

Analysis of quality of life, sociodemographic variables and self-reported diseases among working older adults

Avaliação da qualidade de vida, variáveis sociodemográficas e morbidades referidas de idosos no mercado de trabalho

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ABSTRACT | Background: Aging should not be seen as a hindrance to the continuity of work, while including older adults in the labor market contributes to national economies. **Objective:** To analyze the association between subjective quality of life (QoL) assessment, sociodemographic variables and self-reported morbidity among working older adults. **Methods:** The present study was conducted at farmers' markets in Presidente Prudente, Sao Paulo, Brazil. Participants were 24 older adults aged 68.69±6.5 years old. We administered the World Health Organization Quality of Life (WHOQOL-bref) questionnaire, a sociodemographic questionnaire including working conditions and a questionnaire to survey the participants' medical history. The normality assumption was assessed with the Shapiro-Wilk test. Pearson's and Spearman's tests were used for correlation analysis. **Results:** The sample exhibited average QoL. Most participants were female, with 1 to 8 years of formal schooling, married, with family income 1 to 3 times the equivalent of the minimum wage and sought healthcare within the national health system. All the participants lived in their own house. Hypertension was the most prevalent disease. **Conclusion:** QoL and morbidity exhibited moderate negative correlation. There was negative correlation between the QoL physical and psychological domains and variables years in the job, daily working hours, meal/rest breaks and number of meals/day. There was moderate negative correlation between the QoL environment domain and meal/rest breaks.

Keywords | aging; job market; health of the elderly; quality of life.

RESUMO | Introdução: A senilidade não deve ser tratada como um obstáculo à continuação das atividades profissionais, além de que a inserção dessa população no mercado de trabalho contribui para a economia do país. **Objetivo:** Este estudo analisou a associação entre avaliação subjetiva da qualidade de vida, variáveis sociodemográficas e morbidade referida entre idosos no mercado de trabalho. **Métodos:** O estudo foi realizado em feiras livres de Presidente Prudente, São Paulo. Participaram 24 idosos com idade de 68,69±6,5 anos. Utilizou-se o questionário World Health Organization Quality of life (WHOQOL-bref) para qualidade de vida, questionário sociodemográfico contendo questões sobre condições de trabalho e questionário para coletar histórico de doença. A normalidade dos valores foi avaliada pelo teste de Shapiro Wilk, e para análises de correlação foram utilizados os testes de Pearson e Spearman. **Resultados:** A amostra apresentou qualidade de vida regular. A maioria era do sexo feminino, com 1 a 8 anos de estudo, casada, com renda familiar de 1 a 3 salários mínimos e utilizava o Sistema Único de Saúde. Todos tinham casa própria. Houve predomínio da HAS. **Conclusão:** As associações entre o questionário de qualidade de vida e a morbidade referida obtiveram correlação negativa moderada. Observou-se também que as associações entre qualidade de vida e carga de trabalho apresentaram correlações negativas tanto no domínio psicológico quanto no físico entre o tempo de trabalho (anos), as horas diárias, as refeições/intervalo e a alimentação/dia. Apresentou-se, ainda, correlação negativa moderada entre o domínio de meio ambiente e o tempo que os entrevistados tinham para realizar suas refeições/intervalos.

Palavras-chave | envelhecimento; mercado de trabalho; saúde do idoso; qualidade de vida.

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INTRODUCTION

Aging is considered to be a multidimensional process that involves interactions between biological, psycho-emotional and sociocultural factors. Excluding the biological, which have universal nature, these aspects have individual and social connotation and depend on the views on and opportunities afforded to older adults in different societies¹.

According to the 2009 National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílios–PNAD) there were about 21 million people aged 60 or above in Brazil². The main factors associated with this number are acceleration of the demographic transition, characterized by reduced fertility rate combined with a dramatic decrease of child mortality, and longer life expectancy³.

Active aging is the process of optimizing opportunities for health, participation in social, economic, cultural, spiritual and civil matters to enhance the quality of life (QoL) of older adults, and consequently also their healthy life expectancy⁴.

Aging should not be seen as a hindrance to work. Moreover, including older adults in the labor market enhances the development of national economies. Work contributes to safeguard the autonomy of productive people, their independence and dignity, thus it is a genuine fundamental social right.

As the number of older adults is increasing within the ongoing demographic transition, keeping them within the labor market is relevant. Yet, there is scarce information about the actual health conditions of this population, which makes an analysis of their QoL, sociodemographic aspects and morbidity necessary.

Several studies indicate that the state of health of individuals who work is better compared to the overall population and ill and disabled people, who are usually excluded from the labor market. Unemployment has been associated with poorer state of health and higher mortality⁵.

Given the aforementioned considerations, the aim of the present study was to test associations between subjective QoL assessment, sociodemographic variables and self-reported diseases among working older adults.

METHODS

The present study was approved by the institutional research ethics committee (CAAE 67411617.0.0000.551)

in compliance with the National Health Council Resolution no. 466/2012. All the participants received information on the study aims and signed an informed consent form.

The study was conducted at farmers' markets in a town in the interior of the state of Sao Paulo, Brazil. Participants were selected by convenience sampling.

Information was collected through questionnaires administered during interviews performed by previously trained investigators. Eligible subjects were contacted during the working hours and agreed to participate by signing an informed consent form. Data collection was performed from June through August 2017.

Participants were individuals over 60 years of age, of either sex, with paid jobs at local farmers' markets, preserved cognitive skills and who agreed to participate. Age under 60 was the single exclusion criterion.

QoL was assessed by means of the World Health Organization Quality of Life (WHOQOL-bref) questionnaire, which comprises 26 questions, two of which focus on general QoL, while the other 24 are distributed across four domains: physical health, psychological, social relationships and environment. The global score ranges from 0 to 100, corresponding to poorest and best QoL, respectively⁶.

We administered a sociodemographic questionnaire adjusted to the sample characteristics to investigate marital status, educational level, age, health insurance, family income, housing and working conditions⁷.

In addition, we administered the Washington State Health Insurance Pool questionnaire (self-report morbidity) which is designed to establish the predominant diseases among the population of interest based on conditions diagnosed in the past 10 years and the family medical history. This questionnaire lists conditions such as hypertension, metabolic, endocrine, cardiovascular and musculoskeletal diseases⁸.

Finally, we had resource to a diagram developed by Corlett et al.⁹ to assess painful body sites. The figure is divided into several areas to facilitate the location of painful sites. Local discomfort is scored from 1 (no discomfort) to 5 (unbearable discomfort). We asked the participants whether they had felt any joint and/or muscle pain in the past four months⁹.

DATA ANALYSIS

The data were analyzed with software GraphPad Prism 15.0. The Shapiro-Wilk test was used to test the normality

assumption. Pearson's and Spearman's tests were used for correlation analysis according to the distribution of the data. The results were expressed as mean (standard deviation), median (25–75% interval) and percentages. The significance level was set to $p < 0.05$, and strength of correlation (r) was categorized as follows: 0,00–0,19, very weak, 0,20–0,30, weak; 0,40–0,69, moderate; 0,70–0,89, strong; and 0,90–1,00, very strong.

RESULTS

The sample comprised 24 participants, with average age 68.69–6.5 years old. Most participants were female (66.66%), with 1 to 8 years of formal schooling (70.83%), married (70.83), with monthly income 1 to 3 times the equivalent of the minimum wage (83.33%) and sought healthcare within the Unified Health System (Sistema Único de Saúde–SUS). All the participants lived in their own house. The sociodemographic characteristics of the sample are described in Table 1.

The results relative to QoL are depicted in Figure 1. The average scores were similar for all domains; according to the questionnaire developers, the average scores found allow concluding that the sample exhibited average QoL (69.11 out of a maximum of 100).

A large part of the participants had worked at farmers' markets for a long period of time (22 years, on average), which they attended twice weekly, mostly part-time, but with little time available for meals and using the toilet.

Most participants (83.33%) stated that their job at farmers' markets was the main source of family income, and a similar proportion reported this was their single job. Most of the participants reported they woke up between 4:00 and 4:30 on market days.

About 58.33% of the participants reported to spend most of the time at work standing, 8.33% sitting, and 33.33% both standing and sitting. Analysis of Corlett's diagram evidenced that 58.33% had felt joint and/or muscle pain in the past four months, mainly on the lower back, feet or upper limbs. Symptoms including pain, numbness, tingling and feeling of burning were reported by 20.83% of the sample. About 83.33% of the participants stated they were able to stop working to drink water or use the toilet; however, toilets were not available on the premises.

Table 1. Sample characterization, Presidente Prudente, Brazil, 2017 (n=24).

Variables	n (%)
Sex	
Female	16 (66.66)
Male	8 (33.33)
Age range (years)	
60 to 69	13 (54.16)
70 to 79	9 (37.50)
>80	2 (8.33)
Educational level (years of formal schooling)	
Illiterate	2 (8.33)
1 to 8	17 (70.83)
9 to 12	3 (12.50)
>12	2 (8.33)
Marital status	
Married	17 (70.83)
Single	1 (4.16)
Divorced	1 (4.16)
Widowed	5 (20.83)
Family income (times the equivalent of the minimum wage)	
<1	1 (4.16)
1 to 3	20 (83.33)
4 to 5	3 (12.50)
>5	-
Housing	
Owning	24 (100)
Renting	-
Health insurance	
SUS	19 (79.16)
Other	5 (20.83)

SUS: Unified Health System.

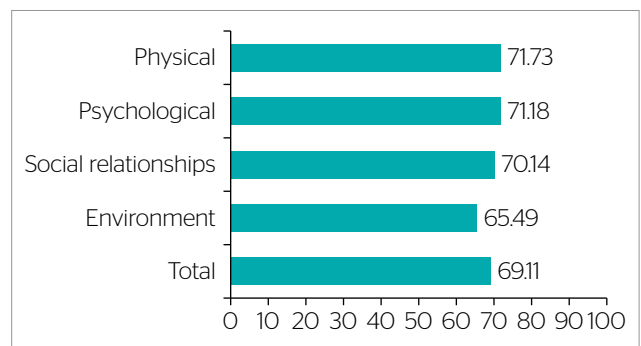


Figure 1. Scores on quality of life domains, Presidente Prudente, Brazil, 2017 (n=24).

About 25% of the participants reported to feel very tired at the end of the work day, 45.83% just tired, 25% slightly tired, and one participant (4.17%) not to feel tired at all.

Most participants (70.83%) reported to have hypertension, 54.17% musculoskeletal disorders, 29.17% metabolic or endocrine diseases, and none cardiovascular disease. These data are depicted in Figure 2.

Correlations between morbidity and QoL domains are described in Table 2 and correlations between QoL domains and workload in Table 3.

DISCUSSION

According to the scores on WHOQOL, the participants exhibited average QoL, with similar mean scores on all the domains.

The correlations found point to the relevance of biopsychosocial care (Table 3). As a function of the considerable aging of the population, care with the physical side of life and psychosocial functioning (personal beliefs, self-esteem, relationships and sociocultural activities) is directly related to the chances, conditions and accessibility society affords to individuals. The results of the present study indicate that although QoL was just average, the participants' jobs were their main source of income, as well as of positive feelings of being included into society—notwithstanding the fact

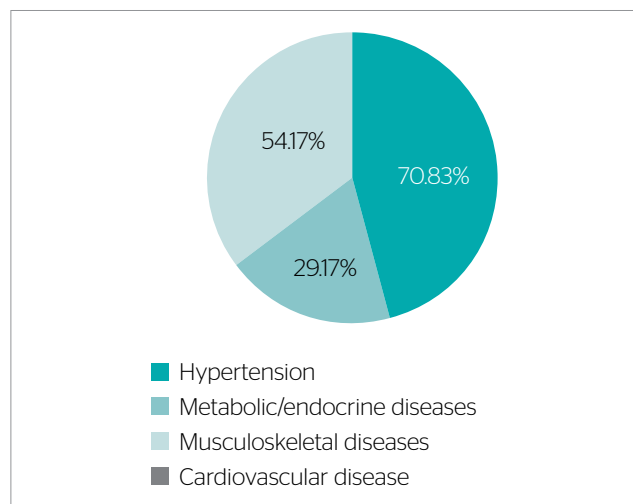


Figure 2. Data on reported morbidity, Presidente Prudente, 2017 (n=24).

that the larger the number of diseases, the lower the score on the psychological domain of QoL.

Analysis of Cortlett's diagram evidenced occurrence of joint and/or muscle pain in the past four months for a large part of the sample. The most frequently involved body sites were the lower back, feet and upper limbs. Standing over long periods of time was one of the main causes of pain in the present case, since more than 50% of the participants reported to spend most of their working time standing. Pain might lead to functional disabilities, which are considered serious occupational health problems¹⁰.

Cazane et al.¹¹ observe that farmers' markets are the oldest and most traditional mode of trade of agricultural and farm products.

Most participants in the present study were exposed to environmental factors, including sunlight, wind and rain, which might predispose to illness.

Correlation analysis showed that lower scores on the QoL psychological domain had direct relationship with larger number of diseases.

Most participants earned 1 to 3 times the equivalent of the minimum wage and had attended elementary school only. According to PNAD, monthly income has direct relationship with available job opportunities in association with the educational level of workers and sociocultural demands¹².

Most of the participants were female (66.66%). According to Veras et al.¹³, the longest life expectancy of women and higher mortality of men in Brazil contribute to reduce the relative proportion of elderly men. The role elderly women play in family finances might be analyzed based on their contribution to the monthly income, since

Table 2. Correlation between number of diseases and scores on quality of life domains, Presidente Prudente, Brazil, 2017 (n=24).

	Number of diseases	
	r	p-value
General quality of life	-0.3546	0.0891
Physical domain	-0.2000	0.3488
Psychological domain	-0.5396	0.0065*
Social relationships	-0.0671	0.7554
Environment	-0.1061	0.6218

r: correlation; *p<0.05.

the number of elderly women who are the household's primary provider is continuously increasing.

The Healthy Eating for Older Adults Guidelines recommend three full meals and several snacks along the day. The timing of meals is relevant to ensure an adequate nutrient and energy supply, greater comfort and appetite¹⁴. The participants in the present study worked 6 hours/day, on average, and only stopped once in the day to eat. There was no adequate place for meals on the premises, which they ate at the workstation. Nevertheless, this variable did not exhibit significant correlation with QoL (Table 3).

Most participants drank water and used the toilet only once during the 6-hour working time, and there were no toilets available on the premises. Nevertheless, this variable did not exhibit significant correlation with any other. According to the literature, older adults are at higher risk of drinking insufficient amounts of water due to physiological reasons which contribute to reduce thirst¹⁵.

As per the results relative to the Washington State Health Insurance Pool questionnaire, hypertension was the most frequently reported condition, which, however, was not related to the participants' occupation. In the study by Nunes et al.¹⁶, 86.8% of 805 interviewed older adults had hypertension. This condition might be related to dietary habits, lifestyle or genetic predisposition, and is the most prevalent risk factor for noncommunicable diseases^{17,18}, for which reason it is currently considered a serious public health problem¹⁹.

One of the limitations of the present study derives from the participants' inhibition to respond the QoL questionnaire, since the questions are of emotional nature. Another limitation is due to the participants' discomfort and fear of losing

customers, since the interviews were performed during the working hours.

In turn, the present study is relevant inasmuch as it focused on the actual health conditions of older adults included in the labor market, given that few studies in the literature analyzed the state of health of older workers.

CONCLUSION

Most participants were female, with 1 to 8 years of formal schooling, married, with family income 1 to 3 times the equivalent of the minimum wage and sought healthcare within SUS. All the participants lived in their own house.

The average score on WHOQOL was 69.11, which the questionnaire developers rate average. Impact was strongest on the psychological domain.

We found moderate negative correlation between QoL and the results relative to the morbidity questionnaire, since the larger the number of diseases, the lower the score on the QoL psychological domain. There was negative correlation between the QoL physical and psychological domains and workload variables years in the job, daily working hours, meal/rest breaks and number of meals/day. Finally, there was moderate negative correlation between the QoL environment domain and meal and rest breaks.

The aforementioned shortcomings notwithstanding, work afforded the participants an enriching environment in terms of interpersonal relationships, application of cognitive skills, memory and calculation, in addition to the feeling of being productive and participating in society in this stage of life.

Table 3. Correlation between quality of life domains and workload, Presidente Prudente, Brazil, 2017 (n=24).

	General quality of life		Physical domain		Psychological domain		Social relationships		Environment	
	r	p-value	r	p-value	r	p-value	r	p-value	r	p-value
A	0.0469	0.8279	-0.4374	0.0326*	-0.6217	0.0012*	-0.3232	0.1234	-0.2513	0.2363
B	0.1682	0.4320	-0.0414	0.8476	0.0789	0.7141	0.1002	0.6413	-0.0841	0.6961
C	-0.1549	0.4697	-0.6640	0.0004*	-0.5459	0.0058*	-0.3575	0.0863	-0.3019	0.1516
D	0.0151	0.9443	-0.5078	0.0113*	-0.6653	0.0004*	-0.2759	0.1919	-0.4975	0.0134*
E	-0.3956	0.0557	-0.4331	0.0345*	-0.4072	0.0483*	0.0521	0.8088	-0.3390	0.1051
F	-0.1771	0.4076	0.2572	0.2250	0.1149	0.5930	0.2992	0.1555	0.1493	0.4862

r: correlation; *p<0.05; A: years in the job; B: days/week; C: daily working hours; D: meal/rest breaks; E: number of meals/day; F: time to drink water/use the toilet.

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