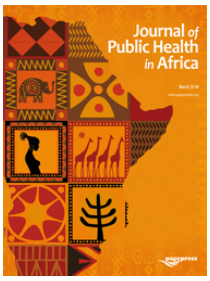

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The epidemiological profile associated with lifestyle risk factors and nutritional status for COVID-19 patients in the Iraqi population

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Abstract

Objectives. To determine the prevalence of covide19 infection and to identify the lifestyle factors and nutritional status associated with the epidemiological profile of covid19 patients.

Methods. This cross-sectional survey was carried out in the eighteen Iraqi governorates, from 1st August to 20th of October 2020. At the end of this study, 433 participants were recruited .

Results. The prevalence of coronavirus infection was 37.18%. Smoking and Active physical activity were relatively higher for covid19 patients who are male, and belonged to the under 45 age range were 91.3%. It notices that covid19 patients who smoking and had active physical activity were married, residence in urban, and worked. Likewise, covid19 patients who had equal or more than institute/college level of education are smokers and had active physical activity. Obesity prevalence was higher for patients aged <45 (92.2%), and higher for females (51%). The proportion of obese was generally higher for married and for those living in urban areas (92.2%). Obesity was significantly more common among those in worked (70.6%).

Conclusions. Of note is the high prevalence of covid19 infection observed. A strong correlation between the prevalence of active physical activity among covid19 patients and gender, marital status, residence, education, and occupation. As unexpected, the prevalence rate of obesity among covid19 patients on correlating with socio-demographic status did not yield a significant difference.

Introduction

Coronavirus (SARS-CoV-2) is one of the three different types of coronavirus that causes a health crisis in the last two decades, represents a major public health challenge worldwide[1]. The first covid-19 human infection was described at the end of 2019 in Wuhan, China and it has reached an outbreak across the world, which continues to spread unchecked[2]. On the eleventh day of March 2020, covid-19 was declared as a pandemic disease by the World Health Organization (WHO)[3]. Coronavirus infection and its chronic sequel have become significant in life-threatening [4], most importantly, owing to the higher complications associated with severe acute respiratory syndrome[5]. The leading route of infection transmission is person-to-person[6]. Iraq is a country where the pandemcity of covid-19 is high resulting in significant national morbidity and mortality[7]. Indeed, the first Iraqi case of coronavirus in the current pandemic was recognized in the second half of February 2020 in patients from Najaf city[8]. An important issue for patients is to recognize the determinants related to higher risk factors. The factors affecting infection are, for instance, socioeconomic status and lifestyle factors [9]. Gender has been identified to be one of the strongest sociodemographic factors that predict infection[10]. Studies have also shown that patient

age has always proved to be the most important factor in the incidence, prevalence of disease, and mortality rate[11]. Unhealthy lifestyle behaviors are major contributors to infection-related conditions, morbidity, and premature death[12]. Moreover, previous studies have been generated reporting that smoking habit was known to influence health at various levels[10]. The implementation of control measures for infection identifying the risk factors affecting it and the patient's living habits can reduce diseases and death [9]. During the period under review, food habits is a strategy that represents a significant for COVID-19 risk management [13]; because a healthy nutrition status has been identified as a trigger for the immune system in order to fight infection[14]. Therefore, this study first sought to determine the prevalence of covide19 infection. Secondly, to identify the lifestyle factors and nutritional status associated with the epidemiological profile of covid19 patients of the Iraqi population.

Materials and Methods

Study design, area, and period

This is the epidemiological study and a cross-sectional survey was carried out at the eighteen Iraqi governorates and undertaken from 1st August to 15th of October 2020.

Study participants

The sample frame consists of both males and females and all age groups. At the end of this study, 460 participants have been recruited.

Inclusion and exclusion criteria

The study included individuals who resided in Iraq, both males and females, and all age groups. If the selected respondent refused to participate or did not meet the inclusion criteria are excluded.

Study methods

A questionnaire about the epidemiological profile and lifestyle risk factors was given to the participants to be filled. Data was collected through a self-administered questionnaire. The survey was participated in through an online link on social media (Facebook, Telegram, and Whats App) with a request to circulate the questionnaire. It had three sections;

- First part focused on sociodemographic characteristics such as gender, age, marital status, residence, education level, and occupation.
- The second part of the questionnaire focused on behavioral lifestyles which included smoking habits, and exercise practice. The smoking habit was divided into three categories: never smoking,

smoking (included; No. of cigarette smoking/day, age at beginning of cigarette smoking in years and duration of smoking), and quit smoking (ex-smokers). Number of cigarettes smoking/day classified into[15]; Light smokers=1-10 cigarettes/day, Moderate smokers=11-20 cigarettes/day, Heavy smokers= more than 20 cigarettes/day. Pack-years of smoking were calculated by multiplying the average number of cigarettes smoked per day by the number of years of smoking and dividing by 20[16]. Pack-years of smoking classified into[17]; Light smokers= 1-20 pack-years, Moderate smokers21- 40 pack-years, > 40 pack-years Heavy smokers. To measure self-reported exercise habits the participants were asked how often they daily performed strenuous, moderate, and mild exercise. A validated physical activity was defined according to occupational activity; was further classified into; active if participants having jobs (involving heavy and intense physical activity), and sedentary if participants don't have jobs.

- The third part focused on food habits and nutritional status (BMI). Food habits were verified and assessed using a self-reported that consists of questions about food habits and their frequency: daily intake of milk, soft drink, fruit, vegetable, nuts, animal fat, vegetable fat, carbohydrate, eating contains fats, sweets, fast food, tea, coffee and at least two times a week intake of meat, fish, chicken. Nutritional status (BMI): The participants involved in the current study self-reported their weights and heights. The body mass index (BMI) was then calculated as weight (kg) divided by squared height (cm). The adults and children participants were classified into subgroups according to their BMI[18, 19]. (Table 1)

Statistical analysis

Statistical analyses were performed using SPSS software (version 25). Descriptive analysis using frequencies, proportions, means, and standard deviation were computed. All variables were analyzed individually for an association with covid19 risk using Chi-square analysis and Fisher Exact test, analysis of variance where appropriate. p-value <0.05 was considered a statistically significant association.

Results

The self-reported demographic characteristics of the 433 respondents are summarized in Table 2. Among baseline respondents, most of the respondents assessed were female (55%%). The prevalence of coronavirus infection was 37.18%, higher among males (52.8%) than among females (47.2%), though with significant differences (P = 0.008). The average age was 33.33 years old ±8.9920 years, while 88.7% of the respondents were aged less than 45 years old. Approximately 92 % of the respondents were from the demographically urban area whereas 8.5% of the respondents

came from a rural area and the difference was found to be statically not significant (p>0.05). In terms of education, nearly 94% of all respondents had attained equal or more than institute/college while only 6.21% had less than institute/college. More than two-thirds of the patients were married and 61.9% were government employed. There was a significant difference between the studied groups in terms of marital status and occupation status (p<0.05).

The proportion of lifestyle risk factors for respondents were assessed for each individual involved in the study and results are summarized in Table 3. Among the lifestyle risk factors assessed in this study, smoking habits, physical activity, exercise, and BMI. The proportion of current smokers was higher in the covid19 patients' group (14.3%) compared to the non-covid19 group (11.8%). It is important to highlight that physical activity for covid 19 patients ranked the highest than non- covid 19 patients (77.6% versus 74.3%). Among covid19 patients, 1.9% were underweight, 29.8% normal weight, 46.6%overweightand 21.7%obese; corresponding figures for non- covid 19 patients were 1.1%, 39%, 41.2% and 18.8%. The BMI distribution was shifted towards higher BMI in the covid 19 patients versus non- covid 19 patients sample and was significantly different (p=0. 0.049). Notably, a total of 229 (52.9%) of the respondents surveyed reported exercising with 47.1% of the respondents reporting no exercise. The variables smoking, physical activity, and exercise presented no significant differences (p>0.05).

Smoking characteristics of the study population are presented in Table 4. Of all the respondents, the majority, 24 (43.6%), of them were moderate smokers and 20 (36.4%) were heavy smokers with a mean±SD 22.98±13.766. Among them, 56.4% % began smoking between their16th to 20 birthday and nearly 27.3% began smoking after 20 years of age. The mean age of the respondents was 19.42 with a standard deviation of 3.966 years. Very few smoking covid 19 patients or smoking non-covid 19 patients had smoked for more than 20 years. As expected, compared with smoking non covid 19 patients, smoking covid 19 patients had longer durations of smoking ($p < 0.001$). While those in the light, moderate, and heavy pack-year groups were 69.1%, 23.6%, and 7.3%, respectively.

As Table 5 indicates, of all the respondents, the most frequently consumed foods during the covid19 period are fruit (76.4%), vegetable (75.1%), meat (63.3%), fish (62.8%), chicken (83.6%) , whereas animal fat was much less frequently consumed (13.4%%). Moreover, tea is the commonest drink used during the covid 19 periods (81.5%) followed by milk (30.9%), while coffee is consumed by only 26.3% of the respondents.

Results from the cross tab analyses are shown in Table 6. All of the covid19 patients who are smokers were males and belonged to <45 age range were 91.3% (21/23) compared to 89.9% (124/138) who are non-smokers. This difference was statistically not significant (P=0.560).

Similarly, covid19 patients who were married(69.6%) were more likely to smoke than those who

were unmarried (30.4%). Covid19 patients with an institute/ college degree or higher(91.3%) were more likely to be smokers than those who had lower levels of education (8.7%). Results indicated that covid19 patients living in the urban (91.3%) were more likely to smoke than those living rural (8.7%). The likelihood of being a smoker was significantly higher for those who reported work than those who unworked(p=0.016). Also, Table 6, shows the association between physical activity and socio-demographic profile. Active physical activity was relatively higher for patients who are male (61.6%, p= 0.000), and belonged to the under 45 age were 90.4% (113/161) compared with 88.9% (32/161) who have sedentary physical activity. This difference was not statistically significant. (P = 0.500). It notices that covid19 patients who were married, resided in urban, and worked had a higher prevalence of higher active physical activity (82.4%,97.6%, 100%, respectively). Likewise, covid19 patients who had equal or more than institute/collage level of education are active physical activity was 92% (115/161) compared with 91.7% (33/161) who are sedentary physical activity. The variables residence and occupation presented significant differences ($p<0.05$). Associations between socio-demographic profile and obesity were generally similar for covid19 patients (Table 6). Obesity prevalence was higher for male (54.5%) versus female (45.5%) and higher for patients aged <45 (89.1%)versus ≥45years (10.9%), and the proportion obese was generally higher for married versus non-married (p=0.011) and for those living in an urban area (95.5%) versus rural area (4.5%). Additionally, there was a significant trend of decreasing obesity prevalence with decreasing education. Obesity was more common among those in worked (80.9%) versus unworked (19.1%). Obesity was not significantly associated with gender, age, education level, place of residency, and occupation.

Discussion

Not suprisingly, the prevalence of coronavirus infection in the present study was found to be 37.18% which is comparable to another Mexican study which shows a prevalence was 38%[20]. Generally, socioeconomic status (SES) is the most important determinant in health and related to the spread of a wide range of communicable infectious diseases [21]. Male sex and older age are most likely associated with the negative outcomes of COVID-19 [22]. The study findings have indicated a relatively high prevalence of covid 19 among adults aged under 45 years old (52.8%, p=0.297) in Iraq. Findings from another study in South Korea showed there was an association between age and covid19[23]. The possible explanation for this result is that the survey was conducted through social media and usually the participates of these media are from the youth age groups. The findings have appeared to indicate that covid19 infection found to be significantly higher among males (90.1%, p=0.008). These findings suggest that male sex appeared to be the

most important of the socio-demographic factors associated with covid19 infection among the study respondents. Similarly, the results from the current study are congruent with other studies results conducted in the same epidemic period, where the prevalence of covid 19 was higher among males in the USA [22] and in the Netherlands [24], as well as with the results of the previous study in Mexico [25]. Education level was another socio-demographic factor that was related to covid19 infection in this study, respondents with a college degree or higher were more likely to infected compared to those who had lower levels of education. It may be due to the fact that the study targeted groups on social media that are interested in scientific research, training courses, and educational workshops, so often its participates have higher educational degrees and those had a quiet awareness about their medical conditions. Noteworthy, it appeared that the important prevalence of covid19 infection found among the married study sample. Studies have suggested a link between marital status and human health in general[26]. Additionally, a majority of participants in the study reported engaging in government-employed (61.2%). One possible explanation might be that, lack of social distancing, frequent contact, and working with groups as a result of the different tasks assigned to the employee. Thus, government-employed are at greater risk for covid19 infection than others. Smoking has been consistently reported to raise the risk of covid19 infection and its progression[27,28]. Overall, The prevalence of smoking among covid19 patients in the study was 14.3% versus 11.8% among non-covid19 patients. Comparable with the other findings, the study done among Mexican outpatients, illustrated that 8.9% of patients were smokers [25]. The lower prevalence of smoking probably due to the smoking risks awareness were more prevalent among respondents who have higher education degree which represents the majority of the population of this study. At the time of the interview, this study identified that covid 19 patients smokers are predominantly male, young and married, and those with high education level. Regarding the residence and occupation, this study revealed a higher prevalence of covid 19 patients smokers among the urban residents and those who worked. Jackson SE et al. observed in their large survey that smoking leads to an increased risk of covid 19 regardless of age and gender[29].

More than three-quarters of patients with covid19 were found to have active physical activity. In contrast to this result, another study found that covid 19 infections decreased strongly with a high level of physical activity[30]. The results observation reveals the prevalence of active physical activity which is directly proportional to the age of ≤45, and with 61.6% male. There, it observed the vast majority of patients with covid19 who have active physical activity were married, residence in an urban area, and have higher education degree (82.4%,92%, and 97.6% respectively. The physical activity variations are statistically significant ($P<0.005$). Ultimately, patients who

worked and have active physical activity is reported by 100%. This is consistent with some points and inconsistence with other of a study done in Brazil by Rodrigo L. Vancini et al. The point of difference is that females tended to have a significantly higher level of physical activity, while the points of compatibility are, firstly a negative significant association between educational level and the high level of physical activity among covid19 patients. Secondly, The relatively high rate of the high level of physical activity among married covid 19 patients[30].

Studies have suggested a link between obesity and increased risk of covid19 infection[31]. It is worth highlighting that the prevalence of overweight and obesity among covid 19 patients was 68.3% ($p<0.05$). Similar to the results found in one meta-analysis study conducted by Barry M. Popkin et al., the authors report that obesity was statistically significantly associated with Covid 19[32]. In regard to the gender, a majority (54.5%) of patients with covid19 were males, even though the difference was no statistically significant. In the current study, obesity was predominant in patients of ≤45 years of age (92.2%). There was a statistically insignificant association between obesity and age. With respect to education and residence, the prevalence of obesity was higher in patients with covid19 who have a high degree of education (92.7%) when compared to those who have lower education and the difference is statistically insignificant ($p=0.395$). And the prevalence of obesity was 95.5% in urban areas. This study showed that the prevalence of obesity was found to be higher (80.9%) in worked patients with covid19, however, the difference is statistically not significant. Also, this study demonstrated a higher prevalence of obesity in married patients than in unmarried. The married-to unmarried ratio was approximately 3:1. The higher prevalence of obesity in the study population has been attributed to different lifestyle which including change in dietary habit, decrease in physical activity during a covid pandemic

Strength and limitations

This study has the strength that it was representative of all governorates of Iraq, including both urban well as rural areas. This study has several limitations. First, it was studied only those individuals who responded to the online questionnaire. Although this could have introduced selection bias. Also, this study is limited by the self-report of covid19 infection and related factors.

Conclusions

The present study has profiled out different lifestyle factors and nutritional status that possibly considerable for covid19 infection prevalence. Of note is the high prevalence of covid19 infection observed. Besides, it is noteworthy that gender is an important factor as there are accountable related to the prevalence of covid 19 infections which was clearly reflected that males were more

affected than females. As such, the results highlighting that smoking negatively impacts covid19 infection in the gender and occupation. This conclusion displays a greater understanding of covid19 infection in smoking-related in males. As unexpected, the prevalence rate of obesity among covid19 patients on correlating with socio-demographic status did not yield a significant difference. It is important to note that a strong correlation between the prevalence of active physical activity among covid19 patients and gender, marital status, residence, education, and occupation. Therefore, these factors should be considered when screening is done among covid19 patients.

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Table 1.

Weight Status Category	**Adults (BMI(kg/m²)**	**Children Percentile Range (BMI(kg/m²)**
Underweight	<18.5 kg/m2	<5th percentile (<18.5 kg/m2)
Normal weight	18.5 -24.9 kg/m2	5th - <85th percentile (18.5 -24.9 kg/m2)
Overweight	25.0 -29.9 kg/m2	85th - < 95th percentile (25.0 -29.9 kg/m2)
Obesity	≥30 kg/m2	≥95th percentile (≥30 kg/m2)

Table 2. Socio-demographic profile of study respondents.

Socio-demographic profile		**Respondents**		**Total (F/%)**	**p- value**
		Covid 19 patients (F/%)	**Non- covid 19 patients (F/%)**		
Genders	Male	85/52.8%	110/40.4%	195/45.0%	0.008
	Female	76/47.2%	162/59.6%	238/55.0%	
Age Mean±SD (3.33±8.9920)	<45	145/90.1%	239/87.9%	384/88.7%	0.297
	≥45	16/9.9%	33/12.1%	49/11.3%	
Residence	Urban	148/91.9%	248/91.2%	396/91.5%	0.469
	Rural	13/8.1%	24/8.8%	37/8.5%	
Education	Less than institute/ collage	10/6.21	5/1.84	15/3.46	0.5826
	Equal or more than institute/collage	151/93.79	267/98.16	418/96.54	
Marital	Single	46/28.6%	112/41.2%	158/36.5%	0.0040*

	Married	113/70.2%	155/57.0%	268/61.9%	
	Others (widow, divorce)	2/1.2%	5/1.8%	7/1.6%	
Occupation	Unemployed	23/14.3%	60/22.1%	83/19.2%	0.0002**
	Retired	2/1.2%	1/0.4%	3/0.7%	
	Government employed	102/63.4%	163/59.9%	265/61.2%	
	Private	9/5.6%	17/6.2%	26/6.0%	
	Free business	14/8.7%	22/8.1%	36/8.3%	
	Housewife	11/6.8%	9/3.3%	20/4.6%	

* p-value calculator after inducing single and others into one. ** p-value calculator after inducing retired, government employ, private, and Free business into one and unemployed and housewife into one.

Table 3. Lifestyle factors of study respondents.

Lifestyle factors		**Respondents**		**Total (F/%)**	**p-value**
		Covid 19 patients (F/%)	**Non- Covid 19 patients (F/%)**		
Smoking	Smoker	23/14.3%	32/11.8%	55/12.7%	0.425
	Non-smoker	131/81.4%	233/85.7%	364/84.1%	
	Quit smoker (ex-smokers)	7/4.3%	7/2.6%	14/3.2%	
Physical activity	Sedentary	36/22.4%	70/25.7%	106/24.5%	0.251
	Active	125/77.6%	202/74.3%	327/75.5%	
Nutritional status	Underweight	3/1.9%	3/1.1%	6/1.4%	0.0493*

(BMI) **Mean±SD (26.59±5.450)**					
	Normal weight	48/29.8%	106/39.0%	154/35.6%	
	Overweight	75/46.6%	112/41.2%	187/43.2%	
	Obese	35/21.7%	51/18.8%	86/19.9%	
Exercise	Strenuous	3/1.9%	6/2.2%	9/2.1%	0.147
	Moderate	22/13.7%	26/9.6%	48/11.1%	
	Mild	54/33.5%	118/43.4%	172/39.7%	
	Not do exercise	82/50.9%	122/44.9%	204/47.1%	

*p-value calculator after inducing class overweight and obese into one and underweight and normal weight into one.

Table 4. Smoking related variables for study respondents.

Smoking characteristics		**Respondents**		**Total (F/%)**	**p-value ***	**Mean±SD**
		Covid 19 patients (F/%)	**Non Covid 19 patients (F/%)**			
Number cigarette per day	Light smokers	7/30.4%	4/12.5%	11/20.0 %	0.097	22.98±13.766
	Moderate smokers	10/43.5 %	14/43.8 %	24/43.6 %		
	Heavy smokers	6/26.1%	14/43.8 %	20/36.4 %		
Age at beginning of cigarette smoking in years	≤ 15	3/13.0%	6/18.8%	9/16.4%	0.428	19.42±3.966
	16 - 20	14/60.9 %	17/53.1 %	31/56.4 %		
	> 20	6/26.1%	9/28.1%	15/27.3 %		
Duration of smoking in years	1 - 19	18/78.3 %	27/84.4 %	45/81.8 %	0.406	13.05±7.025
	20 - 39	5/21.7%	5/15.6%	10/18.2 %		
	≥ 40	0/00.00	0/00.00	0/00.00		
Pack- year	Light smokers	18/78.3	20/62.5	38/69.1	0.170	14.6655±11.8

smoking index		%	%	%		1885
	Moderate smokers	4/17.4%	9/28.1%	13/23.6 %		
	Heavy smokers	1/4.3%	3/9.4%	4/7.3%		

* Fisher exact test

Table 5. Food habits of study respondents.

Dietary habit	Respondents		Total (F/%)	p-value
	Covid 19 patients (F/%)	Non- Covid 19 patients (F/%)		
Milk	44/27.3%	90/33.1%	134/30.9%	0.126
Soft drink	34/21.1%	72/26.5%	106/24.5%	0.128
Fruit	128/79.5%	203/74.6%	331/76.4%	0.150
Vegetable	121/75.2%	204/75.0%	325/75.1%	0.533
Nuts	65/40.4%	104/38.2%	169/39.0%	0.367
Animal fat	28/17.4%	30/11.0%	58/13.4%	0.043
Vegetable fat	82/50.9%	163/59.9%	245/56.6%	0.042
Carbohydrate	97/60.2%	146/53.7%	243/56.1%	0.109
Eating contains fats	70/43.5%	114/41.9%	184/42.5%	0.413
Meet	109/67.7%	165/60.7%	274/63.3%	0.086
Fish	99/61.5%	173/63.6%	272/62.8%	0.367
Chicken	132/82.0%	230/84.6%	362/83.6%	0.285
Sweet	50/31.1%	79/29.0%	129/29.8%	0.368
Fast food	49/30.4%	82/30.1%	131/30.3%	0.517
Tea	128/79.5%	225/82.7%	353/81.5%	0.239
Coffee	42/26.1%	72/26.5%	114/ 26.3%	0.512

Table 6. Smoking, physical activity, and nutritional status (BMI)) associated socio demographic variable.

Socio-demographic profile		Smoking		Total	p-value
		Smokers (F/%)	Smokers (F/%)		
Gender	Male	23/100.0 %	62/44.9%	85/52.8%	0.000
	Female	0/0.0%	76/55.1%	76/47.2%	
Age	<45	21/91.3	124/89.9%	145/90.1%	0.592

		%			
	≥45	2/8.7%	14/10.1%	16/9.9%	
Marital status	Single/ separated (widow, divorce)	7/30.4%	41/29.7%	48/29.8%	0.560
	Married	16/69.6 %	97/70.3%	113/70.2%	
Education level	Equal or more than institute / collage	21/91.3 %	127/92.0%	148/91.9%	0.582*
	less than institute / collage	2/8.7%	11/8.0%	13/8.1%	
Residence	Rural	2/8.7%	7/5.1%	9/5.6%	0.377*
	Urban	21/91.3 %	131/94.9%	152/94.4%	
Occupation	Non- Worked	1/4.3%	35/25.4%	36/22.4%	0.016
	Worked	22/95.7 %	103/74.6%	125/77.6%	
		Physical activity			
		Sedentary (F/%)	**Sedentary (F/%)**		
Gender	Male	8/22.2%	77/61.6%	85/52.8%	0.000
	Female	28/77.8 %	48/38.4%	76/47.2%	
Age	<45	32/88.9 %	113/90.4%	145/90.1%	0.500
	≥45	4/11.1%	12/9.6%	16/9.9%	
Marital status	Single/ separated (widow, divorce)	26/72.2 %	22/17.6%	48/29.8%	0.000
	Married	10/27.8 %	103/82.4%	113/70.2%	
Education level	Equal or more than institute / collage	33/91.7 %	115/92.0%	148/91.9%	0.5826*
	less than institute / collage	3/8.3%	10/8.0%	13/8.1%	

Residence	Rural	6/16.7%	3/2.4%	9/5.6%	0.0043*
	Urban	30/83.3 %	122/97.6%	152/94.4%	
Occupation	Non- Worked	36/100.0 %	0/0.0%	36/22.4%	0.000
	Worked	0/0.0%	125/100.0 %	125/77.6%	
		Nutritional status (BMI)			
		Non obese (F/%)	**Non obese (F/%)**		
Gender	Male	25/49.0 %	60/54.5%	85/52.8%	0.312
	Female	26/51.0 %	50/45.5%	76/47.2%	
Age	<45	47/92.2 %	98/89.1%	145/90.1%	.384
	≥45	4/7.8%	12/10.9%	16/9.9%	
Marital status	Single/ separated (widow, divorce)	22/43.1 %	26/23.6%	48/29.8%	0.011
	Married	29/56.9 %	84/76.4%	113/70.2%	
Education level	Equal or more than institute / collage	46/90.2 %	102/92.7%	148/91.9%	.395
	less than institute / collage	5/9.8%	8/7.3%	13/8.1%	
Residence	Rural	4/7.8%	5/4.5%	9/5.6%	0.3059*
	Urban	47/92.2 %	105/95.5%	152/94.4%	
Occupation	Non- Worked	15/29.4 %	21/19.1%	36/22.4%	0.105
	Worked	36/70.6 %	89/80.9%	125/77.6%	

* Fisher exact test