium, 64-84 points high and 85-105 points ideally have a high attitude towards healthy eating. The ratings of the positive items in the scale are “Strongly Disagree”, “Disagree”, “Undecided”, “Agree”, “Strongly Agree”.

The SPSS (Statistical Package for Social Sciences) 25.0 program was used to analyze the study’s data. The Kolmogorov-Simirnov test was used to decide if the data complied to a normal distribution. The statistical evaluation of descriptive data involved the use of number, percentage, mean, standard deviation, median, minimum, and maximum values. The difference between two groups that matched the normal distribution was compared using an independent sample t-test. Pearson correlation test

was used to analyze the direction and intensity of the relationship between two variables. The significance level was assumed as $p<0.05$.

3. Results

The distribution of the socio-demographic information of the participants who make up the sample of the study was examined by frequency analysis and is given in Table 1.

Table 1: Sociodemographic İnformation of the Participants (n= 257)

Sociodemographic Information		**n**	**%**
Gender	Female	99	38,5
	Male	158	61,5
Age	18-25	55	21,4
	26-35	60	23,3
	36-45	78	30,4
	45+	64	24,9
Marital Status	Married	149	58,0
	Single	79	30,7
	Divorced	9	3,5
	Widowed	20	7,8
Education	Literal	9	3,5
	Primary School	48	18,7
	Secondary School	52	20,2
	High School	45	17,5
	Associate Degree	81	31,5
	Post Graduate	22	8,6
Job	Civil servant	82	31,9
	Worker	112	43,6
	Self Employment	51	19,8
	Academician	12	4,7
Social Security	Social Security Institution	221	86,0
	Green Card	13	5,1
	Private	9	3,5
	None	14	5,4

Place to Live	City	135	52,5
	Subprovince	95	37,0
	Village/Town	27	10,5
Economic Status	Low Good	25	9,7
	Moderate	210	81,7
	High Bad	22	8,6
Smoking Status	Smoker	97	37,7
	Non Smoker	55	21,4
	Stopped	105	40,9
Status of Alcohol Use	None	129	50,2
	Rarely	81	31,5
	Often	34	13,2
	Everyday	13	5,1
Status of Chronic Disease	Yes	79	30,7
	No	178	69,3
Psychological Disease	Yes	66	25,7
	No	191	74,3
Regular medicine	Yes	120	46,7
	No	137	53,3
Chronic Disease	Diabetes Mellitus	24	9,3
	Hypertension	19	7,4
	Coronary Artery	17	6,6
	Rheumatic Diseases	9	3,5
	Allergy	10	3,9
Total		257	%100

It was determined that 61.5% of the participants were men and 38.5% were women. In the study, the age range was 18-45, and the highest rate was observed to be in the 36-45 age group with 30.7%. The average age of the participants was determined to be 30.9. It is understood that 31.5% of the participants are university graduates, 43.6% are workers, 52.5% live in cities, 81.7% are middle class and 37.7% smoke. Various demographic information with different parameters comparison on items in ProQOL and NAS are shown in Table 2.

Table 2: Analysis Results of White Collar Employees by Gender, Chronic Disease, Regular Medicine and Psychological Diseases

ProQOL	**Gender**	**n (n=257)**	$\bar{\bar{x}}$	**SD**	**F**	**p**
Compassion Satisfaction	Female	126	33,6587	11,6372	0.142	0.348*
	Male	131	35,0076	11,3385		
Burnout	Female	126	35,6349	4,94547	0.380	0.376*
	Male	131	35,1145	4,45601		
Compassion Fatigue	Female	126	35,5635	11,2800	0.053	0.317*
	Male	131	34,1527	11,2642		
NAS	Female	126	62,8254	3,58459	0.003	**0.022***
	Male	131	63,8473	3,52240		
Knowledge About Nutrition	Female	126	16,3413	5,16475	0.033	0.180*
	Male	131	17,1985	5,05572		
Towards Nutrition Feeling	Female	126	17,3571	5,16056	0.057	0.483*
	Male	131	16,9008	5,25336		
Positive Eating Habits	Female	126	16,5952	5,02661	0.016	0.192*
	Male	131	17,4198	5,06717		
Bad Eating Habits	Female	126	12,5317	4,31683	0.039	0.708*
	Male	131	12,3282	4,38782		
ProQOL	**Chronic Diseases**	**n (n=257)**	$\bar{\bar{x}}$	**SD**	**F**	**p**
	Yes	107	105,962	5,85666	0.144	**0.001***
	No	150	103,560	5,79224		
Compassion Satisfaction	Yes	107	32,2150	11,8226	1.697	**0.012***
	No	150	35,8667	11,0244		
Burnout	Yes	107	36,7944	4,71797	1.099	**0.000***
	No	150	34,3533	4,43012		
Compassion Fatigue	Yes	107	36,9533	11,3098	0.064	**0.011***

	No	150	33,3400	11,0379		
NAS	Yes	107	63,4673	3,81733	2.396	0.648*
	No	150	63,2600	3,41617		
Knowledge About Nutrition	Yes	107	15,6262	5,31911	5.573	**0.003***
	No	150	17,6000	4,82026		
Towards Nutrition Feeling	Yes	107	18,5140	5,08487	0.017	**0.000***
	No	150	16,1333	5,07351		
Positive Eating Habits	Yes	107	15,8598	5,28874	6.847	**0.002***
	No	150	17,8400	4,72759		
Bad Eating Habits	Yes	107	13,4673	4,18514	0.011	**0.001***
	No	150	11,6867	4,31967		
ProQOL	**Regular Medicine Use**	**n (n=257)**	**$\bar{x}$**	**SD**	**F**	**p**
Compassion Satisfaction	Yes	120	36,2083	11,5284	0.559	**0.015***
	No	137	32,7153	11,2334		
Burnout	Yes	120	34,8417	4,57431	1.115	0.092*
	No	137	35,8321	4,77673		
Compassion Fatigue	Yes	120	33,2417	11,1287	0.086	**0.033***
	No	137	36,2482	11,2496		
NAS	Yes	120	63,6333	3,51691	0.341	0.230*
	No	137	63,0949	3,63375		
Knowledge About Nutrition	Yes	120	17,2833	5,13872	0.017	0.139*
	No	137	16,3358	5,07630		
Towards Nutrition Feeling	Yes	120	16,6917	5,01895	1.418	0.213*
	No	137	17,5036	5,34834		
Positive Eating Habits	Yes	120	17,5667	5,13798	0.021	0.102*
	No	137	16,5328	4,94834		
ProQOL	**Psychological Disease**	**n (n=256)**	**$\bar{x}$**	**SD**	**F**	**p**

	Yes	110	106,627	5,45517	0.152	**0.000***
	No	146	102,993	5,82562		
Compassion Satisfaction	Yes	110	30,5818	11,4334	0.858	**0.000***
	No	146	37,1986	10,7502		
Burnout	Yes	110	37,2818	4,07753	2.679	**0.000***
	No	146	33,9178	4,64685		
Compassion Fatigue	Yes	110	38,7636	11,0086	0.072	**0.000***
	No	146	31,8767	10,6148		
NAS	Yes	110	63,1636	3,69609	0.357	0.468*
	No	146	63,4932	3,51204		
Knowledge About Nutrition	Yes	110	14,8727	5,13329	8.181	**0.000***
	No	146	18,2055	4,64894		
Towards Nutrition Feeling	Yes	110	19,0545	4,89305	0.007	**0.000***
	No	146	15,6644	4,98173		
Positive Eating Habits	Yes	110	15,1545	5,05962	7.722	**0.000***
	No	146	18,4315	4,60271		
Bad Eating Habits	Yes	110	14,0818	4,23427	0.820	**0.000***
	No	146	11,1918	4,02974		

*Independent Sample T-test, NAS: Nutrition Attitude Scale, ProQO: Professional Quality of Life Scale. The significance level was assumed as $p<0.05$.

According to the results of the analysis of the differences in terms of mean and standard deviation values and socio-demographic characteristics of the scores obtained from Nutritional Attitude Scale (NAS) and Professional Quality of Life Scale (ProQOL) and its subscales; it was determined that male participants had higher nutritional attitude levels than women, participants without chronic diseases had higher affection satisfaction those with chronic diseases had higher burnout levels and Compassion Fatigue levels. Patients with chronic disease have higher nutritional knowledge have higher nutritional feelings positive eating habits of those without chronic disease.

Bad Eating Habits levels of participants with chronic diseases are higher than participants without chronic diseases. The compassion satisfaction levels of the participants who regularly use drugs are higher than the participants who do not use drugs regularly. Compassion Fatigue levels of the participants who do not use drugs regularly are higher than the participants who use drugs regularly. The knowledge level of the participants without psychological illnesses about nutrition is higher than the participants with psychological illnesses. The burnout level of the participants with psychological illnesses is higher than the participants without psychological illnesses.

Compassion Fatigue participants with psychological illness are higher than those without psychological illnesses, participants without psychological illnesses have higher levels of knowledge on nutrition than those with psychological illnesses, those with dietary psychological illnesses have higher emotional levels than those without psychological illnesses. The Positive Nutrition Habits levels

of those who do not have a psychological illness are higher the levels of Bad Nutrition Habits of those with psychological illness are higher illness a high in this study.

The correlation shown between the ProQOL and NAS mean scores in Table 3.

Table 3. Correlation Between the ProQOL and NAS Mean Scores (n=257)

		Compassion Satisfaction	**Burnout**	**Compassion Fatigue**
Knowledge About Nutrition	r	,867**	-,711**	-,864**
	p	,000	,000	,000
	n	257	257	257
Feeling Towards Nutrition	r	-,815**	,699**	,816**
	p	,000	,000	,000
	n	257	257	257
Positive Eating Habits	r	,863**	-,708**	-,860**
	p	,000	,000	,000
	N	257	257	257
Bad Eating Habits	r	-,829**	,686**	,827**
	p	,000	,000	,000
	n	257	257	257
		NAS		
ProQOL	r	-,107		
	p	,086		
	n	257		

**The significance level was assumed as p<0.05. Pearson Correlation Test

NAS: Nutrition Attitude Scale, ProQO: Professional Quality of Life Scale.

Correlation between the ProQOL and NAS mean scores have weak and negative correlation. Although an inverse proportion was observed in the relationship between the two scales, this relationship was found to be quite weak. However, considering the subscales, these relationships were found to be quite strong. According to Table 3., Knowledge about nutrition and Positive eating habits have strong and positive correlation with compassion satisfaction. But it has negative strong correlation with Feeling towards nutrition and Bad eating habits. Feeling towards nutrition and Bad eating habits have positive correlation with burnout. But it has negative correlation with Knowledge About Nutrition and Positive eating habits. Feeling towards nutrition and Bad Eating Habits have positive correlation with compassion fatique. But it has negative correlation with Knowledge About Nutrition and Positive Eating Habits.

4. Discussion and Conclusion

According to the results of the study, it was determined that white-collar employees generally do not pay attention to their main meals, financial difficulties are effective in insufficient and unbalanced nutrition problems, and their nutrition is not at a good level due to poor working conditions.

In the study, some important relationships were found between the healthy eating attitudes of white-collar workers and their quality of life in terms of gender, chronic diseases, regular medicine and psychological diseases. According to the literature review, the results obtained by Kim et al., [17] and Başkale et al. [18]. It has been observed that it is compatible with his studies.

Kim et al. [17] examined the relationship between professional quality of life, demographic and professional characteristics, and clinical competence of Korean nurses, and as a result, there is a direct relationship between professional quality of life and clinical competence, socio-demographic characteristics affect quality of life and clinical competence, high affectionate satisfaction in sub-dimensions and they found that low compassion fatigue increased clinical efficacy. Similarly, in our case, it was determined that there was no significant difference between the variables of age, marital status, educational status, occupation, social security, place of residence, economic status, smoking and alcohol use, except for gender, chronic diseases, regular medication and psychological illness.

Başkale, Günüşen and Serçekuş [18] found that employees who thought that they had a healthy diet had high compassion satisfaction in their research examining the factors affecting the quality of life of nurses. Similarly, in our study, it was determined that bad eating habits have a positive correlation with compassion fatigue.

In the study conducted by Özenoğlu, Yalnız and Uzdil [19], no significant difference was found between the effect of the place where the participants live on their eating habits and healthy lifestyle behaviors. Similarly, in our study, it was found that the place where the participants live does not affect their quality of life.

Özenoğlu, Gün, Karadeniz et al. [20], when the socio-demographic characteristics of the participants were compared with the total scores of their attitudes towards healthy eating, no significant difference was found between gender and education level.

According to a study, a correlation between healthy diet quality and quality of life, and therefore an increased risk of inflammation due to inadequate antioxidant intake, has been found to increase the risk of chronic disease and therefore a decrease in quality of life in people who eat low-quality foods [21]. In addition, other studies have shown that high physical activity improves people's quality of life and also protects them from chronic diseases [22]. In our study, a strong, positive and significant relationship was found between the nutritional knowledge of white-collar employees and their positive nutrition and affection satisfaction. Başkale et al. [18] supports the result of the study, as employees who think that they have a healthy diet have high compassion satisfaction.

According to the results of the analysis of the scores obtained from the Nutrition Attitude Scale NAS and the Professional Quality of Life Scale ProQOL and its subscales; It was determined that Nutritional attitude levels of male participants were higher than women, those with chronic diseases had higher burnout levels compassion, fatigue levels of those who did not regularly use drugs were higher participants without psychological diseases had higher levels of nutritional knowledge the levels of bad eating habits of those with high and psychological diseases were higher than those without psychological diseases in this study.

A limitation of this study was its focus on white-collar workers employed in community health center in a single center. Thus, the results cannot be generalized to other settings. In this context, the fact that white-collar employees have healthy and high-quality living conditions affects the increase in their professional life quality, productivity and professional satisfaction, and measures should be taken in this direct.

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