Correlation between Quality-of-Life and the Educational Level of the Population of Maringá/PR

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Abstract

The level of education can influence the quality of life of a population. Thus, the objective of this study was to verify the correlation between the quality of life (QoL) and the educational level of the population of Maringá, PR. This is a population-based, cross-sectional study with a quantitative approach, carried out with 1237 adults (18 years and over), of both sexes, residing in the municipality. Instruments were applied to obtain data on the sociodemographic profile and the WHOQOL-100 questionnaire. Data analysis was performed using Pearson's chi-squared test (X^2), with a significance of $p < 0.05$. There was a prevalence of individuals with a good/very good level of QoL in the psychology (62.4%), level of independence (84.9%), social relationships (77.2%), environment (60.6%), and spirituality (83.3%) domains. There was a significant association between the level of education and the domains of independence ($p < 0.001$), social relationships ($p = 0.001$), and environment ($p = 0.002$). It is concluded that there are better QoL indices in the domains of independence, social relationships, and environment in individuals with a higher level of education.

Keywords: Municipality. Education Level. Health Promotion.

INTRODUCTION

The World Health Organization (WHO) defines quality of life (QoL) as "an individual's perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns"[1] and the literature points out that the higher the person's level of education, the better their perception of QoL will be by adopting healthy attitudes[2,3,4].

The level of education confers several health advantages, such as influences of psycho-social factors and behavior. Individuals with a higher educational level are less likely to be exposed to risk factors for diseases and to be subjected to inadequate working conditions[5]. Higher educational levels promote access to information, lifestyle modification, adoption of healthy habits, health services, to engage in activities that prioritize promotion, and especially to follow correct guidelines related to obtaining a better QoL[6].

The data from the Programme for International Student Assessment (PISA) published

in 2018 is worrisome, which pointed out that Brazilian students have a low proficiency in Reading, Mathematics, and Science. The published edition revealed that 68.1% of Brazilian students, aged 15, do not have a basic level of Mathematics, considered the minimum for the full exercise of citizenship. In Science, the number reaches 55% and Reading is at 50%[7].

Low schooling compromises access to health education and strategies, which makes it impossible to adopt healthy behaviors and social mobilization to improve living conditions[8]. Data from the Brazilian Institute of Geography and Statistics (IBGE) show that the proportion of people aged 25 or over with high school education grew in the country, from 45.0% in 2016 to 48.8% in 2019; however, more than half of adults did not complete this educational stage, that is, although there was an increase in people with more education, it was not as expected[9].

The city of Maringá, located in the northwest of the state of Paraná, has a population of 436,472 inhabitants presented by the last IBGE census[10] and received first place in the ranking of the best large cities in Brazil according to a study by the Macroplan consulting agency[11].

Some factors interfere with QoL, taking as an example the low level of education in different population groups. However, considering that Maringá is in the ranking of the best large cities in Brazil and its large number of higher education institutions, together with the fact that QoL is a multidimensional concept, it was necessary to carry out this study[11]. These results may support local authorities in their strategic planning for both the municipality and other cities in the country.

The WHOQOL-100 (World Health Organization Quality of Life) questionnaire operationally defines health-related quality of life as a multidimensional construct that covers the following domains: psychological, social relationships, physical health, level of independence, environment, and spirituality, as presented by Billingnet and other authors[12].

Therefore, the objective of this study was to verify the correlation between the quality of life (QoL) and the educational level of the population of Maringá, PR, which stands out in terms of education.

MATERIALS AND METHODS

This is a quantitative, descriptive, cross-sectional, and observational, population-based study. This study was reviewed and approved by the Ethics and Research Committee of the Centro Universitário de Maringá under protocol number 1475603.

For the sample calculation, the formula described below (image 1) was used, resulting in n= 1,237. The sample consisted of individuals of both sexes aged 16 years or older, excluding individuals who did not reside in the city of Maringá, PR for at least two years.

A form was applied to obtain data on their socio-demographic profile, with questions related to sex, age, level of education (schooling), age group, marital status, religion, and economic class.

QoL was evaluated by the World Health Organization Quality of Life (WHOQOL-100) instrument and is widely disseminated by the

United Nations, which consists of 100 questions divided into seven domains such as psychological, social relationships, physical health, level of independence, environment, and spirituality[13].

A training was carried out for volunteer students, with the objective of training them so that the application of the questionnaires was as correct as possible and with a minimum number of errors. These volunteers worked together with the researchers, the teams were dispersed through different neighborhoods of the city of Maringá, in a random way, approaching people in their homes. The questionnaire was self-administered, only in specific situations the administrators were oriented to help the individual participating in the study. Data collection took place between February and May 2018. Participants who agreed to participate in the study signed the Informed Consent Form (ICF).

Data analysis was performed using descriptive and inferential statistics. Frequency and percentage were used as descriptive measures for categorical variables. Pearson's chi-squared test (X^2) was used to verify the association between QoL domains and education level. Pearson's correlation coefficient was used to verify the correlation between the level of QoL and the level of education. A significance of $p < 0.05$ was adopted.

RESULTS

A total of 1,237 individuals aged between 16 and 86 years old and a mean age of 37.77±14.85 years old participated in the study. According to the results of table 1, it was observed that most individuals were female (57.0%), were under 40 years of age (56.9%), had completed high school (87.7%) and were part of economy class C (64.3%). As for marital status, it was found that 47.6% of individuals were single and 49.3% were Catholic.

Table 1 – Distribution of socioeconomic and demographic variables of the population of the municipality of Maringá - Paraná, in 2018.

VARIABLES	n	%	VARIABLES	n	%
Sex			**Marital status**		
Male	532	43.0	Married	466	37.7
Female	705	57.0	Single	589	47.6
Education level			Stable union	99	8.0
Incomplete elementary school	51	4.1	Other	83	6.7
Complete elementary school	101	8.2	**Religion**		
Complete high school	402	32.5	Catholic	610	49.3
Incomplete higher	353	28.5	Evangelical	402	32.5
Complete higher	330	26.7	Other	104	8.4
Age Group			None	121	9.8
18 to 29 years	359	29.0	**Economic class**		
30 to 39 years	345	27.9	A	29	2.3
40 to 49 years	269	21.7	B	207	16.7
50 to 59 years	148	12.0	C	796	64.3
60 years or older	116	9.4	D/E	205	16.6

As shown in Table 2, there was a prevalence of individuals with a good/very good level of QoL in the psychological (62.4%), level of independence (84.9%), social relationships (77.2%), environment (60.6%), and spirituality (83.3%) domains. It is also noteworthy that 44.1% of the individuals had a good/very good level in the physical domain.

Table 2 – Distribution of variables in the quality-of-life domains of the population of the municipality of Maringá - Paraná, in 2018.

VARIABLES	n	%
Physical		
Very bad/Bad	160	12.9
Regular	532	43.0
Good/Very Good	545	44.1
Psychological		
Very bad/Bad	74	6.0
Regular	391	31.6
Good/Very Good	772	62.4
Independence		
Very bad/Bad	17	1.4
Regular	170	13.7
Good/Very Good	1050	84.9
Social relationships		
Very bad/Bad	52	4.2
Regular	230	18.6
Good/Very Good	955	77.2
Environment		
Very bad/Bad	46	3.7
Regular	442	35.7
Good/Very Good	749	60.6
Spirituality		
Very bad/Bad	66	5.3
Regular	141	11.4
Good/Very Good	1030	83.3

Table 3 – Association between the domains of quality-of-life and the level of education of the population of the city of Maringá - Paraná, in 2018.

QoL domains	Education Level					X²	p
	Incomplete elementary school	Complete elementary school	Complete Highschool	Incomplete Higher Education	Complete Higher Education		
	n (%)	n (%)	n (%)	n (%)	n (%)		
Physical							
Very bad/Bad	6 (3.8)	15 (9.4)	52 (32.5)	52 (32.5)	35 (21.8)		
Regular	25 (4.7)	29 (5.5)	183 (34.4)	150 (28.2)	145 (27.2)	0.003	0.956
Good/Very Good	20 (3.7)	57 (10.5)	167 (30.6)	151 (27.7)	150 (27.5)		
Psychological							
Very bad/Bad	5 (6.8)	3 (4.1)	29 (39.2)	26 (35.1)	11 (14.9)		
Regular	16 (4.1)	37 (9.5)	112 (28.6)	126 (32.2)	100 (25.6)	1.031	0.310
Good/Very Good	30 (3.9)	61 (7.9)	261 (33.8)	201 (26.0)	219 (28.4)		
Independence							
Very bad/Bad	3 (17.6)	2 (11.8)	8 (47.1)	3 (17.6)	1 (5.9)		
Regular	11 (6.5)	16 (9.4)	67 (40.0)	45 (26.5)	30 (17.6)	19.762	**<0.001***
Good/Very Good	37 (3.5)	83 (7.9)	326 (31.1)	305 (29.0)	299 (28.5)		
Social relationships							
Very bad/Bad	2 (3.8)	6 (11.5)	26 (50.0)	12 (23.1)	6 (11.5)		
Regular	14 (6.1)	25 (10.9)	71 (30.9)	64 (27.8)	56 (24.3)	10.842	**0.001***
Good/Very Good	35 (3.7)	70 (7.3)	305 (31.9)	277 (29.0)	268 (28.1)		
Environment							
Very bad/Bad	2 (4.3)	7 (15.2)	22 (47.8)	13 (28.3)	2 (4.4)		
Regular	18 (4.1)	41 (9.3)	153 (34.6)	116 (26.2)	114 (25.8)	9.626	**0.002***
Good/Very Good	31 (4.1)	53 (7.1)	227 (30.3)	224 (29.9)	214 (28.6)		
Spirituality							
Very bad/Bad	1 (1.5)	3 (4.5)	20 (30.4)	27 (40.9)	15 (22.7)		
Regular	4 (2.8)	13 (9.2)	53 (37.6)	48 (34.0)	23 (16.4)	0.075	0.784
Good/Very Good	44 (4.2)	86 (8.3)	331 (31.9)	283 (27.3)	294 (28.3)		

*Significant association (p < 0.05) – Chi-squared test.

DISCUSSION

The study presented relevant results regarding the QoL of the population of the city of Maringá in terms of education, by showing that the majority of respondents have completed high school and have QoL scores in all domains classified as Good/Very Good. In addition, it showed a statically significant association of the independence, social relationship, and environment domains with a higher level of education.

QoL is defined as the way in which the individual positions themselves towards everything in life and evaluates themselves positively or negatively[14]. In view of this, the assessment of the QoL of a population is essential, as it can be evaluated by several domains. Being so, it can be perceived how this population positions itself in life in the con-

texts of culture, in its way of achieving health, academic, and familial goals. Therefore, getting to know this population better can enable more effective interventions[15].

There was a predominance of females, probably due to the fact that women, despite having more associated diseases, live longer than men because they take better care of their health, education, lifestyle, as well as other attitudes and habits[16].

The present study evaluated the QoL of the population through the WHOQOL-100 instrument[13], which assesses QoL through seven domains. In general, the participants demonstrated a good/very good QoL in most domains, which is similar to another study with the same methodological design, population-based, showing positive results in relation to QoL[17].

Regarding schooling, the Continuous National Household Sample Survey (CNHS) reported that the illiteracy rate in Brazil, of people over 15 years of age, was approximately 6.6%, and in the Southern region it was estimated at only 3.3% only. This is considered one of the lowest rates of illiteracy compared to other regions, which may explain the fact that the study did not possess any illiterate interviewees, in addition to exposing a predominance of the highest levels of education in the city of Maringá[18].

When analyzing the association between education level and QoL, it was found that there is a higher proportion of individuals with a good/very good perception of QoL with a higher level of education. This fact is possibly explained due to the greater knowledge that the person acquires through education, providing greater instruction on how to live with healthier attitudes and habits and a better quality of life[19].

The limitation found in the present study was the fact that covariates related to local events were not considered at the time of data collection, which could have interfered with the results. Even so, the results are relevant as they reveal the importance of education in the quality of life of the population. Thus, similar studies are suggested, with larger and longitudinal samples, so that the QoL of a population can be evaluated over time.

CONCLUSION

It is concluded that there is a trend towards better QoL in the domains of independence, social relationships, and environment among individuals with higher levels of education, reinforcing the importance of education as a determining factor for the health of the population.

Author statement CRediT

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