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Original article

Investigation of nutritional status, life-style and eating habits in vocational Chinese college teachers: A cross-sectional survey

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Abstract. *Background & objectives:* Unhealthy dietary habits might harm a teacher's health. The present study was aimed at college teachers to investigate nutritional status, lifestyle and eating habits and find the association of nutritional status with dietary habits and structure. *Methods*: A cross-sectional survey was conducted in vocational college teachers, including 33.3% males and 66.7% females. Lifestyle factors and eating habits were assessed through a validated self-administered questionnaire. Bioelectric impedance analysis (BIA) was used for body composition analysis. Other anthropometric measurements, including height, weight, BMI, and waist circumference, were also assessed according to the standards procedure. Multinomial and linear regressions were used for the association between dietary habits and nutritional status. *Results:* Overall, 5.1% of the participants were obese, 31.1% overweight, and 63.9 % had abdominal obesity. Obesity/overweight/high body fats, poor sleep quality, and neck and back problems were common among the respondents. Work/and or life stress and lifestyle problems were affecting health status. Animal-source food had a greater risk of increasing BMI (AOR = 2.9, P < 0.05) and body fats percentages (AOR = 1.2, P < 0.05). Linear regression revealed that balanced eating and exercise has a significant negative association with BMI (β=-1.34, P < 0.05) and WHR (β=-1.72, P < 0.05). Low salt intake was having a negative association with BMI (β=-1.38, P < 0.05), percent body fats (β=-2.2, P < 0.05) and WHR (β=-0.21, P < 0.05). Similarly, low oil intake was negatively associated with BMI (β=-1.6, P<0.01), percent body fats (β=-2.1, P < 0.05) and WHR (β=-0.23, P < 0.05). *Conclusion:* Our findings highlight that college teachers had an unhealthy lifestyle, including overweight and obesity, high body fat percentages, poor sleep quality, inactivity, and working stress. Furthermore, dietary habits, including balance eating and exercise, low salt and oil, positively improve nutritional status while animal-source food negatively improves Chinese college teachers' nutritional status.

Key words: Nutritional status, college, body composition, BMI, percent body fats

Introduction

Obesity, a non-communicable chronic disease, results from an unhealthy or unnecessary accumulation of fats to the point that it impairs body health due to the imbalance of energy intake and body energy's demand (1). Analysis of body composition, including BMI and body fats percentages, is critical in determining health and nutritional status (2). It is difficult to maintain body composition in teachers due to decreased energy consumption, resulting in weight gain. Therefore, it is necessary to take adequate and well-balanced nourishment and maintain a good lifestyle by regular exercise (3).

The burden of non-communicable chronic diseases is due to lifestyle and dietary factors (4). Physical inactivity and sedentary lifestyle are risk factors for obesity, global mortality, diabetes, cancer, chronic illnesses, cardiovascular diseases, mental health, and disability (3). Non-communicable diseases contribute to 70% of deaths worldwide (5). Globally, the main modifiable factor in ill health and death is unhealthy eating (6). Controlling the risk factors such as unhealthy eating, lack of exercise, alcohol consumption, smoking and drugs usage can reduce early death by fifty percent (7). University teachers take an inadequate diet and engage in inappropriate physical activities, which contributes to obesity (8).

Teachers also serve as role model for students. Therefore, their nutritional statuses, eating habits and lifestyle might impact the students as well. There might be other influencing lifestyle and eating habits that affect the nutritional status of the college teachers. The current study aimed to investigate nutritional status, lifestyle and eating habits and find the association of nutritional status with eating habits and diet structure in Chinese vocational college teachers.

Methodology

Study design, setting and location

A cross-sectional study was carried out in vocational college teachers, including lectures, assistant professors and professors from the pharmacy, food science, and management departments of Jiangsu Food and Pharmaceutical Science, College, Huaian, China. The respondents were invited by common communication applications in China, such as WeChat and QQ apps. The data was collected between March 2018 and July 2018. Study participation was voluntary, confidential, and anonymous. For this study, a total of 350 healthy teachers from both gender years were accessed. A total of 16 respondents was excluded because of the missing details. The response rate was 30.9 %. The final numbers for dietary pattern analysis were 108. Each individual signed an informed letter of consent.

This study was conducted according to the guidelines laid down in the Declaration of Helsinki. The ethical review committee approved all procedures involving research study participants of Jiangsu Food and Pharmaceutical Science College, Huaian, China (Institutional Review Board #2019JFPC003).

Data Collection

Pretesting of questionnaires

The questionnaire prepared by an expert panel was pretested on 20 volunteers before beginning the survey. After pretesting, the necessary modification was carried out. Data were collected by professional food and nutrition experts. The data was collected in the Chinese language for ease.

Socio-demographic and lifestyle factors

A previous validated semi-quantitative and self-administered questionnaire was revised and used for collecting information (9). Socio-demographic information consisted of age and gender. Lifestyle information was comprising of smoking status and smoking quit plan, alcohol status, knowledge about the limit of alcohol (male < 25g alcohol, female < 15g alcohol), sleeping duration (< 6 hours, 6 hours, 7-8 hours and more than 8 hours), sleep quality physical exercise (daily, 5-6 days/week, 3-4 days/week, 1-2 days/week and no exercise), exercise duration and intensity, workload, the pressure at work, factors causing stress in life/

work, checkup /physical examination, history of diseases, and satisfaction from health care services.

Anthropometry

Height was measured in cm to the nearest 0.1 cm by stadiometer by removing unnecessary clothing. Weight was measured to the nearest 0.1 kg wearing a minimal dress. A body composition analyzer (Tanita BIA MC-780MA, China)(4) was used to measure body composition, including BMI, body fats percentages, fat-free mass and BMR. BMI (Kg/m^2) was categorized as underweight (< 18.5), normal (18.5-23.9), overweight (24.0-27.9) and obese (> 28.0) according to Asian cutoffs (4). Abdominal obesity was defined as individuals having WHR (> 94.0 for males and >80 for females) were considered obese (10).

Dietary structure and individual's food habits assessment

Food habits were measured by a validated questionnaire in yes/no format (9, 11). Individuals' daily habits included diversified food, including cereals, balanced eating and exercise, eating more fruits, eating meat products, less salt intake, less oil, sugar control, limit alcohol, and adequate water (1500-1700ml) were measured. The diet structure was measured by three categories: vegetable-based food, animal-based food and balanced vegetable and animal food. Vegetal-based foods such as sweet potato, soybeans, vegetables, and fruits. Animal-source foods such as poultry meat, aquatic products and eggs. The third pattern was based on a balanced intake of vegetable and animal-based food.

Statistical Analysis

Statistical package for social sciences was used for statistical analysis (Version 21; SPSS Inc., Chicago, IL). Descriptive data were expressed as N (%) and mean ± SD. Binary logistic regression assessed the association between diet structure with nutritional status, controlling for confounders. Multiple linear regressions were used to find the association of nutritional status with dietary habits, controlling for confounders. Two-tailed $P < 0.05$ was considered significant.

Results

General characteristics of the study population

The general characteristics of the study participants have shown in Table 1. Males had significantly higher ($P < 0.5$) BMI, body fats percentages (higher than recommended by Tanita), WHR, fat-free mass and basic metabolic rate (BMR). The mean BMI (25.5) in male respondents were more elevated from the recommended BMI. Overall, 5.1% of the participants were obese, 31.1% were overweight, and 63.9 % had abdominal obesity. More than half of the respondents were sleeping for less than 7 hours a day. The majority of the respondents were not doing an exercise (60.1 % males and 76.2 % females). Smoking was common only in 22.2 % of males. Only 25% of males and 40.3 % of females were satisfied with the institute's health care resources and services.

Eating and food habits have shown in supplementary Table 1. The majority of the respondents reported that they eat regular breakfast (94.6 % males;80 % females). Male participants take much pressure in work as compare to female participants (Supplementary Figure 1). More than 50 % of respondents stated publishing a research paper and the workload as critical determinants of stress (Figure 1). Neck and back pain was prevalent in 35.2 % of respondents. Respondents (17.6 %) had related digestive disorders, 6.5 % had hypertension, and 33.3 % had poor sleep quality (Figure 2). Life/work stress (45.5 %), lifestyle problems (49.1 %), physical condition (20.4 %) and lack of health guidance (26.4 %) were the factors affecting health among the respondents (Supplementary Figure 2). The internet was the primary source of nutrition and health information, followed by health professionals' information and printed materials (Supplementary Figure 3).

Association between nutritional status and diet structure

Multinomial logistic regression was conducted to find an association between nutritional status and diet structure, adjusted for gender, age, smoking, drinking and exercise (Table 2). Diet structure consisted of three groups vegetable-based foods, animal-based

Table 1. General characteristics of the study population

		Male (33.3%)	Female (66.7%)	*P-value*
Age		40.9±7.5	36.6±6.1	0.002[a]
Sleeping per day	sleep time <six hours	4 (11.1)	9 (12.5)	NS[b]
	6≤ sleep time <7 hours	15 (41.7)	39 (54.2)	
	7≤ sleep time <8 hours	15 (41.7)	23 (31.9)	
	sleep time ≥8 hours	2 (5.60	1 (1.4)	
Smoking	No	28 (77.8)	72 (100)	NS[b]
	Yes	8 (22.2)	0 (0)	
Smoking plan	No	28 (77.8)	72 (100)	NS[b]
	Yes (but hard to quit)	8 (22.2)	0 (0)	
Frequency of drinking every week	< once/ week	7 (19.4)	63 (87.5)	<0.0001
	1-2 times/week	16 (44.4)	7 (9.7)	
	3-4 times/week	11 (30.6)	1 (1.4)	
	≥5 times/week	2 (5.6)	0 (0.0)	
Knowledge about the limit value of drinking	Yes	13 (36.1)	12 (16.7)	0.032 [b]
	No	15 (41.7)	48 (66.7)	
	Not sure	8 (22.2)	12 (16.7)	
Frequency of exercise every week	No exercise	9 (25.0)	37 (51.4)	0.029
	1-2day/week	13 (36.1)	19 (26.4)	
	3-5day/week	10 (27.8)	12 (16.4)	
	≥6day/week	4 (11.1)	2 (2.8)	
	Not sure	0 (0)	2 (2.8)	
Workload (subjective evaluation)	Very relaxed	1 (2.8)	0 (0)	
	Comparatively relaxed	6 (16.7)	12 (16.7)	NS [b]
	Normal	11 (30.6)	30 (41.7)	
	Relatively heavy	14 (38.6)	26 (36.1)	
	Much heavy	4 (11.1)	4 (5.6)	
Do you feel pressure at work? (subjective evaluation)	No pressure	2 (5.6)	5 (6.9)	
	It's a little stressful, but it's a good self-help	10 (27.8)	30 (41.7)	NS [b]
	There is often a sense of pressure in work, which can be self-relieving in general	18 (50.0)	27 (37.5)	
	Much pressure	6 (16.7)	10 (13.9)	
Physical examination regularly or not in the past 3 years	Yes	33 (91.7)	66 (91.7)	NS [b]
	No	3 (8.3)	6 (8.3)	
If you have discomfort or pain in your body, you will:	See the doctor immediately	8 (22.2)	19 (26.4)	NS [b]
	Self-care	27 (75)	47 (65.3)	
	Do not go to a doctor until the severity	1 (2.8)	6 (8.3)	

		Male (33.3%)	Female (66.7%)	*P-value*
Improvement in school's health care resources	Satisfied	9 (25.0)	29 (40.3)	NS [b]
	Need improvement	16 (44.4)	18 (25.0)	
	Not clear	11 (30.6)	25 (34.7)	
BMI (Kg/m^2)		25.5±2.7	22.5±2.8	<0.001 [a]
BMI	Underweight (<18.5)	0 (0.0)	3 (4.2)	<0.001
	Normal (18.5-23.9)	13 (33.3)	48 (66.7)	
	Overweight (24.0-27.9)	15 (41.7)	19 (26.4)	
	Obese (>28.0)	9 (25.0)	2 (2.8)	
WHR		0.87±0.05	0.85±0.05	0.018 [a]
WHR	Normal	32 (88.9)	7 (9.7)	<0.001
	Abdominal obese	4 (11.1)	65 (90.3)	
Percent body fats		24.8±4.7	30.0±5.5	<0.001 [a]
Fat free mass		57.1±6.2	40.6±3.9	<0.001 [a]
BMR		1602.7±135.3	1246.5±83.3	<0.001 [a]

[a] =Student t-test; [b] =Chi-square or Fisher Exact test

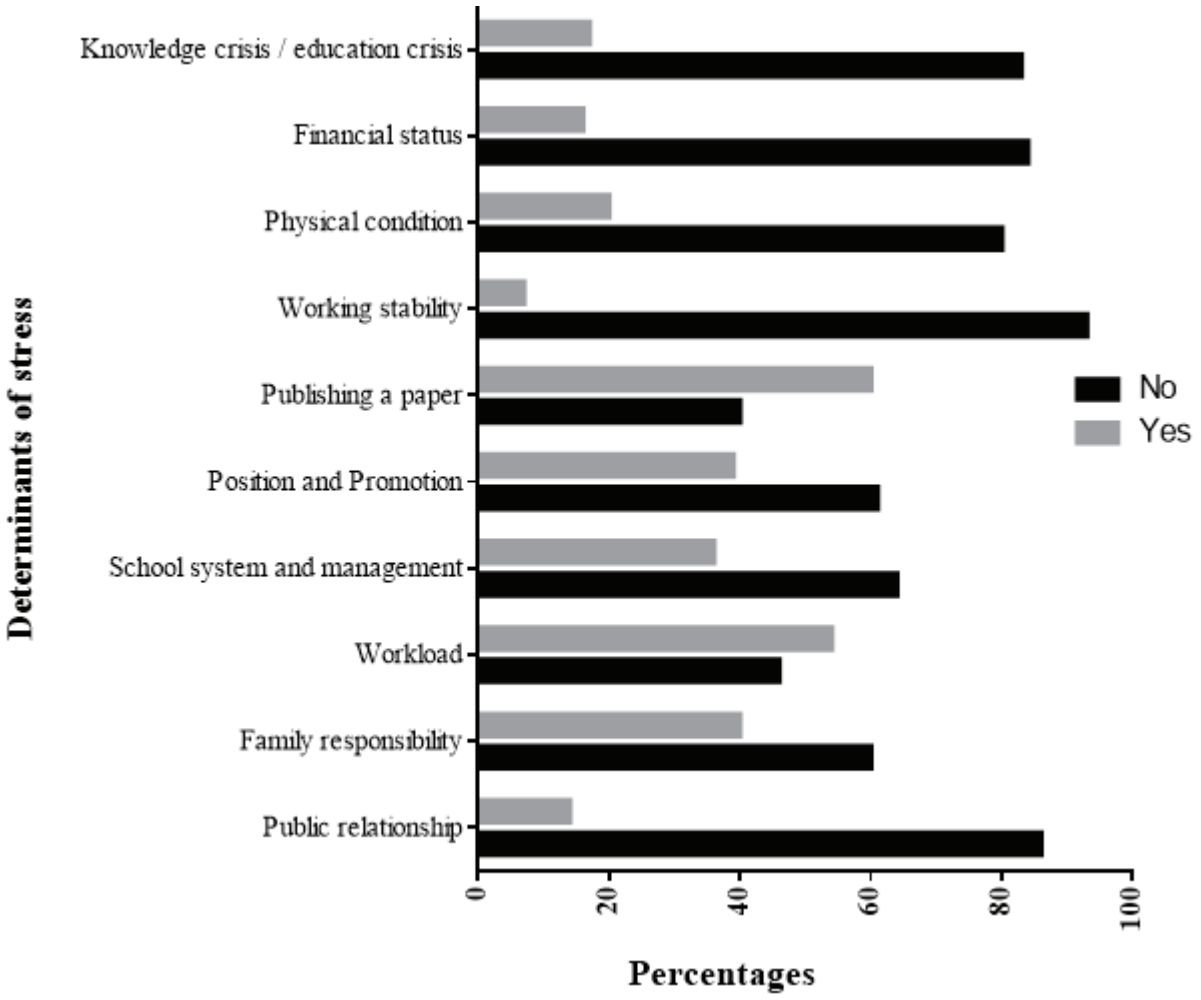

Figure 1. Determinants of stress among Chinese college teachers

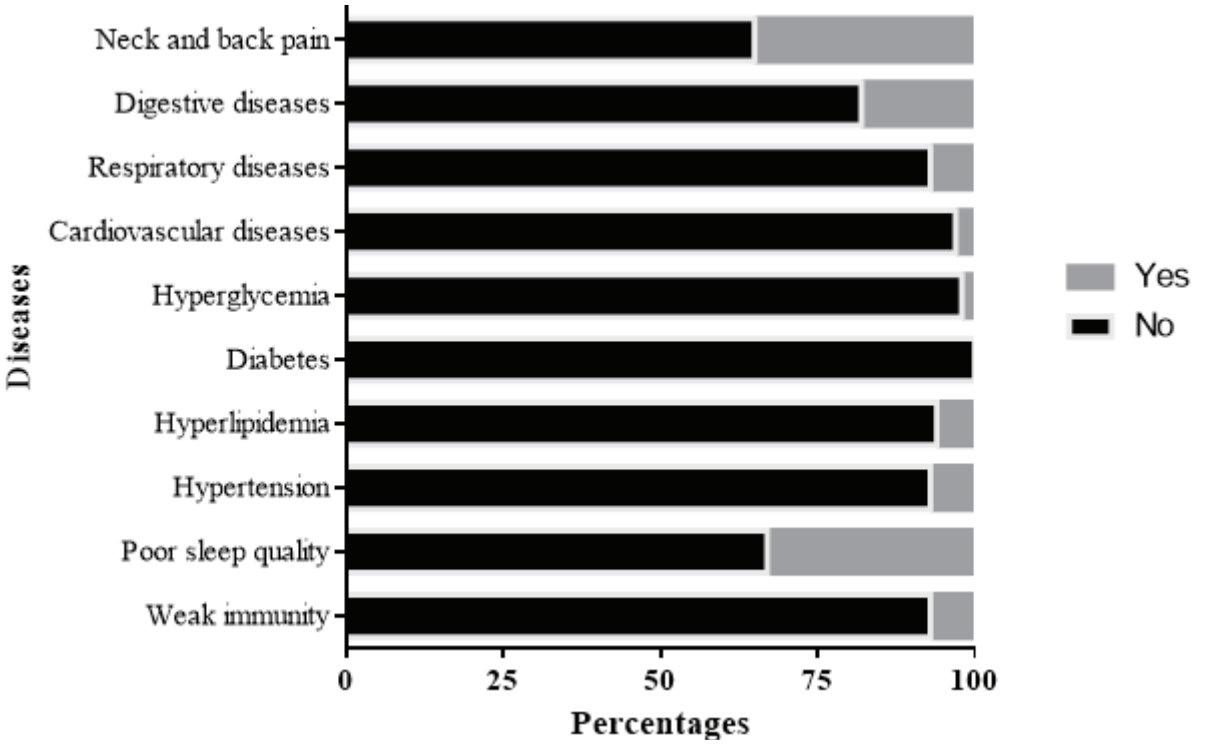

Figure 2. Prevalence of various diseases among Chinese college teachers

Table 2. Association of diet structure with nutritional status

	β	AOR (95 % Confidence Interval)	P-value
Relation with vegetable-based food			
BMI	0.385	1.5 (0.7-3.2)	0.342
Percent body Fats	0.052	0.3 (0.5-1.8)	0.199
WHR	0.076	1.1 (0.4-3.0)	0.885
Relation with animal-based food			
BMI	1.064	2.9 (1.1-7.3)	0.025
Percent body Fats	0.129	1.1 (1.0-1.3)	0.030
WHR	0.658	1.9 (0.6-6.7)	0.302

Reference is a balanced vegetable and animal food.
Adjusted for gender, age, smoking, drinking and exercise

food and a balance of animal and vegetable food. The results showed that participants took animal-based food had great risk of increasing BMI (AOR = 2.9, 95 % C.I. = 1.1-7.3, P<0.05) and body fats percentages (AOR = 1.2, 95 % C.I. = 1.0-1.3, P<0.05). There was no relationship (P>0.05) of nutritional status based on BMI, percent body fats and WHR with diet structure based on vegetables.

Association between nutritional status and food habits

Linear logistic regression was performed to find the association of daily food habits with nutritional status, controlling age, gender, smoking, drinking and exercise (Table 3). The analyses revealed that balanced eating and exercise has a significant negative association with BMI (β=-1.34, 95 % C.I.=-2.4--0.24,

Table 3. Association of daily food habits with nutritional status

		N	β1 (95% C.I.)	β2 (95% C.I.)	β3 (95% C.I.)
Diversified food			-0.30(-1.5-0.86)	0.26 (-1.96-2.5)	0.04 (-0.15-0.24)
	Yes	33			
	No	75			
Balance eating and exercise			-1.34 (-2.4--0.24)*	-1.84 (-3.93-0.26)#	-1.72 (-3.5-0.012) #
	Yes	71			
	No	37			
Eat more fruits			-1.63 (-1.22-0.89)	0.79 (-1.2-2.8)	0.02 (-1.6-0.19)
	Yes	45			
	No	63			
Eat meat products			-0.67 (-1.75-0.42)	-0.60 (-2.67-1.46)	-1.53 (-0.33-0.026) #
	Yes	39			
	No	69			
Less salt			-1.38 (-2.42--0.335)**	-2.2 (-4.2--0.21)*	-0.21 (-0.34--0.038)*
	Yes	69			
	No	39			
Less oil			-1.6 (-2.6--0.42)**	-2.1 (-4.3-0.33)*	-0.23 (-0.42--0.037)*
	Yes	77			
	No	31			
Sugar control			-0.52 (-1.6-0.58)	-1.4 (-3.6-0.56)	-0.05 (-24-0.13)
	Yes	69			
	No	39			
limit alcohol			-0.70(-1.8-0.39)	-1.2 (-3.3-0.88)	-0.03(-0.22-0.15)
	Yes	70			
	No	38			
Adequate water			-0.29 (-1.37-0.78)	-1.1 (-3.1-0.94)	0.013(-1.9-0.17)
	Yes	65			
	No	43			

β1=BMI; β2=Percent body fats; β3=WHR; *=P<0.05; **P<0.01; #=P<0.1
All models adjusted for age, gender, smoking, drinking and exercise.

P < 0.05), partial negative association with percent body fats (β=-1.84, 95 % C.I.= -3.93-0.26, P < 0.05) and WHR (β=-1.72, 95 % C.I.= -3.5-0.012, P < 0.05). Less intake of salt was negatively associated with BMI (β=-1.38, 95 % C.I.=-2.4--0.335, P < 0.05), percent body fats (β=-2.2, 95 % C.I.= -4.2--0.21, P < 0.05) and WHR (β=-0.21, 95 % C.I.= (-0.34--0.038, P < 0.05). Less oil intake was negatively associated with BMI (-1.6, 95 % C.I.= -2.6--0.42, P<0.01), percent body fats (β=-2.1, 95 % C.I.= (-4.3-0.33, P < 0.05) and WHR (β=-0.23, 95 % C.I.= (-0.42--0.037, P < 0.05).

Discussion

The current study investigated body mass index (BMI), body fats percentages and waist to hip ratio (WHR) based on nutritional status, dietary structure, dietary habits and lifestyle factors in professional teachers. Furthermore, we investigated the association between dietary structure and habits with nutritional status. We found that male teachers had higher BMI, body fats percentages and central obesity than female teachers. Regular breakfast was common in teachers.

Most of the teachers had slept less than the recommended sleep. Neck and back pain problems followed by digestive and poor sleep quality were prevalent among the respondents. Workload and publishing scientific citation indexed research publications were the primary determinants of stress among teachers. Life/work stress and lifestyle problems were prominent factors affecting health. Nutritional status parameters were having a negative association with animal-based dietary structure. Moreover, dietary habits including balance eating and exercise, intake of low salt and oil were the significant factors having a negative association with nutritional status, controlling for confounding factors.

Obesity is more prevalent in college and university teachers because of the correlating factors, such as sedentary lifestyle, excessive food intake and age (12). Obese and overweight faculty members are less confident in making healthy food choices than normal teachers (13). The prevalence of overweight and obesity in our study was 31.5% and 10.2%, respectively. Earlier, a Chinese study reported that 36.1% of the university teachers were overweight, and 5.2% were obese (14). These figures are quite high, which could further lead to hypertension, diabetes and other cardiovascular diseases.

Lifestyle greatly influences health and nutritional status. Lifestyle refers to a region's inhabitants' characteristics in a specific time and places (15). Several positive lifestyle factors can promote good health, while a negative lifestyle deteriorates good health. Sleeping is one of the lifestyle factors which might have an impact on health and nutritional status. Less than 6 hours of daily sleep is considered a short sleep. In the current study, 12% of teachers had < 6 hours of sleep, while 50 % had less than 7 hours of sleep duration per day. Also, 33.3% of teachers had poor sleep quality. Previously, it has reported that short and long time stays in bed and poor sleep quality leads to obesity (4).

Stress impacts negatively on health. Stress increases the risks of ulcers, atherosclerosis combined with a high-fat diet and sedentary lifestyle, psychiatric illnesses, tumor development, and suppressing natural killer cells (16). In this study, life/work stress was a prominent factor that negatively affects the teachers' health status. There might be different factors that could lead to stress in this population. Many respondents stated workload and publishing of a scientific paper as a source of stress. Earlier, a study reported academic workload, scientific research, physical exercise and lack of routine breaks as sources of stress WHR in teacher's population (17).

Dietary habits may be key to determining health and nutritional status (10). Eating habits and nutritional status have been investigated previously (18). We also investigated the association of daily eating habits with BMI, body fats percentage and. One of the eating habits having a negative association with obesity parameters was the intake of oil among teachers. Previously, it was found that overweight individuals consume more oil than normal individuals (19). These findings are similar to our study; we also found a negative association of oil intake with BMI, body fats, and WHR. Balance eating and exercise also negatively associated with nutritional status based on BMI, body fats, and WHR. Exercise, along with a balanced diet, is critical to maintaining healthy body composition. It has been shown that exercise training greatly reduces body fats levels in overweight and obese individuals (20). Taking an imbalanced diet may cause weakness and obesity. Moreover, exercise is a basic tool for health promotion (21). Another dietary habit of having an association with BMI and body fats was an intake of salt. Low intake of salt reduces obesity in teachers. A study in adults showed that increasing 1g/day of salt increases the risk of obesity by 26 %. Also, 1 g/day of salt increases 0.91 kg and 0.32 kg body fat(22). Therefore, high intake of salt is a potential risk of obesity in teacher's population. Animal-source dietary pattern increases the risk of obesity. In our study, we also found that dietary structure based on animal food had a positive association with increasing body fats percentages and BMI. Similar to these figures, a study in the US found meat consumption as a risk factor for obesity in adults (23). Another study reported that protein derived from animal sources increases global obesity among adults in (24). The risk factors, as mentioned above, should be targeted in a proper way to reduce obesity in the targeted population.

There were certain limitations in the current study. First, the response rate in the study is low. Second, this study was a cross-sectional study that cannot give the

causal impact of the determinants of nutritional status in the targeted population. Third, the study cannot be generalized to the whole teaching community because it was conducted in one institute. However, the current study is the first study investigating body composition, factors affecting health and nutritional status in Chinese college teachers.

Conclusion

The prevalence of overweight and obesity was high in Chinese college teachers. The body composition, sleeping and exercise duration of teachers was not satisfactory. Also, academic workload and task for publishing research papers were the primary sources of stress, ultimately affecting their health and nutritional status. Animal source diet structure was having a positive association with nutritional status. Balanced eating and exercise, low oil and salt intake, lower BMI and body fats percentages, proper nutrition and health guidance might help in the attainment of healthy body composition and lifestyle in the targeted group.

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Authorship: Chenming Ji and Ijaz ul Haq designed and wrote the original draft. Chunlan Cui, Xiumei Meng and Liu Cheng collected the data. Jing Li, Jielian Xu and Jing Miao contributed to editing and formal analysis. Qinmin Wu, Abbas Khan and Qing Tian reviewed the article.

Ethical Standards Disclosure: This study was conducted according to the guidelines laid down in the Declaration of Helsinki and all procedures involving research study participants were approved by the ethical committee of Jiangsu Food and Pharmaceutical Science College, Huaian, China (IRB#2019JFPC003). Written informed consent was obtained from all subjects.

References

1. Stefanaki, C., et al., Chronic stress and body composition disorders: implications for health and disease. Hormones, 2018.17: p. 33-43.
2. Ul Haq, I., et al., Identification of Body Composition, Dietary Patterns and Its Associated Factors in Medical University Students in China. Ecology of Food and Nutrition, 2020. 59: p. 65-78.
3. Arslan, C., et al., Evaluation of health promoting lifestyle profile with the body composition of physical education teachers and other branch teachers. Australian Journal of Basic and Applied Sciences, 2017. 11: p.78-82.
4. Ul Haq, I.; et al., A comparative study of nutritional status, knowledge attitude and practices (KAP) and dietary intake between international and chinese students in Nanjing, China. International Journal of Environmental Research and Public Health 2018. 15: p. 1910.
5. Zhang, QL., et al., Combined impact of known lifestyle factors on total and cause-specific mortality among chinese men: a prospective cohort study. Scientific reports, 2017.: p. 1-9.
6. Peeters, A., Obesity and the future of food policies that promote healthy diets. Nature Reviews Endocrinology, 2018. 14: p. 430-37.
7. Pirzadeh, A., G.Sharifirad and A. Kamran, Healthy lifestyle in teachers. Journal of Education Health Promotion, 2012. : p. 1.
8. Rodrigues-Rodrigues, T., A.C.V. Gomes and G.R. Neto, Nutritional status and eating habits of professors of health area. International Journal of Sport Studies for Health, 2018. 1: p. 7-12.
9. Lei, S, and W. Xiao-hui, Research on College Teachers Health condition and influencing factors. Bulletin of Sports Science & Technology, 2014. 22 : p. 90-101
10. Ul Haq, I., et al., Association of Smoking-Related Knowledge, Attitude, and Practices (KAP) with Nutritional Status and Diet Quality: A Cross-Sectional Study in China. BioMed Research International, 2019.; p. 2019.
11. Mei, Y., andS.Yang, Research on Living Conditions and Career Development of Young Teachers in Universities-A Survey Study of Chongqing. Education and teaching Research, 2016;30:39-45.
12. Javed, M., R. Chaudhry andM. Noor, Prevalence of Obesity among senior teaching faculty of an undergraduate medical college of Lahore, Pakistan. Pakistan Journal of Medical and Health Sciences, 2017.7: p. 917-20.
13. Freedman, M.R. and R.J.Rubinstein, Obesity and Food Choices Among Faculty and Staff at a Large Urban University. Journal of American Coll Health, 2010. 59: p. 205-10.

14. He L.,et al., Prevalence of overweight and obesity among a university faculty and staffs from 2004 to 2010 in Wuhu, China. Nursing Hospital, 2014. 29: p. 1033-7.
15. Farhud, D.D., Impact of Lifestyle on Health. Iran Journal of Public Health, 2015. 44:1442-4.
16. Salleh, M.R., Life event, stress and illness. Malaysian Journal of Medical Science 2008. 15: p. 9-18.
17. Li, W., and C. Kou, Prevalence and correlates of psychological stress among teachers at a national key comprehensive university in China. International Journal of Occupational and Environmental Health 2018. 24: p. 7-16.
18. Rodrigues-Rodrigues, T., A.C.V.Gomes, G.R. Neto, Nutritional status and eating habits of professors of health area. International Journal of Sport Studies for Health.,2018. 1: p. 7-12.
19. Vadera, B.N. et al., Study on obesity and Influence of dietary factors on the weight status of an adult population in Jamnagar city of Gujarat: A cross-sectional analytical study. Indian Journal of Community Medicine, 2010.35: p. 482.
20. Westerterp, K.R.J., Exercise, energy balance and body composition. European journal of clinical nutrition, 2018. 72: p. 1246-50.
21. Alamgir, K., U.Sami, andK. Salahuddin. Nutritional complications and its effects on human health. Journal of Food Science and Nutrition, 2018. 1: p. 17-20.
22. Ma, Y., F.J. He, and G.A. MacGregor, High salt intake: independent risk factor for obesity? Hypertension, 2015. 66: p. 843-9.
23. Wang, Y., and M.A. Beydoun, Meat consumption is associated with obesity and central obesity among US adults. International J Obes (Lond), 2009.33: p. 621-8.
24. Alkerwi, A., et al., The potential impact of animal protein intake on global and abdominal obesity: evidence from the Observation of Cardiovascular Risk Factors in Luxembourg (ORISCAV-LUX) study. Public Health Nutrition 2015.18: p. 1831-8.

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