

Quality of life of food handlers in industrial restaurants  
Qualidade de vida de manipuladores de alimentos em restaurantes industriais  
Calidad de vida de manipuladores de alimentos en restaurantes industriales

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This study aims to evaluate the quality of life of food handlers in industrial restaurants of Uberaba-MG. It is an observational, quantitative and cross-sectional study, conducted in 2012. Social, demographic and occupational characteristics of 25 food handlers were found, as well as their quality of life. To evaluate their quality of life, the Medical Outcomes Study 36 was used, since it discusses aspects related to health. The most compromised domains were pain and vitality, while the functional capabilities had the highest score. The younger adults presented more vitality and mental health than their older counterparts, which had worse functional capabilities as well. The cooks had better results in the physical aspect. Men with lower educational levels had a generally superior health state and those with higher incomes had better results in the social and emotional aspects. The quality of life of handlers were considered satisfactory and varies according to age group, educational level and income.

**Descriptors:** Workers; Restaurants; Quality of life.

Este estudo tem como objetivo avaliar a qualidade de vida de manipuladores de alimentos em restaurantes industriais de Uberaba-MG. Trata-se de um estudo com abordagem observacional, quantitativo e transversal que foi realizado no ano de 2012. Foram determinadas características sociais, demográficas e ocupacionais, e qualidade de vida de 25 manipuladores. Para a avaliação da qualidade de vida, utilizou-se o *Medical Outcomes Study 36* que aborda aspectos relacionados à saúde. Verificou-se que os domínios mais comprometidos foram dor e vitalidade, enquanto a capacidade funcional obteve a melhor pontuação. Os adultos mais jovens apresentaram melhor vitalidade e saúde mental quando comparados aos mais velhos, que obtiveram pior capacidade funcional. Os cozinheiros tiveram melhor resultado no aspecto físico. Os homens com menor escolaridade alcançaram melhor estado geral de saúde e os com maior renda melhor aspecto social e emocional. A qualidade de vida dos manipuladores foi considerada satisfatória e apresenta variações relacionadas à faixa etária, escolaridade e renda.

**Descritores:** Trabalhadores; Restaurantes; Qualidade de vida.

Este estudio tiene como objetivo evaluar la calidad de vida de manipuladores de alimentos en restaurantes industriales de Uberaba-MG. Se trata de un estudio con abordaje observacional, cuantitativo, y transversal que fue realizado en el año de 2012. Fueron determinadas características sociales, demográficas y ocupacionales, y calidad de vida de 25 manipuladores. Para la evaluación de la calidad de vida, se utilizó *Medical Outcomes Study 36* que aborda aspectos relacionados a la salud. Se verificaron que los dominios más comprometidos fueron dolor y vitalidad, mientras que la capacidad funcional obtuvo la mejor puntuación. Los adultos más jóvenes presentaron mejor vitalidad y salud mental cuando fueron comparados a los más veteranos, que obtuvieron peor capacidad funcional. Los cocineros tuvieron mejor aspecto físico. Los hombres con menor escolaridad alcanzaron mejor estado general de salud y los que tenían mayor renda, mejor aspecto social y emocional. La calidad de vida de los manipuladores fue considerada satisfactoria y presenta variaciones relacionadas al grupo etario, a la escolaridad y a los ingresos.

**Descritores:** Trabajadores; Restaurantes; Calidad de vida.

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## INTRODUCTION

The establishments that work with production and distribution of food for collectivities were named Units of Food and Nutrition (UAN)<sup>1</sup>. The Federal Council of Nutritionists state that the UAN are managerial units that develop technical and administrative techniques necessary for food production and meal distribution for healthy or diseased collectivities<sup>2</sup>.

The main objectives of the UAN are to offer balanced food from a nutritional perspective, adequate to the eating characteristics and habits of the users, safe regarding hygiene and food manipulation, and adjusted to the financial limits of the institutions<sup>3</sup>. To that end, there are people in these facilities who work directly or indirectly with the preparation of food, who are called food handlers<sup>4</sup>.

The food handlers usually carry out activities characterized by repetitive movement, excessive weight lifting and permanence in orthostatic postures for long periods<sup>5</sup>. Additionally, the workers frequently present symptoms typical of occupational diseases, involving especially pain in the legs and column and stress<sup>6</sup>. Occupational activities developed may lead to work overload and dissatisfaction, also leading to accidents, absence and work leaves. The conduction of the tasks is also not safe, due to the lack of training and use of personal protection equipment<sup>7</sup>.

A study<sup>8</sup> in the food industry has shown the lack of autonomy and recognition of the worker by the company, lack of motivation and commitment, and low salaries<sup>8</sup>. Another research pointed out deficient training sessions, intense physical efforts, tiring activities, overtime and high levels of work accidents<sup>9</sup>.

Factors such as the position occupied, relations between production and salary, work hours, shifts, pauses, rest, eating habits, benefits, in addition to personal characteristics of the worker, including abilities, capabilities and limitations, interfere in the quality of life of the workers as they relate to each other, and can become more

serious during the process of producing the meals<sup>10,11</sup>.

Therefore, the constant influence of labor conditions and satisfaction at work in the life conditions of the work can be verified<sup>12,13</sup>. It can also be noted that food handlers live under working conditions and processes that can contribute to physical and mental diseases and to the diminution of levels of quality of life.

The World Health Organization defined quality of life, generally, as the "perception of individuals of their position in life, in the context of the culture and system of values in which they live and regarding their objectives, expectations, standards and interests"<sup>14</sup>.

Considering this setting, this study aims to evaluate the quality of life of food handlers in industrial restaurants of Uberaba-MG.

## METHOD

This is an observational, quantitative and cross-sectional study, conducted in 2012 in five industrial restaurants from the Industrial District in the city of Uberaba-MG, which were chosen by convenience. All adult food handlers of the evaluated units participated in the study.

A structured self-applicable questionnaire was applied, with multiple choice questions related to the sociodemographic and occupational characteristics of the handlers, addressing sex, age, educational level, marital status, occupation, type of activity developed and income.

The evaluation of the quality of life of the handlers was carried out through the *Medical Outcomes Study* 36 questionnaire (SF-36) in its Portuguese version, translated and validated in Brazil<sup>15</sup>. The SF-36 is a generic questionnaire that evaluates the quality of life. Despite its being developed for people with health problems, it was validated and is trustworthy for the evaluation of healthy individuals.

The SF-36 takes into account the perception of individuals regarding their own health state and includes aspects representative of health through 36 items,

divided in eight sections: physical functioning, physical role functioning, bodily pain, general health perceptions, vitality, social role functioning, emotional role functioning and mental health. Data was analyzed after the answers were scored from 0 to 100 for each section. The higher the score of the interviewee, the higher the quality of life<sup>16</sup>.

Socioeconomic and occupational variables offered two possible options, according to the following description: gender (female or male), age (up to 33 years of age or > 34 years of age), marital status (with or without a partner), educational level (elementary and high school or higher education), occupation (cooks and cooking auxiliaries or others) and income (up to 2 minimum wages or more than 2 minimum wages). The variables related to the quality of life were expressed according to mean and standard deviation.

The SF-36 sections were compared according to sex, age, educational level, marital status, occupation and income. The variable quality of life did not have normal distribution, and thus, the *Mann-Whitney* test was used. The significance level of 5% was considered in the statistical tests. The statistical analysis were conducted using the Statistical Package for the Social Sciences Software (SPSS) by IBM®, version 20.0.

The research was approved by the Research Ethics Committee under protocol 2239.

## RESULTS

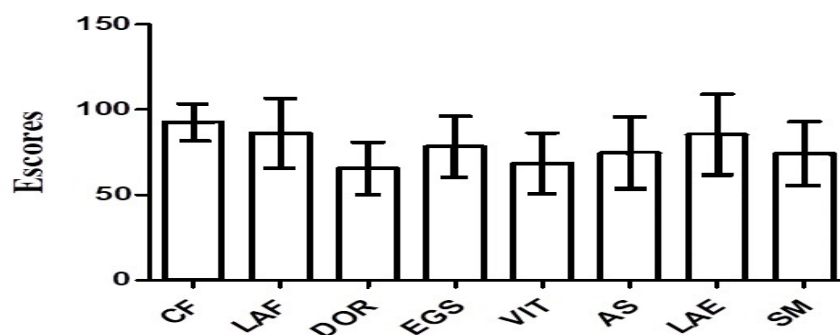
The sample of the study was made up of 25 workers, 90.0% females and 10.0% males. Most of them were 35 years old or less (60.0%), with a minimum of 30 years and a maximum of 70.

Regarding marital status, 60.0% lived with a partner. 50.0% of participants had complete or incomplete high school. Regarding the function they had in the UAN, most workers were cooks (45.0%). Regarding their monthly income, 75.0% of participants received up to two minimum wages.

Considering the quality of life, food handlers presented mean scores of 92.4 (11.00=SD) for Physical Functioning, which was the section with the highest score. The worst score of the workers among the quality of life domains was Bodily Pain, with a mean of 65.60 (15.28=SD).

Regarding Vitality, the mean score was 68.60 (17.65=SD), which made it the second worst section for these workers. The Physical Role Functioning had a mean of 86.00 (20.51=SD), while the Emotional Role Functioning scored a mean of 85.32 (23.75=SD).

The mean score for General Health Perceptions was 78.35 (17.80=SD), for Social Role Functioning it was 74.50 (21.19=SD), while it was 74.24 (18.73=SD) for the Mental Health section (Image 1).



**Image 1.** Mean values and standard deviation from the SF-36 questionnaire sections for the evaluation of the quality of life of food handlers (n=25), from Industrial Food and Nutrition Units in Uberaba/MG, 2012.

**Acronyms:** CF: Physical Functioning, LAF: Limitations do to Physical Role Functioning, EGS: General Health Perceptions, AS: Social Role Functioning, LAE: Limitations due to Emotional Role Functioning, SM: Mental Health.

Table 1 presents the complete inferential statistics regarding the association between quality of life sections and sociodemographic and occupational characteristics of the participants. The eight sections of the quality of life: physical functioning, limitations due to physical role functioning, pain, general health perceptions, vitality, social role functioning, limitations due to emotional role functioning and mental health were analyzed according to gender, age, marital state, educational level, income and worker's occupation.

The section physical functioning presented significantly statistical differences when compared to the variable age ( $p=0.014$ ), indicating that older workers had worse physical functioning. The bodily pain section score did not show any significant change when compared to the independent variables, indicating that the sensation of pain was not associated to personal characteristics of the food handlers (Table 1).

The physical role functioning presented a statistically significant difference when weighed against the variable occupation ( $p=0.000$ ). The score of the cooks was better than the score of general service auxiliaries and cleaners in this section. The general health perception was significantly different considering the variables sex ( $p=0.020$ ) and educational level ( $p=0.049$ ) (Table 1). This result indicates that male workers with lower educational levels had better scores in the section General Health Perceptions.

The section vitality presented significantly statistical differences when compared to the variable age ( $p=0.040$ ), indicating that younger workers had better vitality. The social and emotional role functioning sections were statistically different regarding the variable income ( $p=0.032$  e  $p=0.005$ , respectively), that is, participants with higher incomes had a better score than those with lower ones. Younger workers had better scores in the mental health section ( $p=0.010$ ), when compared to older ones (Table 1).

**Table 1.** Comparison of the quality of life sections as measured by the SF36 according to sociodemographic and occupational characteristics of food handlers (n=25), from Industrial Food and Nutrition Units, Uberaba/MG, 2012.

Sociodemographic characteristics	Quality of life sections of the SF-36							
	Physical Functioning	Physical Role Functioning	Bodily Pain	General Health Perceptions	Vitality	Social Role Functioning	Emotional Role Functioning	Mental Health
Gender								
Female	91.82 ± 11.60	86.36 ± 20.01	65.02 ± 16.13	<b>75.74 ± 17.34<sup>a</sup></b>	67.27 ± 18.04	73.30 ± 20.52	86.36 ± 22.23	71.64 ± 18.39
Male	96.66 ± 2.89	83.33 ± 28.87	69.00 ± 7.00	<b>97.50 ± 4.33</b>	78.33 ± 12.58	83.33 ± 28.87	77.77 ± 38.54	93.33 ± 6.11
Age								
Up to 33 years of age	<b>95.33 ± 9.54<sup>a</sup></b>	88.33 ± 20.85	67.23 ± 17.55	79.00 ± 18.19	<b>71.33 ± 20.66<sup>a</sup></b>	74.17 ± 22.40	88.87 ± 20.60	<b>78.13 ± 21.70<sup>a</sup></b>
> than 34 years of age	<b>88.00 ± 12.06</b>	82.50 ± 20.58	62.90 ± 11.45	77.40 ± 18.13	<b>64.50 ± 11.65</b>	75.00 ± 20.41	79.98 ± 28.13	<b>68.40 ± 11.84</b>
Marital Status								
Has a partner	89.61 ± 11.63	86.54 ± 19.41	65.80 ± 18.98	79.07 ± 15.50	70.38 ± 20.05	75.00 ± 22.82	87.16 ± 21.70	76.31 ± 18.87
W/o partner	95.42 ± 9.88	85.42 ± 22.51	65.16 ± 10.79	77.57 ± 20.69	66.67 ± 15.27	73.96 ± 20.27	83.32 ± 26.61	72.00 ± 19.15
Educational level								
Elementary	91.11 ± 11.40	88.89 ± 18.16	63.78 ± 16.80	<b>87.83 ± 14.35<sup>a</sup></b>	76.67 ± 14.14	75.00 ± 19.76	85.17 ± 24.24	80.89 ± 15.07
High School or Higher Education	93.12 ± 11.09	84.37 ± 22.13	66.47 ± 14.84	<b>73.02 ± 17.69</b>	64.06 ± 18.19	74.22 ± 22.58	85.40 ± 24.27	70.50 ± 19.97
Occupation								
Cook	92.00 ± 12.06	<b>95.00 ± 10.54<sup>b</sup></b>	67.90 ± 18.10	80.70 ± 12.69	68.50 ± 12.03	80.00 ± 22.21	83.32 ± 28.35	76.00 ± 16.86
Auxiliaries and others	92.66 ± 10.67	<b>80.00 ± 23.53</b>	63.90 ± 13.53	76.79 ± 20.81	68.67 ± 21.00	70.83 ± 20.41	86.65 ± 21.10	73.07 ± 20.37
Income								
Up to 2 minimum wages	93.19 ± 10.53	85.23 ± 21.35	65.07 ± 15.90	78.29 ± 18.61	69.09 ± 18.36	<b>71.60 ± 20.84<sup>a</sup></b>	<b>83.31 ± 24.69<sup>b</sup></b>	83.32 ± 28.35
More than 2 minimum wages	86.66 ± 15.23	91.67 ± 14.43	68.67 ± 14.84	78.83 ± 12.85	65.00 ± 13.23	<b>95.83 ± 7.22</b>	<b>100.00 ± 0.00</b>	86.65 ± 21.10

Where: <sup>a</sup> p < 0.05 and <sup>b</sup> p < 0.01

## DISCUSSION

Most food handlers were women. Similar results were found in the northeast of Ethiopia, in the city of Dangila, where 406 workers from 105 food producing establishments were evaluated, and 62.8% were women<sup>17</sup>.

Another work<sup>7</sup> also found that most workers in the evaluated UAN were female (87.5%). On the other hand, a study conducted in the University Restaurant of the Rural Universidade Federal do Rio de Janeiro, with 42 employees, found that most workers were male (75.0%)<sup>18</sup>.

The work in UANs normally demands a lot of physical effort from the workers, who stand for long periods of times in repetitive activities, especially in places where a high number of meals is produced<sup>19</sup>. The fact that most workers found in this service were women could be explained by the fact that the units being evaluated produced a small amount of meals, which means that less workers and less physical effort were required. The presence of women in the production of foods can also be related to the reproduction of gender roles, to the feminization of the work force and to the low salaries.

The workers in the study were mostly young adults, a result also found in another work<sup>20</sup> that evaluated 148 food handlers in Rio de Janeiro/RJ, finding that 79.0% of the participants were from 20 to 39 years of age. Another study conducted with night workers at bars, restaurants and hotels from Maceió also found a high ratio of participants from 18 to 35 years of age (80.5%)<sup>21</sup>.

Younger collaborators tend to be most of whom directly handles the food, since they have few cases of non-transmissible chronic diseases and can perform, within the UAN, activities that would present difficulties for an elderly worker<sup>22</sup>.

In this study, the handlers presented better educational levels when compared to the workers from restaurants investigated in other studies<sup>23,24</sup>. The educational levels of these workers results in increased motivation to work in this sector and is considered an

important indicator of the quality of the work force<sup>23</sup>.

Higher educational levels can also be a consequence of the fact that the contemporary job market is characterized by constant social, political, economical and organizational changes that made work more cognitive, complex, uncertain, interconnected and invisible, which demands that individuals increasingly seek to care for the market's demands through processes of qualification and professional education<sup>24</sup>.

In accordance to this results, another investigation<sup>25</sup> found that, in a group of 102 food handlers, 23.5% worked in distribution, 32.4% were cooks, 12.0% were cashiers and 13.7% were dishwashers. As opposed to those results, among the 17 workers of a hospital UAN in Muriaé (MG), 17.6% were cooks on duty, 29.1% were dishwashers on duty and 52.9% were day shift kitchen auxiliaries<sup>6</sup>.

Regarding the workers' income, the cooks earned the highest salaries, on average two minimum wages, while the kitchen auxiliaries and general service workers had the lowest salaries. In a research with 103 food handlers of Popular Restaurants in the city of Rio de Janeiro-RJ, 60.2% of the workers earned one minimum wage<sup>26</sup>. However, in six services of popular and commercial meals in the state of Rio de Janeiro, including large, medium and small sized ones, the mean family income of most cooks were (83.3%) of five minimum wages or more<sup>27</sup>.

Physical functioning refers to an individual's independence to execute daily life activities, such as movements, self-care, occupational and recreational activities<sup>28</sup>. This section is related to a clinical evaluation to work, especially among elders<sup>29</sup>. Physical functioning reveals itself as a new health paradigm regarding the demographic changes the Brazilian population has been going through, that is, with the increase in the number of elderly people<sup>30</sup>.

The dimensions bodily pain and vitality evaluate, especially, the performance in daily work activities, the weariness and the lack of energy, symptoms that are frequent among exhausted workers<sup>31</sup>. In this study, these sections had the lowest scores

regarding quality of life, for both genders. Another study conducted with women with low back pain suggests that the high prevalence of this disease could be related to domestic tasks and to the excessive burden the repetition of this work puts on the lumbar column<sup>32</sup>.

In another study, the increase in the age of the participants was associated to worse levels of quality of life regarding health and wellbeing, which would be the result of the unbalance between the many dimensions of the physical functioning<sup>33</sup>. Therefore, the advances in age could lead the quality of life to get worse<sup>34</sup>. These results corroborate this study, that is, an increased age led to lower "physical functioning" scores, while young adults had higher scores for vitality and mental health. However, it should be highlighted that the increase in life expectancy and the advance in studies to promote quality of life, the number of more active and independent elders will increase<sup>35</sup>.

Workers satisfied with their income have higher levels of satisfaction with their work and with life in general<sup>25</sup>. In this study, the handlers with higher incomes had better scores for social and emotional levels when compared to those with lower incomes. These findings are in accordance to a qualitative study<sup>36</sup> that found that, in most cases, food handlers understand their salaries as important for their survival, while also seeing their work as a place of social support due to their relations with their colleagues.

Regarding the physical role functioning, the cooks presented significantly higher values. The work of the cooks is very physically demanding, which can explain these levels<sup>37</sup>.

Male workers and those with lower educational levels had the better scores in the general health perception levels. The higher the educational level, the higher the dissatisfaction at work, since, in the population, higher educational levels are associated to the intention of occupying better positions and earning bigger salaries, while these things also lead to more demands and more demanding work<sup>25</sup>.

## CONCLUSION

Bodily pain and vitality received the worst evaluation among the quality of life for the food handlers, while physical functioning had the best score. Young adults had better physical functioning, vitality and mental health.

Male workers and those with lower educational levels had better scores in general health perception levels. Food handlers who were cooks had the best scores in the physical role functioning. Considering social and emotional role functioning, handlers with the highest income had higher scores than those with lower incomes.

A relation was found between the sociodemographic variables and the quality of life of food handlers. Therefore, these results are expected to offer support for new studies to be developed involving this professional class, studies that can guide actions to promote the quality of life of food handlers, especially carried out by the organizations that employ these workers.

The study presented limitations regarding the definition of the population and of the sample. The UANs that participated in the study were chosen by convenience, due to the difficulties in accessing all industrial restaurants in the region and to get an authorization to collect data from those responsible for these facilities.

In addition, the although the sample was made up of all food handlers of the places evaluated, it can be considered to be small, which means that its results can only be used to consider the conditions of the workers who participated. This is, nonetheless, important as it is representative of the local reality.

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#### CONTRIBUTIONS

**Gabriela de Souza Nalle** and **Patrícia Maria Vieira** took part in the conception and design of the research project, as well as in data collection and analysis. **Fabiana Caetano Martins Silva e Dutra** worked in data analysis and participated in the critical revision. **Alline Alves de Sousa, Edna Aparecida Carvalho Pacheco** and **Ailton de Souza Aragão** took part in the critical revision.

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