# QUALITY OF LIFE AND HEALTHY ASPECTS IN AGRIBUSINESS WORKERS

# QUALIDADE DE VIDA E ASPECTOS SAUDÁVEIS EM TRABALHADORES DA AGROINDÚSTRIA

Luiz Almeida da SILVA<sup>1</sup>; Ludmila Grego MAIA<sup>2</sup>; Guilherme Silva MENDONCA<sup>3</sup>; Bruno Bordin PELAZZA<sup>4</sup>; Rita de Cassia de Marchi Barcelos DALRI<sup>5</sup>; Sérgio Valverde Marques dos SANTOS<sup>6</sup>; Cácia Régia de PAULA<sup>7</sup>; Sebastião Elias da SILVEIRA<sup>8</sup>; Hugo Machado SANCHEZ<sup>9</sup>

1. Nurse. Post-Doctorate by the Health Sciences Program of the Faculty of Medicine of the Federal University of Goias. Professor at the Federal University of Goias. Catalão - GO, Brazil. E-mail: enferluiz@yahoo.com.br; 2. Lecturer of the Nursing Course of the Federal University of Goias – Jataí; 3. Nurse, Master and Doctorate by the Graduate Program in Health Sciences of the Faculty of Medicine of the Federal University of Uberlândia. 4. Lecturer of the Nursing Course of the Federal University of Goiás – Jataí. 5. Department of Fundamental Nursing, Ribeirao Preto Nursing School, University of São Paulo. Ribeirão Preto, São Paulo, Brazil; 6. Department of Fundamental Nursing, Ribeirao Preto Nursing School, University of São Paulo. Ribeirão Preto, São Paulo, Brazil 7. Lecturer of the Nursing Course of the Federal University of Goiás – Jataí; 8. Fundamental Nursing Department of Ribeirao Preto Nursing School, University of São Paulo. Ribeirao Preto, São Paulo. Ribeirao Preto, São Paulo, Brazil; 9. Kinesiólogo, Health Sciences Academic Unit. Federal University of Goiás. Jataí, Goias. Brazil.

**ABSTRACT:** to evaluate quality of life and its relationship to lifestyle along with the personal and work characteristics of agro-industry workers from Goias, Brazil. A cross-sectional, descriptive and quantitative study, using the WHOQOL-BREF instrument as well as personal and work data, the data collection occurred in 2014. A bivariate analysis was used to check for associations between the predictor variables and the analyzed outcomes. Variables with p < 0.20 and potential confounding variables: gender, age, income and marital status were included in multiple linear regression models. The perception of the quality of life of workers showed better scores for the social domain and worse for environment, obtaining significance for the factors associated with quality of life: physical activity, education, skin color, work related accidents, income and body mass index. In order to perform the multifactorial analyses, the associated independent factors were confirmed in the regression analysis, with the inclusion of the variables gender, marital status and alcohol consumption. The workers have lifestyles that interfere with the perception of their quality of life. All of the domains evaluated in this study were shown to possess this interference, with prevalence toward a lack of physical activity and the occurrence of work related accidents.

KEYWORDS: Life Quality. Workers. Lifestyle. Agro-industry.

# **INTRODUTION**

Quality of Life at Work (QLW) provides success for companies and these in turn contribute through giving value to the workers, thus highlighting their importance to industry. In this manner, the workers are treated as partners that hold different degrees of involvement, integrated harmoniously, through taking into consideration their physical and mental integrity, giving them value as a person and observing their physical, political, economic and social aspects (JACOBSEN, et al., 2013; FIORAMONTE, et al., 2016).

The perception of the worker over QLW is related to a broad execution of work tasks in the work environment. In this sense, institutions check for the possibility of motivating and changing the standards for the improvement to quality of life, when there is an observed behavior in workers and these have adopted measures that are coherent with that established, however, these need to be

encouraged. Motivation in itself is not only a reflection of economic benefit, but also of organizational environment, of their relationship with management, of health, of social welfare, of safety, and training (FIORAMONTE, et. al., 2016; FRANKLIN, et. al., 2016).

Traditionally, QLW was associated with the question of salary; however, studies in the area of sociology bring the idea that this is also associated with the internal conditions of the organization, which can create occupational risks. In the recent past, socioeconomic domains were developed, which included new dimensions for defining QLW (DAVOINE; ERHEL; GUERGOAT-LARIVIERE, 2008). Noteworthy here is that QLW involves work that brings about enthusiasm, work safety within the environment, as well as work stability, satisfactory remuneration, good management and interpersonal competence, career progress with a friendly and harmonious environment (ARAÚJO; FERREIRA; ALMEIDA, 2016; DOWNEY; SHARP, 2007;

KOWALSKA et. al., 2013). In a progressive manner, one finds a number of advances in work conditions, which have contributed to greater security and ergonomic comfort. However, changes in information technology, when used in a rigid sense with an immediate return within the work environment, maintain growth in production, this however, when used in a Taylor-Ford style, in which the principal focus is upon work is in detriment of quality of life (FERREIRA; BRUSIQUESE, 2014).

Furthermore, even with the increase in QLW within the environment of industrial institutions, it is still possible to find those that believe that investing resources in this area is unnecessary and/or a waste, thus it is not understood as a positive investment. Companies that seek to apply QLW practices are more competitive in the and international scenario, national consequently improve worker productivity and performance, along with an increase in investments capital and client from external trust (FIORAMONTE, et. al., 2016).

Therefore, it is necessary to establish if there is a relationship between quality of life, lifestyle and personal work characteristics of agroindustry workers. In this manner, the present study aimedto evaluate quality of life and its relationship with lifestyle, personal and work characteristics of agro-industry workers in the Southeast of Goiás, Brazil.

#### MATERIAL AND METHODS

Descriptive, cross-sectional and quantitative approach developed in a cooperative of grain production and processing of a municipality located in the Southwest of the state of Goiás, Brazil, in November 2014.

The study population covered the 102 agroindustry workers who participated in the Internal Workplace Accident Prevention Week (SIPAT), where all were invited to participate in the study. In order to select the participants, the following inclusion criteria were adopted: being a participant in SIPAT of said cooperative and being over 18 years of age.

In this way, participants were excluded from the study were those participants that did not meet the criteria of the instruments and/or some step of the measuring of the anthropometric data. Thus, 91 workers met the selection criteria, and at the end, three instruments were excluded as being inadequate in meeting the criteria and one participant refused to do a glycemic dosage, thus obtaining a total of 87 participants.

For data collection he used the instruments: WHOQOL-Bref is a transcultural instrument, valid in Brazil that aims at obtaining information concerning quality of life (LQ). It is composed of 26 questions (where questions numbers 1 and 2 cover quality of life in general); the answers follow a Likert scale (1 to 5, being the higher the score, better the quality of life). Except for questions 1 and 2, the instrument has 24 facets that make up four domains, which are physical, social relationships and environment. The other instrument used was submitted to an evaluation by specialists of the area fine adjustments, questions relevant to occupational data and life style factors, such as activity, smoking, alcohol physical intake, comorbidities and the occurrence of work related accidents were all measured.

Systemic Considered Arterial Hypertension (SAH) patients were those that fit within the pathology, as presenting Systemic Arterial Pressure (SAP)  $\geq$  than 140x90 mmHg or those that presented SAP  $\leq 140 \text{x} 90 \text{ mmHg}$ , using one or more different antihypertensive medicines (prescription controlled). In addition, for measuring SAP, use was made of the semiautomatic arm device (Omron HEM-4030). The components researched for SAP were Systolic Pressure (Ps) and Diastolic Pressure (Pd), with all values expressed in millimeters of mercury (mmhg). The procedure for gauging the PAS measurement was performed only once, and was based on recent studies (PELAZZA; ROSA; FERREIRA-FILHO, 2012; SOUZA, et. al., 2016). In order to perform the fasting capillary glucose test, the glucose meter (Accu-Chek Active) was used, the reference value for normality was set at 70 to 100 mg/dL, according to the American Diabetes Association - ADA.

In order to determine the equivalent measure for body mass, the anthropometric scale (*Welmy*) was used, with a 10-gram definition, adjusted after every 10<sup>th</sup> weight measurement taken, while to carry out stature measurements an aluminum stadiometer was used with a 1mm scale, from the procedures presented by the World Health Organization (WHO).

The data collected were typed in an Excel spreadsheet, version 2010, for the elaboration of the database, afterwards, double typing was done to avoid transcription errors. Data were analyzed descriptively and inferentially by means of the software Statistical Package for Social Science (SPSS) Statistics version 22 for Windows and STATA version 12.0. In order to verify the normality

of the quantitative variables, the *Kolmogorov-Smirnov* test was utilized. Qualitative variables were expressed in absolute and relative frequencies, while the quantitative variables were expressed as averages and standard deviation (SD), accompanied by their respective confidence intervals of 95% (CI 95%).

In the present study, four outcome variables were considered: a) quality of life related to the physical domain; b) quality of life related to the psychological domain; c) quality of life related to the social domain, and d) quality of life related to the environment domain. Categorical variables were considered: age (years), gender, monthly income, skin color, marital status, comorbidity, physical habits of smoking and alcohol consumption, period of work (months), other work activities, previous accidents at work, Ps, Pd, body index  $(BMI)(Kg/cm^2)$ and abdominal circumference (cm).

The bivariate analysis was conducted to check for associations among the predictor variables and the analyzed outcomes. The t student test, analysis of variance (ANOVA) and the Pearson correlation were used when found appropriate. Variables with p < 0.20 and potential confounding variables (gender, age, income and marital status) were included in multiple linear regression models. For all the tests performed, the value p < 5% was considered statistically significant.

Graduate and postgraduate students from the University of Goias performed the data collection; these were all duly trained in terms of the competencies associated with the instruments and techniques for measuring the variables used in the research study. The data were collected after receiving the consent from the participant and their signature on the Free and Clarified Consent Form (FCCF). The study respected resolution 466/2012 and is approved under number 1.537.870 by the Ethics and Research Committee from the Federal University of Goias.

### **RESULTS**

As mentioned in the method, across every stage of the study 87 individuals participated, all of which met the selection criteria.

Table 1 presents qualitative and quantitative variables. The first description presents the sociodemographic and occupational characteristic of the agroindustry worker and their lifestyle. Highlighted within the statistics were the masculine

gender (78,2%) and married individuals (55,2%); in regards to color, there was a predominance to non-white (74,7%) and in regards to education, there was higher prevalence at the high school level (50,6%). When referring to lifestyle, it was noted that a majority (60,9%) indicated the use of alcoholic beverages at weekends and a part, or be it, 12,6% smoked on a daily basis. The majority of participants indicated that they have other work activities (88,5%), did not do any physical exercise (52,9%), denied having any comorbidities (86,2%) and never had a work related accident (77,0%).

Regarding the quantitative variables, the average age was of 35,5 years (18 to 56 years) and the average monthly income for the workers was 4,6 minimum salaries (R\$3,328.00). In terms of the time worked in this sector, the average was 63,3 months, or be it, an average of five years.

The blood pressure from each individual was measured, where the average Ps obtained was 122,4± 14.5 mm Hg and Pd was 77,9± 15,9 mmHg. The anthropometric data showed that the average BMI was 26,3±4,41Kg/cm² with emphasis given to overweightness, presented in 39 workers (44,8%); the abdominal circumference presented a general average of 87,8±12,0 cm, with a predominance in the classification for non-altered in 49 (56,3%) of the workers. In regards to fasting blood glucose, there was noted an average of 110,7±29,71mg/dl, with a prevalence found in 43 workers (49,4%) who have a decreased glucose tolerance.

Regarding general quality of life, there was noted a higher scoring average for the social domain, with 78% and a lower average for the environment domain 63,0% (Table 2).

Table 3 presented the potential factors associated with quality of life demonstrating the averages and standard deviations for the WHOQOL-BREF domains, both in the quantitative and qualitative variables. In the quantitative variables, there was significance in the physical, psychological and social domains for those individuals that practice physical exercise (p<0,05). In regards to education level, individuals that had completed elementary school presented a significantly higher difference (p<0,001) in the environment domain. In relation to skin color, those who declared themselves as non-white presented a significant difference in the environment domain (p<0.05). For those individuals that had reported being involved in a work related accident, there was shown a significance toward the averages for the psychological and social domains.

**Table 1.** Descriptive analysis of socio-demographic and occupational variables of workers in a southwestern agroindustry Goiano, Brazil, 2015

agroindustry Goiano, Brazil, 2015		
Variábles	n	%
Age (years)*		5 <u>+</u> 10,0
Income (reais)*	3,328,0	) <u>+</u> 2,695,0
Working time (months)*	63,3	3 <u>+</u> 79,1
Sex		
Male	68	78,2
Female	19	21,8
Marital Status		
Married	48	55,2
Not Married	39	44,8
Skin Color		
White	22	25,3
Not White	65	74,7
Education		
Fundamental	30	34,5
Médium	44	50,6
Graduate	13	14,9
Alcoholic Beverage		
Yes	53	60,9
No	34	39,1
Smoking		
Yes	11	12,6
No	76	87,4
Physical Activity		
Yes	41	47,1
No	46	52,9
Co-morbidity		
Yes	12	13,8
No	75	86,2
Work Accident		
No	67	77,0
Yes	20	23,0
PS (mmHg), *	122,	4 <u>+</u> 14,5
PS Categorized		
< 140	72	82,8
≥ 140	15	17,2
PD (mmHg),	77,9	9 <u>+</u> 15,9
PD Categorized		
< 90	70	80,5
≥90	17	19,5
Weight (Kg), *	77,9	9 <u>+</u> 15,9
Height (cm), *	1,7	$7 \pm 0.0$
<b>BMI</b> $(Kg/cm^2)$ ,*	26	,3 <u>+</u> 4,4
BMI Categorized		
Thinness	2	2,3
Eutróphic	31	35,6
Overweight	39	44,8
Obesity	15	17,2
Glycemia,	110	,7 <u>+</u> 29,7
Categorized Glycemia		
Normal	33	37,9
Decresed tolerance	43	49,4
Diabetes	11	12,6
		,

Waist circumference(cm)	87,8 <u>+</u> 12,0		
Waist circumference achanged			
No	49	56,3	
$V_{\Delta c}$	38	13.7	

<sup>\*</sup>Continuous variables are presented in mean  $\pm$  and standard deviation; PS = systolic pressure. PD = Pressure. BMI = Body mass index

**Table 2.** Descriptive and reliability analysis of domains related to quality of life, southwest Goiano, Brazil, 2015

Domains	Mean (IC 95%) <sup>a</sup>	$SD^{b}$	Alfa de Crombach
Physicist	75,69 (72,98-78,41)	12,74	0,627
Psychological	75,91 (73,36-78,45)	11,96	0,623
Social	78,06 (74,45-81,67)	16,96	0,781
Environmental	63,03 (60,14-65,93)	13,58	0,705

a. 95% confidence interval; b. Standard Deviation.

**Table 3.** Potential factors associated with the quality of life in southwestern agribusiness workers Goiano, Brazil, 2015

Variables	Physic	al	Psychologic	al	Social		Environme	ent
	Mean ± SD <sup>a</sup>	p						
Qualitative Sex								
Male	75,99 ± 12,52	$0,680^{b}$	$77,08 \pm 12,60$	0,083 <sup>b</sup>	78,06 ± 17,86	0,999 b	62,29 ± 13,87	0,755 <sup>b</sup>
Female	74,62 ± 13,82		71,71 ± 8,28		$78,07 \pm 13,66$		$62,17 \pm 12,83$	
Physical Activity								
Yes	79,18 ± 12,94	<b>0,015</b> <sup>b</sup>	79,16 ± 10,58	<b>0,016</b> <sup>b</sup>	81,91 ± 13,93	<b>0,045</b> <sup>b</sup>	65,62 ± 13,45	0,094 <sup>b</sup>
No	72,59 ± 11,85		$73,00 \pm 12,47$		74,63 ± 18,75		$60,73 \pm 13,43$	
Education								
Fundamental	12,14	$0,305^{c}$	$76,52 \pm 11,60$	0,751 <sup>c</sup>	77,50 ± 18,84	0,941 <sup>c</sup>	$57,08 \pm 14,02$	<b>0,001</b> °
Médium	77,51 ± 13,39		75,00 ± 11,81		$78,03 \pm 16,28$		62,35 ± 11,71	
Graduate	76,09 ± 11,51		77,56 ± 13,87		79,48 ± 15,81		75,72 ± 9,64	
Color								
White	9,71	$0,598^{b}$	$76,70 \pm 12,03$	0,721 <sup>b</sup>	77,65 ± 17,70	0,896 <sup>b</sup>	68,32 ± 12,94	<b>0,034</b> <sup>b</sup>
Not White	75,27 ± 13,66		$75,64 \pm 12,01$		78,20 ± 16,84		$61,25 \pm 13,42$	
Conjugal State								
With Partner	12,01	0,126 <sup>b</sup>	73,87 ± 12,29	$0,078^{\mathrm{b}}$	$76,38 \pm 19,62$	0,309 <sup>b</sup>	62,82 ± 15,52	$0,872^{b}$
Without	$74,02 \pm$		$78,41 \pm$		$80,12 \pm$		$63,30 \pm$	
Partner	12,68		11,18		12,91		10,93	
AT*	77.07		70.00		00.00		(2.71 .	
No	12,42	0,064 <sup>b</sup>	78,23 ± 10,58	<b>0,001</b> <sup>b</sup>	80,09 ± 15,95	<b>0,040</b> b	63,71 ± 13,56	0,400 <sup>b</sup>
Yes	71,07 ± 13,05		$68,12 \pm 13,26$		71,25 ± 18,82		$60,78 \pm 13,77$	
Alcoholic								

**Beverage**  $76,68 \pm$  $75,00 \pm$  $80,50 \pm$  $63,73 \pm$  $0.370^{b}$  $0.379^{b}$  $0.094^{b}$  $0.552^{b}$ Yes 13,59 15,49 11,86 13,51  $74,15 \pm$  $78,32 \pm$  $74,26 \pm$  $61,94 \pm$ No 11,33 12,14 18,61 13,83 **Quantitative** < 0,001  $0.108^{d}$  $0.605^{d}$  $0.530^{d}$ 0.068 0.514 0.173 0.056 Income  $0,331^{d}$ BMJ\*\*  $0.886^{d}$ **0,040**<sup>d</sup>  $0,681^{d}$ 0,220 -0.0160,105 -0.045

In the qualitative variables, the lower the income, lower was the perception of quality of life in the environment domain (0.514 - p < 0.001) and the BMI showed significance toward the psychological domain (0.220 - p < 0.040).

Table 4 presents the domains and the variables that showed a statistically significant association. For the physical domain, income ( $\beta$ =0,86) and practicing physical activity ( $\beta$ =-5,40), the psychological domain showed a broader coverage, feminine gender ( $\beta$ =-7,61), single

(β=7.31), does not practice physical activity (β=5,63) and when indicated that they had been involved in some type of work related accident (β=10,44). However, the social domain showed significant statistical association for those who do not drink alcohol (β=-9,38) and once again for those that suffered some work related accident (β=-10,43). Finally, the environment domain showed significance in the associations for monthly income (β=1,62), and education in the high-school range (β=9,81).

**Table 4.** Factors independently associated with quality of life in the physical, psychological, social and environmental domains presented by southwestern agribusiness workers Goiano, Brazil, 2015.

Variáveis	β <sup>a</sup> (IC 95%) <sup>b</sup>	p
Physical Domain		
Income (reais)	0,86 (0,15;1,57)	0,017
Physical Activity		
Yes	ref	
No	-5,40 (-10,54;-0,26)	0,040
Psychological Domain		_
Sex		
Male	ref	
Female	-7,61 (-12,54;-2,67)	0,003
Marital Status		
Married	ref	
Not Married	7,31 (2,52;12,09)	0,003
Physical Activity		
Yes	ref	
No	-5,63 (-10,00;-1,26)	0,012
Work Accident		
No	ref	
Yes	-10,44 (-16,28;-4,59)	0,001
Social Domain		_
Alcoholic Beverage		
No	ref	
Yes	-9,38 (-17,30;-1,47)	0,021
Work Accident		
No	ref	
Yes	-10,43 (-19,81;-1,05)	0,030
<b>Environment Domain</b>		
Income (reais)	1,62 (0,89;2,35)	< 0,001
Education		

a. Standard deviation; b. Student t test for independent samples; c. Analysis of variance (ANOVA); d. Pearson correlation. \* AT-Accident at Work; \*\* BMI- Body Mass Index.

Elementary School	ref	
High School	4,15 (-2,02;10,32)	0,185
Higher Education	9.81 (1.92:17.69)	0.015

a. Regression coefficient; b. 95% confidence interval; c. Model adjusted for age, income, sex, marital status, schooling, use of alcoholic beverage, physical activity and work accident; R<sup>2</sup>: 0,192;

#### **DISCUSSION**

The results reveal that workers from the production and processing of grain in the agroindustry, of the region understudy, were made up of in greater part of middle-aged men, married, predominantly non-white, with high school complete and a monthly income averaging on 4.6 minimum salaries. The agroindustry work sector represents an important contribution to the development of the country. This generates an impact on the economy and in the particular case of grain, even with the constant technological evolution associated with the sector, is still one of the agricultural sectors with the highest levels of mechanization, and as such requires workers with strength and stamina alongside a high qualification level. These factors contribute to better pay for such workers among the different sectors found within agriculture (COSTA; GUILHOTO; IMORI, 2013).

The perception of quality of life of the individual workers understudy showed better scores for the social domain 78,06 ±16,96 and worse scores for the environment domain 63,03±13,58, obtaining significance for the factors of potential associated with LQ: physical activity, education, skin color, occurrence of work related accidents, monthly income and BMI. For the multifactorial analyses, the independent factors associated with LQ were confirmed in the regression analysis, with the inclusion of the variables gender, marital status, and use of alcohol both with statistical significance.

In what can be referred to as sociodemographic questions, it is noteworthy that the feminine gender has gained more and more space in the different work sectors. In the specific case of the studied agroindustry, one noted a statistical significance in the regression analysis to the psychological domain, thus showing that being of the feminine gender reduces in  $\beta$ -7,6 (IC: -12,54; -2,67) the perception of quality of life when compared to the masculine gender.

The presence of women in the most varied of industries has grown and is shown through their gaining of greater space, where they are working more in internal sectors with services linked to administration and human resources. In addition to the stigma suffered by the feminine gender in work environments, which occurs principally in places

that demand physical strength, it is necessary to highlight the double and/or triple shifts. These demand from the worker greater dedication for a good performance over all the activities and along with the reduction of the possibilities for physical exercise, can lead to the decrease in the perception of LQ (SEID; ZANNON, 2004).

In regards to lifestyle, there was an observed trend toward the use of alcohol and smoking, representing a social problem, while keeping in mind the further damage caused to physical and psychological health. This of course all leads to impacts on quality of life; factors that when associated with work can decrease capacity and thus elevate the risk of illnesses, where the focus is centered on is on the cardio and respiratory systems (BARBOSA, et. al., 2013; WHO, 2015; MORAIS, et. al., 2015; BRASIL, 2011). In this work study, emphasis was placed upon the workers who in greater number declare themselves as regular alcohol users, which varied from sporadic to daily use with a statistical significance in the regression analysis, showing that its use reduces in  $\beta$ -9,38 the perception of LQ in the social domain.

A study performed with active workers from industry in Paraná, Brazil, identified that 8% of the active men and 3% of the women participated in the inadequate use of alcohol, where there was a significant difference when associated with family income, indicating a trend of lower income as alcohol consumption increased (LUCIANA, et. al., 2014).

The intake of alcoholic beverages, even when not present during the work activity, leads toward the worker becoming dependent on the substance, and this can contribute to the occurrence of work related accidents. Problems involving the intake of alcohol are responsible for 54% of work related accidents with sick pay entitlement and for 40% of work related fatalities, besides contributing toward the occurrence of an elevated number of registered sick days, which may increase in five to seven times the number days workers are off work. Such factors are the reason for the high occurrence of health alterations and the consequent reduction in the perception of quality of life (OIT, 2008; WHO, 2009).

The occurrence of work accidents, even after the most varied strategies for coping with such,

still continue as a factor present in everyday working practices, thus producing physical and psychosocial impacts, which produce a constant state of alert across Occupational Health Institutions.

In the present study, around one fourth of the workers stated that they had already been involved in some type of accident, while performing their work activities, with significance in the bivariate and multivariate analysis (p<0,05) for the psychological and social domains, thus reducing the perception for LQ by  $\beta$ -10,44 and -10,43, respectively. The fact that grain production in the agroindustry is a work environment conditioned to high technology and intense work, the associated work related accidents tend to be of a grave nature, and in this case, there should be a dynamic around training, awareness and intense monitoring in the use of personal and collective protection and safety equipment (LUCIANA, et. al., 2014; ROCHA, et. al., 2014).

The characteristics and personal habits are factors that generate alterations to health, these in general become factors of risk that contribute to the occurrence of cardiovascular events, reductions to quality of life and everyday work related performance. These are set off by habits such as lack of physical activity, as presented in more than half of the study participates and obesity with the increase of the average waistline, which may lead to alterations in SAP, along with the occurrence of diabetes mellitus (DM) (BARBOSA, et. al., 2013; ROCHA, et. al., 2014).

The active participation in physical activities is understood as an essential strategy for maintaining physical and psychological health, thus providing pleasure, lower triglycerides levels and consequently the improved perception of quality of life. The study performed in a city in the state of São Paulo, with 69 patients attending the sector for cardiovascular rehabilitation, looked to evaluating the association between physical activity and cardiovascular risk and observed that sedentary individuals possess greater possibility of alcohol intake, habits associated with smoking and develop arterial hypertension, obesity, stress and DM (BARBOSA, et. al.. 2013; AQUINO; FERNANDES, 2013).

The present study identified better scores with statistical significance in the bivariate analysis among workers that practice some kind of physical activity for the physical, psychological, and social domains (p<0,05). However, in the multivariate analysis, physical activity presented significance in the model for the physical and psychological

domains, showing that not participating in physical activity reduces the perception of LQ by  $\beta$ -5,40 and  $\beta$ -5,63 respectively.

The study performed with agroindustry and rural production workers from municipals located in the South of Brazil had as its prime objective to identify the cardiac risk index, there was noted an occurrence of average risk in 69,9% of the participants, with a tendency toward increasing for those participants over 50 years of age (ROCHA, et. al., 2014).

A majority of the studied workers had presented averages within parameters accepted as normal, with exception of overweightness in the categorized body mass index, which presented significance toward the psychological domain (p=0,040). It is however noteworthy here that alterations occurred in Pd > 90 mmHg, in measurements for fasting blood glucose with decreased tolerance and in DM, in addition to the altered abdominal waist circumference.

The 7th Brazilian Guideline of Arterial hypertension describes an increase in the prevalence of overweightness in Brazil and the world, where around 2,8 million people die every year as a consequence of this condition and through adverse effects, metabolic such SAH, as hypercholesterolemia, alterations to triglycerides and resistance to insulin (AQUINO; FERNANDES, 2013). The risk of coronary disease, ischemic stroke and DM type 2, increases progressively when associated with the increase in the body mass index (AQUINO; FERNANDES, 2013; SBC, 2016).

There is highlighted as a limitation in the present study, the impossibility of measuring cholesterol and triglycerides levels, factors that make it possible to better trace the profile of the agroindustry referring worker when cardiovascular risk to which they are exposed, as well as its impact in the perception of quality of life. questions, Regional cultural sociocultural differences and specific situations referring to the population understudy deserve mention, which on many occasions do not allow for a generalization over to other populations. However, there exists the possibility of applying the methodology to other states and municipalities, with the aim of comparing whether the findings follow the same behavior demonstrated in this study.

# **CONCLUSIONS**

The agroindustry workers have lifestyles that interfere in the perception of quality of life, as observed in every one of the evaluated domains, Quality of life and healthy...

with prevalence of not practicing physical exercise and the occurrence of work related accidents.

Maintaining a good QLW brings positive results for workers as well as for the company, thus increasing performance, quality to the generated products or service, a reduction in presenteeism, of absenteeism and costs, thus consequently bringing an increase in competitive advantage.

It is suggested here that strategies that facilitate the development of physical exercise should be implemented in the work place, as well as the intensification of the fear of work related accidents. The intent being, the direction toward improving quality of life and work related performance.

The present study brings advances in knowledge, as it traces a panorama where there exist diverse contributing factors for reducing quality of life, without considering only income, but also questions related to personal, psychological, social behavior and environment.

**RESUMO:** Avaliar qualidade de vida e a relação com o estilo de vida e características pessoais e laborais de trabalhadores da agroindústria de Goiás, Brasil. Estudo transversal, descritivo e quantitativo; utilizou o instrumento WHOOOL-BREF e dados pessoais e laborais; a coleta de dados ocorreu em 2014. Realizou-se análise bivariada para verificar associações entre as variáveis preditoras e os desfechos analisados. Variáveis com p < 0,20 e potenciais variáveis de confusão: sexo, idade, renda e estado civil foram incluídas em modelos de regressão linear múltipla. A percepção da qualidade de vida dos trabalhadores mostrou melhores escores para o domínio social e piores para o ambiental, obtendo significância para os fatores associados à qualidade de vida: atividade física, escolaridade, cor da pele, acidente de trabalho, renda e índice de massa corporal. Para as análises multifatoriais os fatores independentes associados foram confirmados na análise de regressão, com a inclusão das variáveis sexo, estado conjugal e uso de bebida alcoólica. Os trabalhadores possuem estilos de vida que interferem na percepção da qualidade de suas vidas, observadas em todos os domínios avaliados, com prevalência de não realização de atividade física e ocorrência de acidentes de trabalho.

PALAVRAS-CHAVE: Qualidade de Vida. Trabalhadores. Estilo de Vida. Agroindústria.

#### **REFERENCES**

AQUINO, A. S.; FERNANDES, A. C. P. Qualidade de vida no trabalho. J Health Sci Inst., São Paulo, v. 31, n. 1, p. 53-58, 2013.

ARAÚJO, J. N. G.; FERREIRA, M. C.; ALMEIDA, C. P. Trabalho e saúde: cenários, impasses e alternativas no contexto brasileiro. Serv. Soc. & Saúde, Campinas, SP, v. 15, n. 1, p. 125-132, 2016. https://doi.org/10.20396/sss.v15i1.8647312

BARBOSA, B. A. F.; CLAUDINO, R. R.; MARIA, S. N.; MARCELO, P. C.; MARQUES, V. L. C. Associação entre atividade física e fatores de risco cardiovasculares em indivíduos de um programa de reabilitação cardíaca. Rev Bras Med Esporte, São Paulo, v. 19, n. 4, p. 231-235, 2013. https://doi.org/10.1590/S1517-86922013000400001

BRASIL. Ministério da Saúde. Vigitel Brasil 2011. Vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico. Brasília, 2011.

COSTA, C. C.; GUILHOTO, J. J. M.; IMORI, D. Importância dos setores agroindustriais na geração de renda e emprego para a economia brasileira. Rev Econ Socio Rural, Goiânia, v. 51, n. 4, p. 797-814, 2013. https://doi.org/10.1590/S0103-20032013000400010

DAVOINE, L.; ERHEL, C.; GUERGOAT-LARIVIERE, M. Monitoring quality in work: European employment strategy indicators and beyond. Int Labour Rev., Suiça, v. 147, n. 2-3, p. 163-198, 2008.

DOWNEY, A. M.; SHARP, D. J. Why do managers allocate resources to workplace health promotion programmes in countries with national health coverage? Health Promot Int., Oxford, Reino Unido, v. 22, n. 2, p. 102-111, 2007.

- FERREIRA, M. C.; BRUSIQUESE, R. G. Novas condições de trabalho e velhos modos de gestão: a qualidade de vida no trabalho em questão. **Rev Bras Gest Desenvolv Reg.**, Taubaté, SP, v. 10, n. 3, p. 247-267, 2014.
- FIORAMONTE, B. Y. S.; MIRANDA, J. B.; VASCONCELOS, A. M.. Qualidade de vida no trabalho em indústrias do paraná. **Lat Am J Bus Manag.**, Taubaté, SP, v. 7, n. 2, p. 280-297, 2016.
- FRANKLIN, M. A.; BARRAL, J. G.; SILVA, L. R.; PEREIRA, M. F. T.; PIANUCCI, M. C.; PINTO, B. O. C. Inovação e a sustentabilidade sob a dimensão social: do discurso à ação-um estudo empírico em uma empresa paulista do ramo frutífero. **Rev Bras Gest Desenvolv Reg.**, Taubaté, SP, v. 12, n. 2, p. 276-300, 2016.
- JACOBSEN, S.; BRAMMING, P.; HOLT, H.; LARSEN, H. H. Quality in modern nordic working life-investigating three related research perspectives and their possible cross-fertilization. **Nord. J. Work. Life Stud.**, Dinamarca, v. 3, n. 3, p. 47-80, 2013.
- KOWALSKA, M.; DANSO, F.; HUMENIUK, M.; KULAK, E.; ARASIEWICZ, H. Determinants of environmental domain of quality of life in economically active population living in Silesian agglomeration, Poland. **Int J Occup Med Environ Health**, Łódź, Polônia, v. 26, n. 1, p. 132-143, 2013. https://doi.org/10.2478/s13382-013-0081-7
- LUCIANA, S. T.; NEIVA, L.; CLAUDIA, V. O. A.; JEAN, F. C.; FABRÍCIO, C.; RAUL, O. Tabagismo, consumo alcoólico e tempo de sono em trabalhadores ativos da indústria do estado do Paraná-Brasil. **Rev Salud Pública**, Colômbia, v. 16, n. 4, p. 491-504, 2014. https://doi.org/10.15446/rsap.v16n4.33270
- MORAIS, P. C. A.; MOREIRA, R. P.; LIMA, P. A.; SILVA, M. G. F.; FERREIRA, J. D. F.; ROUBERTE, E. S. C. Pressão arterial, doenças cardiovasculares e hábitos de vida de idosos. **Rev Red Enf Nordeste**, Fortaleza, v. 16, n. 5, p. 2015, 2015.
- OIT Organização Internacional do Trabalho. **Guiding principles adopted by the ILO Inter-regional Tripartite Experts Meeting on Drug and Alcohol Testing in the Workplace**. Geneve: International Labour Office, 2008.
- PELAZZA, B. B.; ROSA, C. A. S.; FERREIRA-FILHO, S. R. Comparação entre os valores da pressão arterial central e braquial de pacientes com hipertensão arterial submetidos à cineangiocoronariografia. **J Bras Nefrol.**, São Paulo, v. 34, n. 3, p. 266-271, 2012. https://doi.org/10.5935/0101-2800.20120008
- ROCHA, G. G.; REGERT, P. L.; CORBELLINI, V. A.; RECKZIEGEL, M. B.; POHL, H. H. Risco cardíaco em trabalhadores da agroindústria e produtores rurais: perfil de municípios da região sul do Brasil. **Fiep Bulletin**, Foz do Iguaçu, PR, v. 84, p. 1-6, 2014.
- SBC Sociedade Brasileira de Cardiologia. VII Diretriz Brasileira de Hipertensão Arterial. **Arq Bras Cardiol.**, v. 3, n. 3, p. 1-65, 2016.
- SEID, E. M. F.; ZANNON, C. M. L. C. Qualidade de vida e saúde: aspectos conceituais e metodológicos. **Cad Saúde Pública**, Rio de Janeiro, v. 20, n. 2, p. 580-588, 2004.
- SOUZA, D. F.; BRUNELLI, A. C.; PERES, C. I. O.; et. al. Agreement among sequential carotid-femoral pulse wave velocity (cf-PWV) measurements in elderly hypertensive patients. **J Ame Soc of Hypertension**, v. 10, n. 4, p. e36-e37, 2016. https://doi.org/10.1016/j.jash.2016.03.086
- WHO World Health Organization. **Global health risks**: mortality and burden of disease attributable to selected major risks. Geneva: World Health Organization; 2009.
- WHO World Health Organization. International Agency for Research on Cancer. **Tobacco smoke and involuntary smoking**. Lyon: Iarc, v. 83, 2004.