ORIGINAL ARTICLE

Development and Validation of a short form instrument for the evaluation of quality of working life of nurses in hospitals

DESENVOLVIMENTO E VALIDAÇÃO DE UMA VERSÃO REDUZIDA DO INSTRUMENTO PARA AVALIAÇÃO DA QUALIDADE DE VIDA NO TRABALHO DE ENFERMEIROS EM HOSPITAIS

DESARROLLO Y VALIDACIÓN DE UNA VERSIÓN REDUCIDA DEL INSTRUMENTO PARA LA EVALUACIÓN DE LA CALIDAD DE VIDA EN EL TRABAJO DE ENFERMERAS EN HOSPITALES

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ABSTRACT

This study aims to develop a short form of an instrument to assess the Quality of Working Life (QWL) of hospital nurses and to evaluate its reliability and validity. The study was developed with a probabilistic sample of 348 nurses enrolled in four hospitals in Sao Paulo city, Brazil. Clinimetric and psychometric methods were used for the items reduction resulting in an instrument with 31 items and four domains: Institutional valorization and recognition; Working conditions, security and salary; Identity and professional image and Integration with the team. Internal consistency analysis showed Cronbach's alpha coefficients of 0.94 for the total items and 0.77 to 0.92 for the domains. These results and those obtained in the analysis of convergent, criterion and discriminant validity suggest that the reduced instrument is suitable for the measurement of QWL of nurses in hospitals.

KEY WORDS

Quality of life.
Work.
Nursing.
Nursing Staff, Hospital.
Validation studies.

RESUMO

Este estudo tem como objetivos desenvolver a versão reduzida de um instrumento para avaliação da Qualidade de Vida no Trabalho (QVT) de enfermeiros hospitalares e analisar a sua confiabilidade e validade. O estudo foi desenvolvido com uma amostra probabilística de 348 enfermeiros selecionados em quatro hospitais da cidade de São Paulo. Os métodos clinimétrico e psicométrico foram utilizados no processo de redução de itens, obtendo-se um instrumento com 31 itens e quatro domínios: Valorização e reconhecimento institucional; Condições de trabalho, segurança e remuneração; Identidade e imagem profissional e Integração com a equipe. Na análise da consistência interna, obtiveram-se coeficientes alfa de Cronbach de 0,94 para o total de itens e de 0,77 a 0,92 para os domínios. Estes resultados e os obtidos nas análises de validade convergente, de critério e discriminante sugerem que o instrumento reduzido é adequado para a mensuração da QVT de enfermeiros em hospitais.

DESCRITORES

Qualidade de vida.
Trabalho.
Enfermagem.
Recursos Humanos de Enfermagem no Hospital.
Estudos de validação.

RESUMEN

Este estudio tiene como objetivo desarrollar una versión reducida de un instrumento para evaluar la Calidad de Vida en el Trabajo (CVT) de enfermeros en hospitales y evaluar su fiabilidad y validez. El estudio fue desarrollado con una muestra probabilística de 348 enfermeros seleccionados en cuatro hospitales da la ciudad de São Paulo, Brasil. Los métodos clinimétrico y psicométrico fueran utilizados en la reducción de ítems, obteniendo-se un instrumento con 31 ítems y cuatro dominios: Valorización y reconocimiento institucional; Condiciones de trabajo, seguridad y remuneración; Identidad y imagen profesional y Integración con el equipo. En la análisis de consistencia interna se obtuvieran coeficientes alfa de Cronbach de 0,94 para lo total de ítems y de 0,77 a 0,92 para los dominios. Estos resultados y los obtenidos en el análisis de validez convergente, de criterio y discriminante sugieren que el instrumento reducido es adecuado para la medición de CVT de enfermeros en hospitales.

DESCRIPTORES

Calidad de vida.
Trabajo.
Enfermería.
Personal de Enfermería en Hospital.
Estudios de validación.

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INTRODUCTION

Quality of life related to the work of healthcare professionals is a topic that has been of interest in the past years, due to the importance of personal, environmental and organizational factors involved in the professional context and its relation with the quality of healthcare. However, there is a lack of instruments to measure the Quality of Working Life (QWL) of health professionals that consider the specific nature of their work.

In the Nursing area, as well as in other areas, the measurement of QWL implies the need to previously identify objective and subjective indicators originated from the context of the practice and from the perception of the professionals about their work.

Themes related to work and the QWL of the nursing professionals have been addressed in the past years, in different areas, perspectives and methods[1].

Regarding the QWL measurements, it is understood that, in the Brazilian nursing field, few instruments have been specifically developed and validated for the evaluation of the QWL of nurses[1]. Therefore, initiatives aiming at developing instruments with this purpose, using indicators obtained from the professionals themselves and their working context are justified. According to a well-established theoretical-methodological reference for measuring subjective phenomena[2], a doctoral study[3] developed a QWL instrument for nurses in public and private hospitals, composed of 71 items and 13 domains. The psychometric analyses showed highly satisfactory reliability (total Cronbach's alpha = 0.93 and between 0.92 - 0.93 in the domains) and validity (discriminant, convergent and concurrent), indicating its adequacy to measure the QWL of nurses in hospitals.

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The resulting instrument allows for comprehensive and detailed assessments of different aspects of the QWL of those nurses. However, a short version which preserves adequate psychometric properties is highly desirable, since the practicality and economy of time and effort are important factors, both for those who apply as to who answers the instrument.

With the purpose of obtaining short-forms of existing long instruments, researchers[4-8] have reduced different types of questionnaires to a minimum number of relevant items that maintain the representation of the construct of interest.

This article describes a study performed with the goal of making available a short form of an existing instrument [3] for the evaluation of the QWL of nurses in hospitals.

OBJECTIVES

The goals of the study were: to develop a reduced form of an instrument for the assessment of QWL of nurses in hospitals and analyze the reliability and validity of the reduced instrument.

METHOD

The study was developed based on secondary data from nurses of two public and two private hospitals in the city of São Paulo, Brazil. The research project was approved by the respective Ethical Review Board.

The population was composed by nurses working in the aforementioned hospitals, who voluntarily agreed to take part in the study by signing the Informed Consent Term. Of the 756 nurses working in the four hospitals, 352 were randomly selected, guaranteeing similar proportions to the total amount of nurses working in each hospital.

Of the 352 nurses, four did not return the completed questionnaires and the study sample was composed of 348 nurses (98.9%). Of these, 214 (61.5%) were nurses in public hospitals and 134 (38.5%) were nurses in private hospitals.

Description of the original QWL instrument

The concept of QWL measured by the instrument is expressed as *the perception of the nurses' satisfaction with aspects of their work that are considered important by them*. The QWL measurement is based on the degree of satisfaction and importance perceived by the nurses in relation to different aspects of their work[3].

The original instrument is composed of two parts of 71 items: the first part evaluates the level of satisfaction, and the second evaluates the level of importance. Values ranging from 1 to 5 are attributed in Likert type scales, so that a value of 1 corresponds to *Very unsatisfied* and *Not important at all*, whereas a value of 5 corresponds to *Very satisfied* and *Very important* answers. The instrument has another answer choice, with a value of 0, which can be chosen when the situation mentioned in the item is *not applicable* to the respondent.

The first item of the instrument refers to a global QWL evaluation and is not computed in the calculation of scores. The other 70 items are distributed in 13 domains, obtained from the exploratory factor analysis. The instrument can either be applied through interview or by self-administration.

The scoring system was based on Ferrans and Powers' model[9], developed in a way that each item of the first part (Satisfaction) is counterweighed by its correspondent in the

second part (Importance). Combined values arise from this process, where the highest scores represent high satisfaction and high importance, and the lowest scores represent low satisfaction and high importance. This scoring system is based on the premise that people who are satisfied with the areas that they consider important have better quality of life than people who are unsatisfied with aspects that they consider important[9].

The scoring procedure requires, primarily, the re-coding of the satisfaction items in order to centralize the zero on the scale. This re-coding is performed by subtracting 3 from the scores attributed to each of the five levels of satisfaction, resulting in scores of -2, -1, 0, +1, +2 for the initial scores of 1, 2, 3, 4, 5, respectively.

Next, the re-coded scores for each satisfaction item (from -2 to +2) were multiplied by the values of the scores attributed to the respective items of importance (from 1 to 5). The final score is obtained by adding the weighed values of all the answered items and dividing the result by the total number of answered items. At this point, the scores can vary from -10 to +10. Ten points are added to the obtained values in order to eliminate negative figures in the final score, resulting in a possible range from 0 to 20. The highest values indicate a better QWL.

The steps for the calculation of the domain scores are the same as above, considering only the number of items answered in the domain in question. The total score of each domain also varies from 0 to 20.

In short, the following formula[3] is adopted for the calculation of the QWL index (total and by domain), according to the aforementioned orientations:

Total score = [(SAT × IMP) of each item ÷ number of answered items] + 10,

with:
SAT = re-coded value for each satisfaction item (-2 to +2)

and
IMP = original value of each item of importance (1 to 5).

Procedure for items reduction

The clinimetric method was the first procedure for items reduction[8,10]. This method is based on the *clinical impact* of the items, assessed according to two criteria: the frequency and the importance of each item. *Frequency* refers to the percentage of individuals who consider an item to be important, and *importance* is measured according to the importance score attributed to the item. The product of frequency by the importance of each item is taken as the expression of its impact for the respondents. Items with lower products are considered to have the least impact, and thus, they could be excluded from the instrument [8,10]. In the present study, the median value was considered as the item's importance score.

Two instruments were used in this first stage: one for the professional and sociodemographic characterization of the respondent and another, containing the list with 70 items, for the evaluation of its importance by the nurses.

The 348 nurses included in the study evaluated the degree of importance of the 70 items, according to a 5-point scale that varies from *not important at all* (score = 1) to *very important* (score = 5). After the multiplication of the frequency of answers by the median of the importance score, the items were organized from highest to lowest, according to the impact score, eliminating those with values below the 25th percentile. It is worth noting that item #1 (global QWL assessment) was not included in this evaluation.

Based in previous studies[5-6,10], additional criteria were adopted for the elimination of items: 1) if the item were not applicable for more than 5% of the respondents; 2) if the frequency were equal or higher than 60% of the respondents in the *satisfied* level of the scale; 3) if there were items with a linear correlation ≥ 0.70. Pearson's correlation coefficient was used in the latter criterion, considering the combined scores of both parts of the instrument (satisfaction and importance).

The instrument reduced with the aforementioned criteria was submitted to the exploratory factorial analysis, a method that identifies groups of variables or elements[11]. It consists, therefore, in the examination of the instrument's dimensionality and it is one of the strategies for the construct validation. The method of Principal Components was used, extracting the factors with eigenvalues higher than one and aggregating at least three items with factor loadings ≥ 0.4. The items were allocated in the factors according to the highest item-factor correlations. Those with factor loadings under 0.40 were removed[5].

The Varimax method was used for the rotation of the retained factors. The rotation is a procedure used in the factor analysis with the purpose of adjusting the factors to improve the correlation among the items and the factors, giving them a better interpretative meaning[12].

Once defined the factor structure, the instrument was submitted to analysis of its reliability and validity.

Procedures for the analysis of the reliability and validity of the short form instrument

Reliability was examined by the internal consistency of items and domains. The internal consistency is tested by *verifying the congruence that each item of a test has with the remaining items of the same test*[11]. For such verification, Cronbach's alpha coefficient is usually applied, as it *reflects the degree of covariance of the items among each other, working as an indicator of the internal consistency of the test itself* [11]. The value of the alpha coefficient varies from 0 to 1. The closer it is to 1, the higher the internal consistency of the items. Alpha values ≥ 0.70 for the do-

mains and ≥ 0.80 for the total items of the instrument were considered acceptable[5,11].

The item-domain correlation lower than 0.40 was the criterion used for the identification of inconsistent items[5-6]. These items were analyzed according to their content and the influence of its exclusion in value of the alpha coefficient.

To test the **convergent validity**, the reduced instrument was compared with Maslach's Burnout Inventory validated in Portuguese[13], considering the hypothesis of negative association of burnout and QWL. This Inventory evaluates feelings and attitudes towards work aspects and has 22 items in three subscales - Emotional Exhaustion (9 items), Depersonalization (5 items) and Low Professional Accomplishment (8 items). Each of the items is tested as *how often do you feel that?* The respondent should choose one among the following answer choices in the scale: 0 - Never, 1 - A few times a year, 2 - A few times a month, 3 - A few times a week and 4 - Daily. In the subscale *Low Professional Accomplishment*, the item scores should be inverted when calculating the total score. The internal consistency reliability of Maslach's Burnout Inventory was tested in the sample of this study.

Concurrent criterion validity was tested by correlating the score of question 1 (global QWL evaluation) with the total score and the scores of each domain of the instrument. The global evaluation of the QWL was considered the standard criterion, to which the concept measured by the instrument should relate[9,14].

Discriminant validity was analyzed by comparing the average values of the scores of nurses in government institutions and those in private hospitals, considering the differences observed in the working conditions of these institutions. Mann-Whitney's non-parametric test was applied to analyze the differences between the scores of both groups of nurses.

RESULTS

Nearly all of the 348 nurses included in the study (94.8%) were female. Age varied from 21 to 64 years, with an average of 35.7 years (± 8.0). Single people predominated in the study (46.2%), with another 39.1% of the nurses being married. Most of the nurses had no children (54.5%), and among those with children, 82.5% had one or two. Out of 307 nurses who informed their salaries, the average value was R$ 2,159.40 (± R$ 679.20). Higher and lower variations corresponded to the positions held in the hierarchy of each institution. The time of graduation was 9.7 years on average, varying from eight months to 31 years. Nearly 20% had taken no other courses after graduation, but most of them had undergone specialization courses (68.4%); few nurses had master's (9.1%) or doctoral (1.2%) degrees. Nurses working at inpatient units predominated (32.9%), working on assistance activities (75.1%). The study participants had been working as nurses for 110 months (± 9.2). The average working time at the institution was 98 months (± 8.2). Most of them (70.4%) worked on a fixed schedule and 72.9% had no other jobs. 38.7% of nurses reported receiving benefits such as healthcare plans, daycare, parking facilities and educational aid for themselves or their children.

Reducing the items of the original instrument

In the first stage of the process, the most important items for the nurses were identified among the 70 items of the original instrument. The result of the frequency multiplied by the importance of each item yielded figures that represented their impact on the nurses' QWL. These values were sorted from highest to lowest, and the number 668 (25th percentile) was the lower limit, with 15 items with values under it being eliminated. Another four items were excluded since they were considered *not applicable* by more than 5% of the respondents. Next, eight other items were excluded because they concentrate more than 60% of the nurses at the level *satisfied*. Therefore, 27 out of the 70 original items were excluded. Of the 43 remaining items, 11 showed correlation 0.70 with one or more items in the inter-item correlation matrix. The content analysis of the 11 redundant items supported the elimination of seven of them. The remaining 36 items were submitted to the exploratory factor analysis. The matrix of rotated components showed that five items had factor loadings under 0.4 in all factors, being therefore excluded.

With these procedures, the instrument was reduced to 31 items, which were again submitted to an exploratory factor analysis. The adequacy of data for this analysis was demonstrated by tests of Bartlett's sphericity (p = 0.000) and Kaiser-Meyer-Olkin (0.926). Four factors with eigenvalues higher than one were extracted that, together, explained 54.8% of the total variance.

Table 1 Shows the rotated matrix of the four factors, with the factor loadings of each item.

Table 1- Items of the reduced instrument distributed according to factors and respective factor loadings

Factors and items		Factor loadings			
#	Factor 1: Institutional valorization and recognition	1	2	3	4
59	freedom to express ideas	**.754**	.046	.194	.077
41	support from nursing management	**.745**	.208	.076	.295
58	encouraging creativity	**.726**	.304	.149	.009
35	the possibility of being heard in the institution	**.724**	.157	.141	.281
38	support from the medical team	**.714**	.361	.032	.093
37	information about changes in work	**.695**	.302	.130	.095
50	communication with the nursing headship	**.648**	.227	.236	.154
16	autonomy at work	**.633**	.115	.231	.101
27	opportunities to study	**.604**	.183	.036	.119
46	knowledge about the goals of the institution	**.517**	.286	.156	.218
62	the institution where they work	**.502**	.390	.319	.131
17	compliance with the institutional norms by people in general	**.466**	.368	.282	.089
	Factor 2: Working conditions, security and salary				
6	salubrity of the workplace	.183	**.743**	.090	.083
5	workplace security	.081	**.741**	.011	.140
24	actions by hte institution to prevent work-related accidents	.255	**.683**	.171	.078
3	ergonomic conditions of te workplace	.236	**.623**	.126	.245
7	amount of material available to work with	.144	**.590**	.148	.150
9	amount of nursing staff at the workplace	.126	**.538**	.160	.081
56	monthly salary	.323	**.512**	.194	-.272
57	benefits provided by the institution	.397	**.494**	.232	-.308
68	care provided to the patient by the institution	.393	**.464**	.237	.170
2	the place for coffee/snacks (or rest) at the workplace	.305	**.462**	-.085	.203
	Factor 3: Identity and professional image				
71	the profissional itself, as a nurse	.146	.123	**.829**	.055
69	the profession	.191	.074	**.804**	.026
70	the image of the profession at the institution	.326	.302	**.541**	.167
48	communication with other professionals	.334	.202	**.483**	.380
34	recognition by the patients	.054	.197	**.464**	.392
	Factor 4: Integration with the team				
42	support from other nurses	.397	-.010	.195	**.622**
4	order and organization at the workplace	.276	.384	.039	**.562**
40	support from the nursing team	.398	.294	.211	**.507**
31	relationship with the staff	.291	.392	.217	**.474**

The first factor was composed of 12 items. Given the nature of the aspects aggregated in this factor, it was named as the dimension of QWL related to *Institutional valorization and recognition*. It regards the opportunities to develop and use skills and knowledge, to exert autonomy, the flow of information at the workplace and the institutional norms.

The second factor included 10 items. This factor was interpreted as the dimension of *Working conditions, security and salary* allowing to evaluate the adequacy of the physical environment for the workers' health and well-being, work infrastructure, the salary and the benefits offered by the institution.

The third factor yielded five items, which deal with aspects related to *Identity and professional image*. These items allow for the exploration the nurses' opinion about the recognition they receive from the patients, the communication with other professionals, the image of their profession and of themselves as nurses.

The fourth factor covered four items, composing a dimension named *Integration with the team*. Although item 4 (order and organization at the workplace) apparently had nothing to do with the rest, this dimension seems to represent physical and social aspects of the workplace, which are necessary to the organization of the teamwork.

With this factorial structure, the Nurses' Quality of Working Life Instrument - Instrumento de Qualidade de Vida no Trabalho de Enfermeiros (IQVTE) - was assessed for its reliability and validity.

Analysis of IQVTE's reliability
Internal consistency

Table 2 shows the results of the internal consistency analysis of the dimensions of the instrument. Cronbach's alpha coefficient for the total 31 items was 0.94, and the criterion of alpha ≥ 0.70 was met in all dimensions, indicating a high level of internal consistency.

Table 2 - Cronbach's Alpha coefficients for the IQVTE dimensions and item-total correlations

Dimension	Item	Item-total correlation	Alpha if item deleted
Dimension 1 (alpha=0.92)	16	0.582	0.914
	17	0.569	0.914
	27	0.588	0.914
	35	0.729	0.907
	37	0.687	0.909
	38	0.724	0.907
	41	0.748	0.906
	46	0.571	0.914
	50	0.692	0.909
	58	0.721	0.908
	59	0.693	0.909
	62	0.651	0.911
Dimension 2 (alpha=0.84)	2	0.435	0.839
	3	0.617	0.821
	5	0.569	0.825
	6	0.644	0.818
	7	0.524	0.829
	9	0.448	0.837
	24	0.620	0.822
	56	0.492	0.832
	57	0.518	0.830
	68	0.553	0.827
Dimension 3 (alpha=0.78)	34	0.409	0.787
	48	0.532	0.747
	69	0.607	0.721
	70	0.564	0.737
	71	0.679	0.699
Dimension 4 (alpha=0.77)	4	0.443	0.783
	31	0.572	0.718
	40	0.687	0.658
	42	0.605	0.700

Dimension 1: Institutional valorization and recognition; Dimension 2: Working conditions, security and salary;
Dimension 3: Identity and professional image; Dimension 4: Integration with the team;

The data in Table 2 show that item 4 in the fourth dimension was the only one that could improve the value of Cronbach's alpha if it were excluded. The exclusion of this item (order and organization at the workplace) would increase the coefficient from 0.77 to 0.78. In view of this small contribution, it was decided to maintain the item in the domain.

All the 31 items had significant correlations, higher than 0.40 with the total score of the respective dimension.

Table 3 shows the descriptive statistics of the IQVTE scores and the internal consistency coefficients.

Table 3 - Descriptive statistics of the IQVTE scores and Cronbach's Alpha coefficients (dimensions and total items)

Dimension	Number of items	Mean (sd)	Median	Min./Máx.	Cronbach 's Alpha
1	12	15.24 (3.51)	15.42	4.00/20.00	0.92
2	10	14.92 (3.38)	14.90	5.78/20.00	0.84
3	05	18.32 (3.43)	18.40	4.00/20.00	0.78
4	04	16.23 (3.58)	16.25	4.75/20.00	0.77
Total items	31	15.81 (2.98)	15.84	5.29/20.00	0.94

Dimension 1: Institutional valorization and recognition; Dimension 2: Working conditions, security and salary;
Dimension 3: Identity and professional image; Dimension 4: Integration with the team;

In a possible variation of 0 to 20, dimension 2 *Working conditions, security and salary* obtained the lowest average scores (14.92 ±3.38), while the highest scores (18.32±3.43) were observed in Dimension 3 *Identity and professional image*.

Validity analysis

Convergent validity

Maslach's Burnout Index was initially tested regarding its internal consistency, resulting in Cronbach's alpha = 0.62 for the domain *Depersonalization*, 0.77 for *Low professional accomplishment*, 0.87 for *Emotional exhaustion* and 0.88 for the total of the items. Except for the lowest coefficient in the *Depersonalization* domain, the other results attest the reliability of the instrument for the study sample.

The data in Table 4 show that the short form instrument correlated as expected with the total Burnout score and with two dimensions (Emotional exhaustion and Low professional accomplishment).

Table 4 - Correlation between the total score of the IQVTE and the Maslach's Burnout Index scores

Burnout Index	IQVTE total	
	Correlation coefficient	p value
Emotional exhaustion	-0.67*	0.00
Depersonalization	-0.16**	0.25
Low professional accomplishment	-0.43**	0.00
Total items	-0.65*	0.00

*Pearson's correlation; **Spearman's correlation

Concurrent criterion validity

Table 5 shows that the correlations between the IQVTE scores and item #1, global QWL evaluation, were highly significant.

Table 5 - Correlations between the global QWL assessment and the IQVTE scores

IQVTE	GLOBAL QWL	
	Correlation coefficient	p value
1. Institution valorization and recognition	0.49**	0.00
2. Working conditions, security and salary	0.52*	0.00
3. Identity and professional image	0.32*	0.00
4. Integration with the team	0.31**	0.00
Total items	0.51**	0.00

*Pearson's correlation; **Spearman's correlation

Discriminant validity

The results of the comparison of the mean rank values of the IQVTE obtained by nurses working in public and private hospitals are presented in Table 6.

Table 6 - Comparison of the mean rank scores of the IQVTE between nurses working in public and private hospitals

IQVTE	Mean rank scores per type of hospital		p* value
	Public (n = 214)	Private (n = 134)	
1. Institutional valorization and recognition	167.79	185.21	0,12
2. Working conditions, security and salary	145.16	221.36	0.00
3. Identity and professional image	169.97	181.74	0.29
4. Integration with the team	171.00	180.09	0.41
Total items	158.67	199.79	0.00

* Mann-Whitney's test

It could be observed in Table 6 that dimension 2 *Working conditions, security and salary* and the total items of the instrument discriminated the nurses working in public and private hospitals in a statistically significant way. Dimensions 1, 3 and 4 did not have significant differences, although the mean rank scores in private hospitals were higher than those in public hospitals.

DISCUSSION

The main methodological lines guiding the procedures for selecting items of an instrument have been based on two methods: clinimetric and psychometric[10]. Both were adopted in this study in order to select, within the items of the original instrument, the most relevant to measure the QWL among the nurses in hospitals. Therefore, the opinions of the nurses about the importance of the items were taken into consideration, as well as the results of the psychometric tests.

The process used to reduce the items of the original instrument resulted in a version with 31 items, grouped in four dimensions by the factor analysis: Institutional valorization and recognition (12 items); Working conditions, security and salary (10 items); Identity and professional image (5 items) and Integration with the team (4 items). The dimensions contained in the final version of the reduced instrument explain 54.8% of the total variance and include QWL indicators identified in different theoretical models[3].

The nurses' QWL was represented by individual factors, aspects of their professional context and the organizational structure (Table 1) which, inter-related, compose a set of *diverse and contradictory interests, present in environments and working conditions, in private and public companies* [15]. These factors are related not only to those of the organization and the work itself, but also to those of subjective nature (feelings, aspirations, beliefs and values). The conception that the QWL is a multidimensional and subjective construct is therefore confirmed, characterizing its theo-

retical complexity and the difficulty in measuring it adequately.

The resulting instrument showed satisfactory properties of reliability and validity in a random and heterogeneous sample of hospital nurses. Cronbach's Alpha coefficient values above 0.70 in all the dimensions and items confirmed its high internal consistency.

The results of this study also demonstrate the validity of IQVTE under different strategies. The scores of the dimensions and of the total items showed significant inverse correlations with those of the Burnout Index, supporting its convergent validity. The relations between burnout and characteristics of the nursing work found in the present study are ratified by several national and international publications[3,13,16-18].

The concurrent criterion validity was demonstrated by the significant correlations with the global QWL score. Since it is difficult to establish a gold standard for quality of life, the global assessment score has been used as the criterion in concurrent validation analyses[9,14], obtaining similar results to this study.

The IQVTE showed its discriminant validity, distinguishing nurses working in public and private hospitals significantly regarding the total score of QWL and of the dimension 2, *Working conditions, security and salary*. Among the elements that determine QWL, the most important are those that cover autonomy, participation of the workers in the working processes, health issues, security and relations with the organization of work[15], all of them contemplated in the second dimension of the IQVTE.

Although no statistical significance had been observed in the other dimensions of the IQVTE, the results show that the 31 items of the instrument and the 10 items of dimension 2 can be useful to detect differences in the QWL of nurses working in public and private hospitals.

The data in this research were obtained from 348 hospital nurses, corresponding to 98.9% of a sample randomly selected. However, the results obtained in this sample may not be extended to professionals working in other areas. Further studies are needed to assess the broader applicability of the instrument.

The cross-sectional design of this study did not allow for testing the stability and the responsiveness of the short form instrument, i.e., its ability to reproduce the same results in successive applications and to detect changes in the QWL over time. Prospective studies using this instrument will enable to analyze these properties.

In spite of the these limitations, the results obtained could allow the use of the instrument both for diagnosing the QWL of hospital nurses, as in future studies with different designs and in other areas of nurses work. It is expected that it will contribute to increase the knowledge about the practice environment of nurses and provide subsidies for the improvement of their Quality of Working Life.

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APPENDIX

Instrumento de Qualidade de Vida no Trabalho de Enfermeiros (IQVTE)

Part 1

Instruções : por favor, escolha a resposta que melhor descreve o quanto satisfeito você está com cada uma das perguntas a seguir. Responda marcando um círculo no número ao lado de cada pergunta, cujos valores vão de 1 = muito insatisfeito a 5 = muito satisfeito . Não há respostas certas ou erradas. Por favor, responda a todas as perguntas, pois sua opinião é muito importante.

Quanto você está satisfeito com...	Muito Insatisfeito	Insatisfeito	Mais ou menos satisfeito	Ssatisfeito	Muito Ssatisfeito
1. A sua Qualidade de Vida no Trabalho?	1	2	3	4	5
2. O lugar destinado ao café/lanche (ou descanso) no seu local de trabalho?	1	2	3	4	5
3. As condições ergonômicas do seu local de trabalho?	1	2	3	4	5
4. A ordem no seu local de trabalho?	1	2	3	4	5
5. A segurança do seu local de trabalho?	1	2	3	4	5
6. As condições de salubridade do seu local de trabalho?	1	2	3	4	5
7. A quantidade de material disponível para você trabalhar?	1	2	3	4	5
8. A quantidade de pessoal de enfermagem do seu local de trabalho?	1	2	3	4	5
9. A autonomia que você tem no seu trabalho?	1	2	3	4	5
10. O cumprimento das normas institucionais pelas pessoas, em geral?	1	2	3	4	5
11. As ações da instituição para prevenir acidentes de trabalho?	1	2	3	4	5
12. As oportunidades que você tem para estudar?	1	2	3	4	5
13. O relacionamento com a sua equipe de trabalho?	1	2	3	4	5
14. O reconhecimento que você recebe dos seus pacientes?	1	2	3	4	5
15. A possibilidade de ser ouvido no seu trabalho?	1	2	3	4	5
16. As informações que você recebe sobre mudança no seu trabalho?	1	2	3	4	5
17. O apoio que você tem da equipe médica?	1	2	3	4	5
18. O apoio que você tem da equipe de enfermagem?	1	2	3	4	5
19. O apoio que você tem de sua chefia de enfermagem?	1	2	3	4	5
20. O apoio que você tem dos demais enfermeiros?	1	2	3	4	5
21. O conhecimento que você tem sobre os objetivos e metas da instituição?	1	2	3	4	5
22. A sua comunicação com a equipe multiprofissional?	1	2	3	4	5
23. A sua comunicação com a chefia de enfermagem?	1	2	3	4	5
24. O seu salário líquido mensal?	1	2	3	4	5
25. Os benefícios que você recebe?	1	2	3	4	5
26. O estímulo à criatividade oferecido pelo seu trabalho?	1	2	3	4	5
27. A liberdade de expressar suas idéias no seu trabalho?	1	2	3	4	5
28. A instituição em que você trabalha?	1	2	3	4	5
29. O atendimento dado pela instituição aos pacientes?	1	2	3	4	5
30. A sua profissão?	1	2	3	4	5
31. A imagem da sua profissão dentro da instituição?	1	2	3	4	5
32. Consigo mesmo, como enfermeiro?	1	2	3	4	5

Part 2

Instruções : por favor, escolha a resposta que melhor descreve o quanto é importante para você cada uma das perguntas a seguir. Responda marcando um círculo no número ao lado de cada pergunta, cujos valores vão de 1 = nada importante a 5 = muito importante . Não há respostas certas ou erradas. Por favor, responda a todas as perguntas, pois sua opinião é muito importante.

Quanto é importante para você	Nada Importante	Pouco Importante	Mais ou menos Importante	Importante	Muito Importante
1. A sua Qualidade de Vida no Trabalho?	1	2	3	4	5
2. O lugar destinado ao café/lanche (ou descanso) no seu local de trabalho?	1	2	3	4	5
3. As condições ergonômicas do seu local de trabalho?	1	2	3	4	5
4. A ordem no seu local de trabalho?	1	2	3	4	5
5. A segurança do seu local de trabalho?	1	2	3	4	5
6. As condições de salubridade do seu local de trabalho?	1	2	3	4	5
7. A quantidade de material disponível para você trabalhar?	1	2	3	4	5
8. A quantidade de pessoal de enfermagem do seu local de trabalho?	1	2	3	4	5
9. Ter autonomia no seu trabalho?	1	2	3	4	5
10. Que as pessoas, em geral, cumpram as normas institucionais?	1	2	3	4	5
11. As ações da instituição para prevenir acidentes de trabalho?	1	2	3	4	5
12. Ter oportunidades para estudar?	1	2	3	4	5
13. O relacionamento com a sua equipe de trabalho?	1	2	3	4	5
14. O reconhecimento que você recebe dos seus pacientes?	1	2	3	4	5
15. Ter possibilidade de ser ouvido no seu trabalho?	1	2	3	4	5
16. Receber informações sobre mudanças no seu trabalho?	1	2	3	4	5
17. O apoio que você tem da equipe médica?	1	2	3	4	5
18. O apoio que você tem da equipe de enfermagem?	1	2	3	4	5
19. O apoio que você tem de sua chefia de enfermagem?	1	2	3	4	5
20. O apoio que você tem dos demais enfermeiros?	1	2	3	4	5
21. Ter conhecimento sobre os objetivos e metas da instituição?	1	2	3	4	5
22. A sua comunicação com a equipe multiprofissional?	1	2	3	4	5
23. A sua comunicação com a chefia de enfermagem?	1	2	3	4	5
24. O seu salário líquido mensal?	1	2	3	4	5
25. Os benefícios que você recebe?	1	2	3	4	5
26. O estímulo à criatividade oferecido pelo seu trabalho?	1	2	3	4	5
27. Ter liberdade para expressar suas idéias?	1	2	3	4	5
28. A instituição em que você trabalha?	1	2	3	4	5
29. O atendimento dado pela instituição aos pacientes?	1	2	3	4	5
30. A sua profissão?	1	2	3	4	5
31. A imagem da sua profissão dentro da instituição?	1	2	3	4	5
32. Ser enfermeiro?	1	2	3	4	5

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