

## QUALITY OF LIFE RELATED WORK OF NURSING PROFESSIONALS IN STERILIZATION MATERIAL CENTER

### QUALIDADE DE VIDA RELACIONADA AO TRABALHO DE PROFISSIONAIS DE ENFERMAGEM NO CENTRO DE MATERIAL DE ESTERILIZAÇÃO

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**ABSTRACT:** The quality of work life (QWL) has a close relationship with the labor activities performed by the worker; it impacts their physical and mental health, their social life, their behavior and performance. Correlate the QWL scores with socio-demographic variables of professionals in nursing that work at Material and Sterilization Center area (MSC) of a Medical school in the State of Minas Gerais. Cross-sectional, quantitative, descriptive and analytical study. Through interviews were applied: The Socio-demographic Questionnaire (LINO, 1999) and the scale Quality of Life at Work (TIMOSSI, 2009). For exploratory analysis all the data had been analyzed through the program "Statistical Package for the Social Science" (SPSS) version 21.0. It was used the *Cronbach's alpha* as coefficient in order to test the reliability of the QWL instrument. For correlation between the QWL scores and the quantitative socio-demographic variables it was applied the *Spearman* correlation test. 40 employees had participated in the study. The QWL instrument indicated that more than 50% of the employees were satisfied. The domain of "Social integration" obtained a result of 70.15%. The domain "Use of skills" was the one that obtained the highest median in satisfaction, 72.76%. The domain "Opportunities" obtained the lowest median presented 61.10%. The values of  $\alpha > 0.70$  indicate good reliability of the instrument for the sample. The income was correlated in a significant way ( $p < 0.05$ ), moderate and positive way ( $r = 0.356$ ) with the domain "Fair and Adequate Compensation"; and the income was correlated in moderate and negative way ( $r = -0.402$ ) with the "Work and Life". The results show that variables as remuneration and fair and adequate compensation have relationships with psychometric variables of workers, such as quality of life, satisfactions and professional motivation. Aside, these results can help health institutions realize management strategies for workers.

**KEYWORDS:** Health at work. Worker satisfaction. Nurses. Questionnaires.

### INTRODUCTION

The theme "quality of life at work" (QWL) is being incorporated in labor evaluations of employees in small, medium and large companies; both from the perspective of individual well-being as well as on the impact that the satisfaction in the work generates in production. The concept of work satisfaction that the QWL refers, occurs between what the employees desire from their work and the real results that they are obtaining; in other words, if the work meets the perspectives of employees, as well as the goals and their values (FLECK, 2000).

In a Specific way, QWL is a set of actions that a company develops for the implementation of management innovations, improvements and technological/structural innovations at the workplace; it is the sum of the conditions that the organization offers, in order to allow the employees have a healthy and tranquil work environment

(NASCIMENTO; PEREIRA; PEREIRA, 2013; SIMÕES, 2017).

Satisfaction and dissatisfaction are contradictory concepts, where dissatisfaction is given by the discontentment and by the unreached values and goals, generating negative impacts in the QWL (BÜHLER; SILVA, 2010; LIPP; COSTA; NUNES, 2017). In this sense, it is known that factors such as stress and physiological changes (increasing in adrenaline production, fatigue, tachycardia, mental and physical exhaustion) are reported as negative predictors in the QWL, as well as a mental disorders triggers (GODOY, 2012; PACHECO, 2017).

In this way the QWL is a relevant psychometric construct for the good conduct of labor activities. The QWL can be used as an innovative strategy in organizations, because the higher the employee satisfaction with the labor activities, the greater will be the company production (BORGES et al., 2017).

However, it is necessary that management team outlines goals and objectives that may trigger the satisfaction of employees. A detailed survey that point the workers characteristics, their complaints and satisfaction in relation to the tasks performed, interpersonal relationships and other variables are the first step in order that the management of labor issues could be associated with QWL.

It is observed that the QWL is still underestimated in the area of health and psychometrics, what prevents the creation of solid strategies of intervention, like clinics and hospital complexes with healthcare professionals.

Standardized and repetitive work activities, such as those performed at the Material and Sterilization Center (MSC) can have negative effects on the employee's life. Although not established in the literature, it is believed that the relationships between QWL and job satisfaction with sociodemographic variables can be the predictor of the appearance of physical and mental changes in the lives of health professionals working in this hospital sector. The objective of this study was to evaluate the QWL of the nursing team of the MSC sector of a Clinic Hospital in Minas Gerais, as well as to correlate these scores with sociodemographic variables of the recruited sample.

## MATERIAL AND METHODOS

The Data collection occurred in the period from January to February 2016, after approval by the Ethics Committee and research issued by the Federal University of Uberlândia, under seeming No. 1331987. The researchers had approached the

nursing professionals in their work sector at an opportune moment in order to not harm their activities. Initially, the objectives of the research had been presented, and the participation was consolidated after the signing of the permission term, starting then the methodological Protocol for data collection which obeyed the 466/12 Resolution. Were applied through interview the following questionnaires: 1. socio-demographic characterization survey (LINO, 1999); 2. Scale of quality of work life (TIMOSSI, 2009). Were included in the study all the workers belonging to the nursing staff working at MSC with minimum experience of one year in the labor activities and with age over 21 years; it was excluded the ones on sick leave or the ones that did not accept to participate in the research.

## Data Collection Instruments

### Quality of Life at Work Scale

The Scale of quality of life at work, proposed by Walton (1973), adapted and validated for use in Brazil by Timossi (2009) is divided into 8 domains (Fair and Adequate Compensation; Working conditions; Use of Skills; Opportunities at work; Social Integration at Work; Constitutionalism; Work and Life; Social Relevance) and each domain is composed of questions, which have as reply option a scale type likert (1-very dissatisfied; 2-Dissatisfied; 3-Neither satisfied nor dissatisfied; 4-Satisfied; 5-Very satisfied), totaling 35 points. The scores of the instrument domain vary as Demonstrated in frame 1.

Domains	Minimum (points)	Maximum (points)
Fair and Adequate Compensation	4	20
Working conditions	6	30
Use of Skills	5	25
Opportunities at work	4	20
Social integration at Work	4	20
Constitutionalism	4	20
Work and Life	3	15
Social Relevance	5	25

Source: Timossi (2009)

### Data Processing and Analysis

The data was managed in the Microsoft Office Excel ® Program and imported into the Statistical Package for the Social Science (SPSS) program, version 21.0, being conducted exploratory analysis (descriptive) starting from the simple absolute frequency calculation and percentages for categorical variables and measures of centrality

(mean, median) and dispersion (standard deviation, minimum and maximum) to quantitative variables. The measures of internal consistency to the QWL instrument were obtained from the coefficient  $\alpha$  of Cronbach. For analysis of correlation between quantitative variables it was used the Spearman Correlation test. In bivariate analyses it was adopted a significance level equal to 5% ( $p \leq 0.05$ ). The

correlations were classified as: weak, moderate or strong: Weak Correlation =  $0 < r < 0.3$ ; Moderate correlation =  $0.3 \leq r < 0.5$  and Strong correlation =  $r \geq 0.5$  (COHEN, 1988).

total of 37 participants made composed the sample of this study, predominantly women (54.1%) marital status married (54.1) with children (67.6%) and high school education (43.2%) (Table 1).

## RESULTS AND DISCUSSION

**Table 1.** Socio-demographic characteristics of the participants in the study, interviewed at the Material and Sterilization Center of the Clinical Hospital of Uberlândia, 2016.

VARIABLE	n	%
<b>Gender</b>		
Feminine	20	54.1
Masculine	17	45.9
<b>Status</b>		
Married	20	54.1
Single	13	35.1
Divorced	4	10.8
<b>Children</b>		
Yes	25	67.6
Not	12	32.4
<b>Scholarity</b>		
Middle School	1	2.7
High School incomplete	0	0
High School	16	43.2
College Degree incomplete	8	21.6
College Degree	12	32.4
<b>TOTAL</b>	<b>37</b>	<b>100</b>

**Source:** the authors, 2016.

In a historical context, nursing is considered mainly a female job (SILVA; ROTENBERG; FISCHER, 2011). However, in this research it is noticed a very small difference, in number, between the genders, indicating a growing male (45.9%) interest on working at the nursing field.

The professionals who had participated in this study are for the most part married with children. This fact may facilitate the occurrence of physical, emotional and psychic exhaustion, allowing the development of diseases such as depression, fatigue, as well as dissatisfaction with the work. In the same way and in a manner almost antagonistic, having kids and a partner can be emotional support for better dealing with daily issues such as the issues of professional scope. (FARIAS; ZEITOUNE, 2011; CAMPOS; FARIAS; RAMOS, 2009).

Concerning the work characteristics of the sample, (Table 2), 13.5% are nurses, and 64.9% are nurse technicians that work in shift (91.9%). Regarding working shift, 56.8% are night shift. The main activities in MSC are the assembling of hospital materials and other activities, with 29.7% each; followed by cleaning and disinfecting of materials, 24.3%, Assembly of loads and autoclave, 13.5% and distribution of sterile materials, 2,7 %.

In the present study observed that 40.5% of people working with another type of employment bond. It is considered that two or more bonds of work is a harmful factor to health and occupational satisfaction of the employee, exposing the professional to greater risks of professional illness, high workloads, psychological exhaustion and negative physiological alterations (PAULA; SILVA; BRAGA, 2011).

**Table 2.** Labor characteristics of the research participants interviewed at the Central of Sterile Materials of Clinical Hospital of Uberlandia, 2016.

VARIABLE	n	%
<b>Professional category</b>		
Nurse Technician	24	64.9
Nurse Assistant	8	21.6
Nurse	5	13.5
<b>Contract category</b>		
Nurse Technician	18	48.6
Nurse Assistant	15	40.5
Nurse	4	10.8
<b>Area of Performance at MSC</b>		
Rotating	34	91.9
Disinfection	2	5.4
Distribution	1	2.7
<b>Fixed working hours</b>		
Yes	35	94.6
Not	2	5.4
<b>Working shift</b>		
Night	21	56.8
Evening	9	24.3
Morning	6	16.2
OndutyHAD	1	2.7
<b>Another Employment bond</b>		
Yes	15	40.5
Not	22	59.5
<b>Why work at the MSC</b>		
Choice	22	59.5
Relocated by the company	7	18.9
No opportunity in another	6	16.27
Others	2	5.4
<b>Likesworking atMSC</b>		
Yes	100	100
Not	0	0
<b>Satisfied on working atMSC</b>		
Yes	100	100
Not	0	0
<b>Main activity atMSC</b>		
Assembly of hospital materials	11	29.7
Cleaning and Disinfection materials	9	24.3
Load assembly and autoclave	5	13.5
Distribution of Sterile materials	1	2.7
Others	11	29.7
<b>Benefits</b>		
Medical insurance	12	32.4
Others	25	67.6
<b>TOTAL</b>	<b>37</b>	<b>100</b>

Source: the authors, 2016.

Although all participants report satisfaction on working at the studied area, the relocation of staff to the MSC area it is noticed, which may create personal and institutional conflicts, such as duplication of bonds of employment, deficiency in the organizational structure and on the model of applied management, resources scarceness, centralization of the work and hierarchy, generating consequences in interpersonal relations and also in the health care provided (BÜHLER; VIEIRA, 2010).

The Table 3 presents the characteristics of the Questionnaire of Quality of Life at Work with the values of average, standard deviation, minimum and maximum scores obtained, as well as the analysis of the reliability of the domains of the instrument.

In general, all domains have obtained satisfactory values when comparing the average value obtained with the total scores allowed on each domain (Table 3). In this comparison, the domain "Fair and Adequate Compensation" demonstrated lower mean value ( $10.68 \pm 2.86$ ) regarding to the total score (20 points), showing dissatisfaction of the team with payment and financial benefits obtained with the job.

The domain "Use of Skills" showed optimistic values, since the average ( $18.19 \pm 3.90$ ) was close to the maximum value allowed in this session (25 points), implying the employee satisfaction with the autonomy and responsibility they own in the development of the labor task.

**Table 3.** Characteristics of the Quality of Life in Work Questionnaire of the research participants, interviewed at the Central of Sterile Materials of Clinical Hospital of Uberlândia, 2016.

DOMAINS	MEAN $\pm$ SD	MINIMUM	MAXIMUM	$\alpha$ Cronbach
Fair and Adequate Compensation	10.68 $\pm$ 2.86	4	16	0.775
Working Conditions	17.14 $\pm$ 4.46	10	30	0.740
Use of Skills	18.19 $\pm$ 3.90	5	25	0.744
Opportunities	12.22 $\pm$ 2.75	6	20	0.755
Social Integration	14.03 $\pm$ 2.88	4	20	0.752
Constitutionalism	13.27 $\pm$ 2.85	6	20	0.746
Work and Life	9.38 $\pm$ 2.72	3	15	0.757
Social Relevance	17.05 $\pm$ 3.47	9	25	0.743
<b>Total Score</b>	<b>111.95<math>\pm</math>19.10</b>	<b>55</b>	<b>168</b>	<b>0.871</b>

Source: the authors, 2016.

The Cronbach's  $\alpha$  values demonstrated satisfactory internal consistency of the instrument on the sample evaluated, with values higher than 0.70 in all domains, as well as in the total score. It is known that the minimum acceptable value for alpha is 0.70; below this value the internal consistency of the scale used is considered low. In contrast, the expected maximum value is 0.90. Above this value, it is considered that there is redundancy or duplication, in other words, several items are measuring exactly the same element of a construct; so the redundant items must be eliminated (TABER, 2017).

It is understood that all the domains of the instrument are motivational factors for the proper development of work activities, as well as for the attainment of satisfaction in the adequate job, which is reflected in the QWL. Because of that this is a subject that has been increasingly prominent in the business world. It is a program that seeks to facilitate and meet the needs of the worker while developing their activities in the work environment.

Its main aspect is that the motivation of people at work is entirely linked to their satisfaction with the company (RODRIGUES, 2017).

The expressed motivation to QWL is an indispensable tool for a successful organization; it is the reason that leads people to have a certain action or behavior within the work environment. The expression motivation can be interpreted as the process by which a set of reasons or motives explains, induces, encourages, stimulates, or causes some kind of human action or behavior. Studies show that high scores of motivation and job satisfaction, as well as workers' quality of life in their companies are crucial to minimize some conflicts such as low commitment, high employee turnover and decrease in productivity (DA SILVA, 2017; BORGES et al., 2017).

The well-being of the team and a positive company progress depend on the adoption of models that respect the employee as an important member for its proper working. One of the greatest challenges of health institutions is to understand and

identify factors that motivate their collaborator, since the focus of the problems tends to be only hospitalized patient, for example. Motivated employees tend to perform their duties with more seriousness and effectiveness (PAULA; SILVA; BRAGA, 2011; RIBEIRO; SANTANA, 2015).

Besides, the human resources and working conditions that the sector offers to its team can also be reflected on the scores obtained on this study. Human resources reflect the needs of each individual in the company and encourage management tools that suit everyone and create a more satisfying working environment. The awareness of the importance of the well-being of its employees by the nursing and administrative

management is fundamental. Through these aspects, it will be possible to create preventive actions and QWL programs with the intention of solving everyday problems, such as physical and emotional exhaustion (GODOY, 2012; RIBEIRO; SANTANA, 2015).

In the Table 4 are presented the values of the Spearman correlation coefficient between the index of quality of life at work and the quantitative socioeconomic variables. Among all the correlations, it is evident that "Fair and adequate Compensation X salary" ( $r = 0.356$ ,  $p < 0.05$ ) and "Work and life X Salary" ( $r = -0.402$ ,  $p < 0.05$ ) refers to moderate and significant correlations.

**Table 4.** Spearman correlation coefficient between the Quality of Life at Work Instrument and quantitative variables of the study participants, interviewed at the Material and Sterilization Center of Clinical Hospital of Uberlândia, Brazil, 2016.

DOMAINS	VARIABLE			
	Nº Children	Years since graduation	Years of Experience	Wage
<b>Fair and Adequate Compensation</b>	-0.203	0.163	-0.101	0,356*
<b>Working Conditions</b>	0.053	-0.100	0.042	-0.198
<b>Use of Skills</b>	-0.219	-.0144	-0.064	-0.146
<b>Opportunities</b>	0.031	-0.048	-0.093	-0.040
<b>Social integration</b>	0.096	0.117	0.024	-0.186
<b>Constitutionalism</b>	0.072	-0.013	0.060	-0.231
<b>Work and Life</b>	-0.102	0.023	-0.150	-.0402*
<b>Social Relevance</b>	-0.123	-0.099	-0.025	-0.226
<b>Total Score</b>	-0.035	-0.091	0.010	-0.201

Source: The authors, 2016.

$p < 0.05$  Statistical Significant Values

In "fair and Adequate Compensation X Salary" the correlation value is positive, which shows that there is a positive relationship; it becomes clear that the workers of this sector believe that they receive a proper and fair remuneration in relation to the work performed.

On the other hand, is noticed in the Table 4 a second correlation "Work and life X Salary" that is also moderate, but negative. Although they seem to be two contradictory results, it is pointed out that even though the workers consider their wages in line with their work, this remuneration is not their main source of personal income, and may not be enough to their life maintenance, characterizing a devaluation of work.

This data justifies the search for other sources of income by the majority of employees on this sector, such as the search for extra income in a second job in another institution.

It is known that one of the main motivations to get a degree, specializations and a satisfactory job is the remuneration, "because the money and benefits to be acquired are vital for people to reach their individual goals and meet their basic needs and also the needs of their family". (PIRES; VASCONCELOS, 2015; ANSCHAU; STEIN, 2017).

According to Costa and Carneiro (2012), "Fair and Adequate Remuneration" is understood as if the remuneration is fair compared to the remuneration pay for other companies and also compared to the salary of the other professionals who are performing the same function on the labor market. This financial factor integrates itself as an important element in family structuring, both for the reality of personal needs and desires, and for achieving professional improvement and qualification.

There are several factors that determine whether compensation is in fact fair and adequate. In the MSC sector, all employees are trained to work in any subsector and according to the day's schedule they are relocated to the intended function. Although all employees perform the same function on different days, there are wage divergences where one employee receives a fixed amount greater than the other and this is justified because the salary of a nurse varies due to individual qualifications, practical experience time, skills and knowledge in the area being checked, expertise and their personal history (PIRES; VASCONCELOS, 2015).

In the field "Work and Life", it is understood that work can directly affect the worker's personal life, in a positive or negative way. The workload and the exhaustive work may affect and reflect on family issues. The worker, who has quality of life at work, and suffers less physical weariness, is able to dedicate his free time in leisure with his family. This is the domain that will measure the harmony between the work and the life of the collaborator (COSTA; CARNEIRO, 2012).

For the correct measurement and interpretation of this domain, it is necessary to consider individual questions of each worker, taking into account the conditions of personal life, family structure, health conditions, leisure, besides the work in itself.

Regarding to salary, although the employees believe that their pay is adequate for the work they perform, it may not be enough to meet all the demands of their personal lives. The salary issue is a common problem in nursing reality and is stated as one of the causes of increased dissatisfaction and concern among professionals. It is worth mentioning that the low pay, besides causing dissatisfaction, interferes on their self-esteem and the perception of their professional status, because there is a tendency to value more the professions with better remunerations (SILVA et al.; 2016).

Although there are divergent remunerations between the workers in the mentioned sector, where some receive much more than others due to their training and education, much is still discussed about the nursing minimum wage; the average

remuneration has a high variation between health services as well as between the regions of Brazil which explains the incongruity that at first is seen in the axis "Fair and Adequate Compensation" X Salary" and "Work and Life X Salary", although they believe that their paying is fair, is not enough for the financial maintenance of their life.

## CONCLUSIONS

This research answered the proposed objectives, evaluating the QWL of the nursing team of the MSC sector of a Hospital de Clínicas in the state of Minas Gerais, and established correlations between this psychometric construct and socio-demographic variables of the sample, in order to perform a situational diagnosis of how the professionals of this sector perceive the influence of the labor activities on their lives, on a physical, mental and social perspective.

The issues related to income and remuneration directly influenced the domains of the instrument of quality of life at work "Fair and Adequate Compensation" and "Work and Life", inferring how important it is for the workers an adequate remuneration for the work activities performed, besides this slope can positively or negatively influence subjective quality of life questions.

These results, in addition to other data demonstrated in this study, can both subsidize labor reforms related to the remuneration plans and professional valorization, as well as the institutional creation of intervention programs in order to optimize QWL and, consequently, higher the productivity, lower the absence rates due to physical and mental health issues, as well as providing a harmonious working environment.

However, in addition to cross-sectional studies such as the one performed, it is necessary and interesting the execution of longitudinal drawing research, of intervention and focal group in order to understand the behavior of these QWL variables over the time, as well as the effects of labor interventions in the sample.

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**RESUMO:** A qualidade de vida no trabalho (QVT) possui íntima relação com as atividades laborais realizadas pelo trabalhador, impactando a saúde física e mental, vida social, o comportamento e o desempenho do mesmo. Correlacionar escores de QVT com variáveis sociodemográficas de profissionais de Enfermagem do setor de central de material e Esterilização (CME) de um Hospital Universitário de Minas Gerais. Estudo transversal, de caráter quantitativo, descritivo e analítico. Por meio de entrevistas foram aplicados: Questionário sociodemográfico (LINO, 1999); e Escala de Qualidade de Vida no Trabalho (TIMOSSI, 2009). Os dados foram analisados através do Programa Statistical Package for the Social Science (SPSS), versão 21.0, para análises exploratórias. Utilizou-se o

coeficiente  $\alpha$  de Cronbach para testar a confiabilidade do instrumento QVT e o teste de Correlação de Spearman para correlação entre os escores de QVT e variáveis quantitativas sociodemográficas. Participaram do estudo 37 funcionários. O instrumento de QVT demonstrou que mais de 50% dos funcionários estavam satisfeitos. O domínio de "Integração social" obteve um resultado de 70,15%. O domínio "Uso das capacidades" que obteve a maior média em relação ao nível de satisfação, 72,76%. O domínio "Oportunidades" obteve a menor média apresentada 61,10%. Os valores de  $\alpha > 0,70$  indicaram boa confiabilidade do instrumento para a amostra. A renda correlacionou-se de forma significativa ( $p < 0,05$ ), moderada e positiva ( $r = 0,356$ ) com o domínio "Compensação justa e adequada" e moderada e negativa ( $r = -0,402$ ) com o "Trabalho e Vida". Os resultados demonstram que variáveis como remuneração e compensação justa e adequada estabelece relação direta com constructos psicométricos subjetivos dos trabalhadores, tais como qualidade de vida, convívio social, satisfação e motivação do profissional. Estes resultados podem alicerçar ferramentas de gestão do trabalho em instituições de saúde.

**PALAVRAS-CHAVE:** Saúde no trabalho. Satisfação do trabalhador. Enfermeiros. Questionários.

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