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Job satisfaction of nursing staff in the public health network in a Brazilian capital city

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Abstract *Evidence confirms that the satisfaction perceived by the nursing staff is associated with indicators of the professionals' well-being and quality of the provided services. The aim of this cross-sectional study was to investigate factors associated with reports of job satisfaction. Job satisfaction was assessed based on the validated question: "Are you satisfied with your work?". Stratified and proportional random sampling included nurses, nursing aides and technicians from the municipal health network. The multivariate model was based on the Poisson regression technique with robust variances to estimate factors independently associated with job satisfaction. A total of 290 subjects participated: 73.8% of them reported job satisfaction. Age, having strong social support and better working conditions were positively associated with satisfaction. Positive screening for common mental disorders was negatively associated with satisfaction. The emphasis on the work environment and type of management indicates the relevance of these factors for the strengthening of human resources in health.*

Key words *Job satisfaction, Nursing, Nursing team, Working conditions*

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Introduction

Nursing work is recognized as crucial to the quality of service provision and is essential to ensure the productivity of health organizations[1,2]. The journey of these professionals is characterized by stressful situations, given the context of care that reflects to some degree the demographic and epidemiological changes that occur in the context of a funding crisis in the sector[3]. These recent changes demand the construction of specific skills and procedures to deal, for instance, with severe neuropsychiatric problems, symptoms related to substance use, suffering caused by abuse and violence, and other situations that make citizens seek health services. Epidemic outbreaks, human and environmental disasters exponentially increase the volume of demands for care[4-6]. It is possible that these circumstances are overloading the nursing staff[7-9] because the services are not always supported by infrastructure and work environment that are adequate for the development of the activity[5,6]. Together, these are factors related to the perception of job satisfaction[1,5,10]. In turn, this construct is associated with both the health of these professionals[10,11] and the quality of the provided services[12] and the intention to change jobs or leave the profession[13-15].

Motivation is a key concept for addressing workers' adherence to systems and their goals because it is subjacent to the idea of organizational design engagement. Motivation is related to worker's satisfaction, which is a multidimensional construct, of which expression would be the result of a comparison between what was obtained and what was expected from work[12]. Under this viewpoint, it is a feeling about work that reflects, as Spector clarified[16], how much people like or dislike their work. Therefore, it concerns a collection of attitudes related to several aspects of the work environment[12].

In brief, the assessment of the results of work activity is at the basis of the satisfaction perceived by nurses, nursing aides and technicians[1,17]. Definitely, the perception of satisfaction is a subjective one, and it varies according to personal characteristics, maturity and achievement in other areas of life[18,19]. This finding, however, does not allow disregarding job satisfaction, given the confirmed association with the quality of provided services[5,13,18]. This occurs because the degree of job satisfaction is associated with what professionals identify as factors that facilitate or constrain their practices[12,20]. Although a better quality of services is recognized when professionals feel satisfied at work[5], evidence is lacking in Brazil regarding this scenario. Updates on the subject are necessary, both regarding the production of empirical data, as well as creations that allow a better understanding of the mechanisms underlying the identified associations, aiming to broaden and deepen the knowledge and to indicate clues for the creation of specific policies in the field of human resources in health.

The aim of this study was to identify factors associated with the report of job satisfaction in a sample of nursing aides/technicians and nurses from the municipal public health services of a Brazilian capital.

Methods

This is a cross-sectional study performed between 2008 and 2009, with nursing workers effectively working in their professional area in the municipal health network.

At the time of data collection, all nursing professionals working with direct patient care (upper and middle levels) were considered eligible, regardless of employment bonds. The sample included 285 subjects, based on the following parameters: 70% of satisfaction with nursing work[18], 95% confidence level, 5% error. At the end, 297 participants were included in the study. There were 7 losses due to incompleteness of the fundamental response to constitute the response variable.

Participant selection followed the stratified and proportional random sampling method based on the geographic area and level of care complexity (health centers, specialty outpatient clinics, emergency units or district management). The proportional distribution of subjects according to the two strata (aides/technicians and nurses) was based on the list of employees provided by the City Hall's human resources department. The selection was made by drawing random numbers generated by Epi-Info (version 3.5.1).

Subjects who were drawn to participate who were not at the service due to vacation, transfer, retirement or death were replaced, respecting the geographical territory and the level of care complexity.

Data collection was performed between September 2008 and January 2009, with the help of a self-administered questionnaire, previously tested in a pilot study, with questions related to sociodemographic characteristics and working conditions. The latter were organized as follows:

overall work characteristics, psychosocial conditions (demand, control, social support); environmental conditions (ventilation, temperature, lighting, technical resources and workplace equipment) and physical workload.

Outcome Variable

Job satisfaction was measured based on the following question: "Are you satisfied with your work?". The following response options were available: a) "I am not satisfied at all", b) "I am not satisfied", c) "I am satisfied", d) "I am very satisfied". For data analysis, options a) and b) were grouped as category "No" and options c) and d) were grouped as category "Yes".

Exposure Variables

The variables included in the study were classified into three blocks:

Sociodemographic and lifestyle factors = gender (male, female); age (20-29 years, 30-39 years, 40-49 years, 50 years and over; in some analyses it was used in a continuous manner); skin color/ethnicity (white, brown/black, yellow/indigenous); marital status (single, married/civil union, divorced/widowed), family income (up to 2 minimum wages, 2 to 4 minimum wages, 4 and more minimum wages – the minimum wage at the time was R$415.00); smoking [Considering as a smoker someone who has smoked at least 100 cigarettes, or 5 packs, how do you qualify yourself? (Non-smoker, Former smoker, Current smoker)]; alcohol consumption (based on the Cut Down, Annoyed by criticism, Guilty and Eye -opener – CAGE questionnaire: no, yes)[21]; physical activity [How often do you practice physical activity? (Never, 1-2 times a week, 3 or more times a week)]; leisure activity (no, yes).

Health conditions = absent due to illness in the last year (no, yes); leave of absence due to illness in the last year (no, yes); diagnosis of occupational disease [Have you ever had an occupational disease diagnosed (no, yes)]; diagnosis of noncommunicable chronic disease – NCD [Positive response to medical diagnosis of one or more of the following diseases: diabetes, high cholesterol, obesity, high blood pressure, cancer, heart disease (no, yes)]; diagnosis of infectious or parasitic disease – IPD [Positive response to medical diagnosis of one or more of the following diseases: tuberculosis, hepatitis, urinary tract infection (no, yes)]; diagnosis of respiratory tract disease – RTD [Positive response to medical diagnosis of one or more of the following diseases: rhinitis/sinusitis, asthma, dysphonia (no, yes)]; positive screening for common mental disorder – CMD]. The Self-Reporting Questionnaire (SRQ-20) was applied, an instrument developed by the World Health Organization to evaluate psychological morbidity in developing countries[22]. The questionnaire contains 20 questions about emotional and physical symptoms related to psychiatric conditions. Positive screening for CMD was considered when the participant answered yes to seven or more questions, a standard used in other studies[23]; medical diagnosis of work-related musculoskeletal disorders (no, yes); medical diagnosis of low back pain (no, yes).

The "working conditions" dimension addressed the professional category (nurse, nursing aide/nursing technician); time working at the current job in months (<12, 12 to 23, 24 to 47, ≥ 48); weekly workload (up to 40 hours, more than 40 hours); exposure to nocturnal work (no, yes); labor demand control (low demand, active, passive and high demand); social support at work (low, high); working environment conditions (poor, satisfactory, excellent); physical work load (low, medium, high); excessive commitment to work (low, medium and high); emotional demand at work [My job demands a lot from me emotionally (strongly disagree and disagree = low, agree and strongly agree = agree)]; exposure to biological/chemical agents [Based on four questions = a) Do you come into contact with biological materials such as blood, feces, urine, saliva, amniotic fluid, etc.? b) Do you come into contact with ionizing radiation such as x-rays, tomography, radiography, radiopharmaceuticals? c) Do you come into contact with anesthetic gases? d) Do you come in contact with cytotoxic/chemotherapeutic agents? These four questions had the following response options: never, rarely, sometimes, always. Thus, a score was created by adding the answers to the questions, which was later organized into tertiles (low, medium, high)]; excessive commitment to work (low, medium, high).

To characterize the "psychosocial work conditions", the Job Content Questionnaire (JCQ) proposed by Karasek[24] was used, validated in its Portuguese version for the Brazilian population[25]. The work demand was estimated based on a score resulting from the sum of the values related to the issues associated with the work rhythm, time to perform the tasks, conflicting tasks and excessive work volume[24,25]. For the control over the work itself, a score was constructed resulting from the sum of the values concerning

the questions related to the use of skills (learning new things, creativity, development of special skills and the possibility of performing different tasks) and the decision-making authority (freedom to decide how to perform tasks and the possibility of decision-making). The questions were followed by the response options: "strongly agree", "agree", "disagree" and "strongly disagree", each of which received a score from 1 to 4 (1 indicated little demand or little control and 4, much demand or much control). The demand and control scores were divided into two halves based on their medians, and then these fractions were combined, generating four quadrants: (a) low strain = low demand and high control; (b) active = high demand and high control; (c) passive = low demand and low control; (d) high strain = high demand and low control. High strain, a proxy for stress at work, has been shown to be associated with negative health consequences [23,24]. Regarding social support at work, the JCQ contains questions involving support from coworkers and management, with the following response options: "strongly agree", "agree", "disagree" and "strongly disagree", each of which receives a score from 1 to 4 (1 indicates low support and 4 high support). The social support score was divided into two halves based on the median[24,25].

The variable "environmental working conditions" has been used[23] to aggregate the answers to questions about ventilation, temperature, lighting, technical resources and equipment. Regarding these factors, the possible answers were: poor (1), reasonable (2), or excellent (3). For the variable noise originated at work and outside, the response options were: insignificant (3), reasonable (2), loud and unbearable (1). At the end, the sum of the answers for each item was carried out in order to build a global score, according to which, the higher the score, the better the conditions of the work environment.

For the variable "physical workload", we considered, according to a previous publication[22], the answers to questions about postures associated with pain or discomfort; sitting or standing position for extended periods; manual transport or excessive weight lifting or patient movement in bed, for instance; and breaks during work (1¼ never, 2¼ rarely, 3¼ sometimes, and 4¼ always). The results were treated in order to build a global score by adding the answers for each item. For data analysis, the score was classified in tertiles (low, medium, high).

The variable "excessive commitment to work" was constructed based on the subscale of six questions related to the commitment to work of the Effort-Reward Imbalance Model (ERI) proposed by Siegrist, which was adapted to Brazilian Portuguese[26]. The content of these six questions addresses the time pressure to perform work activities, the situation of awakening in the morning with a focus on work problems, the difficulty of easily "disconnecting" from work after working hours, close people's opinions who consider that the individual sacrifices a lot for their work, the difficulty of not being able to stop thinking about work when they go to bed, and the difficulty of sleeping when postponing some work task. The answer options for the six questions are: strongly disagree, disagree, agree and strongly agree. At the end, the sum of the answers for each item was performed to create a global score. For data analysis, this score was organized into tertiles (low, medium, high).

The sample characteristics were shown according to the calculation of absolute and relative frequencies of sociodemographic variables, lifestyle, health status and working conditions. Additionally, the association of each of these variables with job satisfaction was tested.

Variables recognized in the literature as being associated with job satisfaction, as well as those with statistical significance below 20% ($p < 0.20$) in the bivariate analysis were considered candidates for the final model. This model was constructed using Poisson regression analysis with robust variances and the step-by-step strategy, which included all selected variables in the bivariate analysis in decreasing order of statistical significance.

Another multivariate analysis strategy was performed with the development of a model according to the theoretical picture. In this model, three blocks of previously described variables are arranged [1 – demographic, socioeconomic and lifestyle (distal); 2 – health status (intermediate); 3 – working conditions (proximal)]. Thus, the modeling was performed in three steps. In the first one, as in the step-by-step model, we selected the variables consolidated in the literature as factors associated with job satisfaction and those with statistical significance below 20% ($p < 0.20$) in the bivariate analysis for the second step. In this second step, variables with statistical significance below 10% ($p < 0.10$) in each block were selected for the third step. In the third step, in each block, the variables were included in the final model in decreasing order of statistical significance, starting with those from the proximal group, followed by those from the intermediate

group and, finally, those from the distal group.

In both statistical modeling techniques, the variables with $p < 0.05$ were removed one by one from the model and considered to be definitively excluded if the decrease in the outcome explanation was not statistically significant. To analyze this parameter, the model was evaluated with each withdrawal with the help of Wald's statistical tests and the partial likelihood ratio based on the $-2[\ln(Lr) - \ln(Lc)]$, statistics, which compares the likelihood of the reduced model – (Lr) with the likelihood of the complete model – (Lc). All statistical analyses were carried out with STATA software (version 12.0).

The study was approved by a Research Ethics Committee for Human Studies. All participants signed the Free and Informed Consent Form (FICF).

Results

A total of 290 professionals participated in the study, of which 143 (49.3%) were nurses and 147 (50.7%) were nursing technicians or aides. Most participants, 73.8%, reported being satisfied with their work. The sociodemographic characteristics and lifestyles, and their associations with job satisfaction in nursing, are shown in Table 1. It was observed that most were females (89.8%), aged between 30 and 49 years old (61.4%), brown/black ethnicity (61%), married/civil union (52.1%) and earned up to 4 minimum wages (65.6%). In addition, the following frequencies of lifestyle habits were observed among them: 11.7% were smokers; 5.5% were alcoholics, 49% were sedentary and 66.9% had a leisure activity. Age ≥ 50 years was positively associated with job satisfaction ($p = 0.045$).

The health status and its associations with job satisfaction in nursing are shown in Table 2. It was observed that 58.1% and 45.2%, respectively, missed or took a leave of absence from work due to health reasons. Regarding the medical diagnosis of diseases, the participants reported 13.1% of occupational disease, 41% of chronic NCDs, 7.2% of PID, 35.2% of RTD, 27.2% of CMD, 9% of RSI/WMSD and 29.7% of low back pain. CMD was negatively associated with job satisfaction ($p < 0.001$).

Working conditions and their associations with job satisfaction in nursing are shown in Table 3. It was observed that most were nurses (50.7%), was working at the current job for more than 48 months (59%), performed a weekly workload of up to 40 hours (60.3%), and worked during the day (75.5%). Regarding the psychosocial work conditions, most reported moderate-to-high intensity work-related stress according to the demand-control scale (56.6%: passive = 33.8% and high demand = 22.8%), had a high degree of social support at work (50.3%), and developed tasks under emotional demand (84.8%). The other variables were classified into tertiles (work environment conditions, physical workload, exposure to environmental risks (biological/chemical agents) and excessive commitment to work), although there were some imbalances between the categories due to the characteristics of their distributions.

High social support, excellent working conditions were positively associated with job satisfaction ($p < 0.05$). On the other hand, the active category of the demand-control scale, the categories regular and bad/very bad of the task demand/available resources ratio, high physical demand, and excessive commitment to work were negatively associated with job satisfaction ($p < 0.05$) (Table 3).

Table 4 shows the multivariate analysis for the independent association between covariates and job satisfaction. Both the step-by-step and block techniques produced the same final model. It shows that age, high social support and better environmental working conditions were positively associated with job satisfaction. Thus, with each year of increasing age, job satisfaction increased by 1%. Moreover, high social support, satisfactory and optimal environmental conditions increased job satisfaction by 17%, 18% and 25%, respectively. Finally, it is noteworthy that the probability of CMD remained negatively and independently associated with job satisfaction. Therefore, a 32% decrease in job satisfaction was observed in participants whose report was compatible with the probability of CMD.

Discussion

Getting older, finding themselves supported in the development of tasks and reporting better environmental working conditions were consistently associated with the satisfaction reported by the sample subjects, which included nurses, nursing aides and technicians. The probability of CMD (SRQ-20) decreased the satisfaction of the professional with their work. The associations observed were expected, since the environment, structure and organization of health services

Table 1. Sociodemographic and lifestyle factors and their association with job satisfaction of the nursing staff from a municipal health network, 2008/2009.

Variables	Sample (%)	Satisfied with the job (%)	PR	95%CI	p-value
Gender					
Male	10.2	76.7	1.00	-	-
Female	89.8	73.5	0.96	0.78 – 1.18	0.691
Age (years)					
20-29	10	62.1	1.00	-	-
30-39	25.2	67.1	1.08	0.78 – 1.50	0.639
40-49	36.2	73.3	1.18	0.87 – 1.61	0.288
≥ 50	28.6	84.3	1.36	1.01 – 1.83	0.045
Skin color/ethnicity					
White	34.1	70.7	1.00	-	-
Brown/Black	61	75.1	1.06	0.91 – 1.24	0.435
Yellow/Indigenous	4.8	78.6	1.11	0.82 – 1.50	0.494
Marital status					
Single	30	66.7	1.00	-	-
Married/ Consensual marriage	52.1	76.8	1.15	0.97 – 1.37	0.108
Divorced/Widowed	17.9	76.9	1.15	0.93 – 1.42	0.183
Family income					
≤ 2 minimum wages	15.9	73.9	1.00	-	-
2-4 minimum wages	49.7	81.3	1.10	0.91 – 1.33	0.327
≥ 4 minimum wages	34.5	63	0.85	0.68 – 1.07	0.171
Smoking status					
Non-smoker	68.3	74.2	1.00	-	-
Ex-smoker	20	70.7	0.95	0.79 – 1.15	0.604
Current smoker	11.7	76.5	1.03	0.84 – 1.26	0.776
Alcohol addiction					
No	94.5	74.3	1.00	-	-
Yes	5.5	71.9	0.97	0.81 – 1.15	0.701
Physical activity					
No	49	69.7	1.00	-	-
Yes	51	77.7	1.11	0.97 – 1.28	0.126
Leisure activity					
No	33.1	75	1.00	-	-
Yes	66.9	73.2	0.98	0.85 – 1.13	0.740

have a direct impact on the satisfaction of the nursing staff[12,18]. These results are relevant, since the knowledge about the probable effects of such associations on the quality of provided services is sufficiently established[27,28].

The percentage of satisfied workers was higher in the nursing aide/technician stratum (76.2%) when compared to the nurses' (71.4%). This result is convergent. When studying the components of satisfaction, the authors identified that they vary according to the position/job held[29]. This association may be a reflection of the degree of empowerment of professionals to act in work situations, for instance. But satisfaction has to do with the level of education, which in turn is associated with the type of position held. It should be noted that the nursing aide stratum is characterized by lower education compared to the nurses' stratum. Considering the dispute in the Brazilian labor market, with less chance of employment for the ones with lower levels of schooling[30], the nursing aides, most of them with a high school level of education, probably approximated their expectations of being employed and having the opportunity to work at the current professional bond. Satisfaction at any dimension of life is

Table 2. Health status and its association with job satisfaction of the nursing staff from a municipal health network, 2008/2009.

Variables	Sample (%)	Satisfied with the job (%)	PR	95%CI	p-value
Missed work due to health problems in the last year					
No	41.9	79	1.00	-	-
Yes	58.1	69.1	0.87	0.76 – 1.00	0.057
Leave of absence from work due to health problems in the last year					
No	54.8	76.7	1.00	-	-
Yes	45.2	70.2	0.92	0.80 – 1.05	0.218
Diagnosis of occupational disease					
No	86.9	73.8	1.00	-	-
Yes	13.1	73.7	1.00	0.81 – 1.22	0.987
Diagnosis of NCD					
No	59	74.9	1.00	-	-
Yes	41	72.3	0.97	0.84 – 1.11	0.626
Diagnosis of IPD					
No	92.8	73.2	1.00	-	-
Yes	7.2	81	1.11	0.89 – 1.38	0.372
Diagnosis of RTD					
No	64.8	75.5	1.00	-	-
Yes	35.2	70.6	0.93	0.80 – 1.09	0.375
CMD					
No	72.8	81.5	1.00	-	-
Yes	27.2	53.2	0.65	0.52 – 0.81	< 0.001
Diagnosis of RSI/WMSD					
No	91	73.5	1.00	-	-
Yes	9	76.9	1.05	0.84 – 1.31	0.688
Diagnosis of low back pain					
No	70.3	76	1.00	-	-
Yes	29.7	68.6	0.90	0.77 – 1.06	0.219

Note: NCD = Noncommunicable Chronic Disease; IPD = Infectious or Parasitic Disease; RTD = Respiratory Tract Disease; CMD = Common Mental Disorder; RSI/WMSDs = Repetitive Strain Injury/Work-related musculoskeletal disorders.

known to depend on the distance between what one has and what one wants[19]. In the case of nurses (all with higher education level), it is possible that their expectations are more ambitious, which reflects on the less favorable judgment of the employment situation they find themselves at. However, no data were collected to further these hypotheses.

In addition to education, seniority in employment and age are related to job satisfaction. Experience is known to have positive effects, both regarding the perception of safety, as well as the skills to perform tasks with favorable results during work[29]. If so, would the older individuals be more satisfied because they have achieved a balance between demands and operative modes on account of the attributes that experience has given them? Future research is worthwhile in this regard.

Income and monetary benefits are factors commonly associated with job satisfaction[2]. But surprisingly, this result was not observed. Such disparity may be due to the methodological options of the study design. Unlike studies that inquire about the respondent's salary, we decided to ask about family income. This strategy sought to evade problems related to the homogeneity of the sample, regarding the salary and other attributes of the employment contract. Probably, the strategy caused latent contents that would explain the lack of association between family income and job satisfaction.

Table 3. Working conditions and their association with job satisfaction of a nursing staff from a municipal health network in Belo Horizonte, Minas Gerais, 2008/2009.

Variables	Sample (%)	Satisfied with the job (%)	PR	95%CI	p-value
Professional category					
Nurse	50.7	71.4	1.00	-	-
Nursing aide/technician	49.3	76.2	1.07	0.93 – 1.22	0.354
Time working at current job (months)					
< 12	20	70.7	1.00	-	-
12 to 23	9	80.8	1.14	0.89 – 1.47	0.297
24 to 47	12.1	60	0.85	0.62 – 1.17	0.312
≥ 48	59	76.6	1.08	0.90 – 1.30	0.396
Weekly workload (hours)					
Up to 40	60.3	77.1	1.00	-	-
More than 40	39.7	68.7	0.89	0.77 – 1.03	0.124
Nocturnal work					
No	75.5	75.8	1.00	-	-
Yes	24.5	67.6	0.89	0.75 – 1.07	0.207
Demand-control at work					
Low demand	19.3	82.1	1.00	-	-
Active	24.1	65.7	0.80	0.65 – 0.99	0.036
Passive	33.8	79.6	0.97	0.83 – 1.14	0.696
High demand	22.8	66.7	0.81	0.66 – 1.00	0.052
Social support at work					
Low	49.7	66	1.00	-	-
High	50.3	81.5	1.24	1.07 – 1.42	0.003
Task demand/available resources ratio					
Good	30	83.9	1.00	-	-
Regular	56.6	72.6	0.86	0.76 – 0.99	0.031
Bad/very bad	13.5	56.4	0.67	0.50 – 0.90	0.008
Environmental Working Conditions					
Poor	33.5	63.9	1.00	-	-
Reasonable	40.3	76.1	1.19	0.99 – 1.43	0.060
Excellent	26.2	82.9	1.30	1.08 – 1.55	0.005
Physical workload					
Low	35.5	79.6	1.00	-	-
Medium	39.3	75.4	0.95	0.82 – 1.09	0.462
High	25.2	63	0.79	0.65 – 0.97	0.023
Emotional demand					
Low	15.2	81.8	1.00	-	-
High	84.8	72.4	0.88	0.75 – 1.04	0.131
Exposure to biological/chemical agents					
Low	33.5	74.2	1.00	-	-
Medium	36.6	76.4	1.03	0.88 – 1.21	0.719
High	30	70.1	0.94	0.79 – 1.13	0.537
Excessive commitment to work					
Low	43.8	81.9	1.00	-	-
Medium	24.5	78.9	0.96	0.83 – 1.11	0.614
High	31.7	58.7	0.72	0.59 – 0.87	0.001

Table 4. Final Poisson multiple regression model with robust variances of variables associated with job satisfaction of the nursing staff from a municipal health network, 2008/2009.

Variables	PR	95%CI	p-value
Age (years)*†	1.01	1.00 – 1.02	0.002
Social support at work			
Low	1.00	-	-
High	1.17	1.03 – 1.34	0.020
Environmental working conditions ‡			
Poor	1.00	-	-
Reasonable	1.18	1.00 – 1.39	0.049
Excellent	1.25	1.05 – 1.47	0.013
CMD			
No	1.00	-	-
Yes	0.68	0.55 – 0.84	< 0.001

Note: *Age included as a continuous variable; †Lower limit of 95%CI = 1.004; ‡Lower limit of 95%CI = 1.0007.

Mental health and satisfaction are two very close constructs, being influenced by working conditions[31]. Therefore, the negative association between job satisfaction and CMD was expected. It is worth mentioning that such disorders concern a set of symptoms (somatic complaints, fatigue, forgetfulness, insomnia, irritability and lack of concentration), which by themselves do not constitute a nosological picture, but represent a less healthy psychological status accompanied by negative feelings, as in the case of work dissatisfaction[32,33].

The described results justify the importance of problematizing the model and structure of the service organization, aiming at identifying barriers to the activity of the nursing staff. Studies suggest management support for improving communication between the different professionals and promoting a "friendly" environment, rather than creating mechanisms that generate bureaucratic control over labor performance[5]. Additionally, trying to adapt the physical environment and equipment to the needs of work and the workers, or at least reinforce the interest in identifying failures in this area, has been previously suggested[2]. Assessing existing margins for workers to engage in service-related issues, measures to promote quality of care, efforts to adjust resources and infrastructure, and, finally, the quality of relationships with physicians, among others, are feasible measures[20]. These strategies have a positive impact on job satisfaction, as they favor the perception of support for the development of tasks[34].

The conditions met by the nursing staff to respond to demands and mobilize their skills may be associated with the achieved results. The lack of support to perform the tasks, in turn, might go against the management regarding the elements that nurses try to structure[9]. In the technical division of health work, these professionals assume the care management in a very complex technical-organizational system. Remember that nurses are constantly called upon to solve problems of all kinds. Therefore, varied knowledge, skills in a wide field of action, responsibility and decision-making skills in the process of organization of activities are required[35]. How can they be supported? Previous results have identified the relevance of institutional support; for instance, training focused on the dimensions of practice. In Brazil, the experience of the Health Workers' Health and Working Conditions Management Course (Cegest, *Curso de Gestão das Condições de Trabalho e Saúde dos Trabalhadores da Saúde*) has yielded consistent results[36]. It was suggested to nursing managers to broaden their listening and seek ways to improve the relationship of nursing aides and technicians with doctors, for example[12,37].

Regarding the transformation of working conditions, the creation of committees to develop participatory interventions in work environments is indicated, aiming to establish priorities in line with the different needs of the ongoing missions. The guidelines of the National Policy for the Promotion of SUS Workers' Health[38] include encouraging workers to act in the local

committees aiming at work environment improvement.

It would be sensible to systematically evaluate environmental factors such as ventilation, temperature, lighting and noise[37]. As for technical resources and equipment, once again, the strategy is to stimulate the participation of the workers themselves[12,39] to assess the availability and quality of the resources and equipment they find to perform their work. Finally, if health promotion and workplace surveillance services have already been implemented, integrated and participatory programs and interventions remain dependent on the margins that nurse managers have in order to strengthen these and other initiatives[39].

The interpretation of the results presented above may be ambiguous because the cross-sectional study does not indicate the direction of the observed associations. For instance, respondents who are satisfied with their family life would tend to judge more positively the results of their work or the conditions they find to act, as both criteria are closely related to the perception of job satisfaction. Moreover, it is also worth noting that neither family life situation nor personality characteristics were addressed. These dimensions influence the processes of perception and assessment of contexts by the subject, including their perception of work.

The strength of the present study was to approach the perception of workers included in a random sample stratified according to the different levels of the network and geographic region of the services through an instrument that included sociodemographic and occupational questions. This strategy was guided by recent knowledge about the multidimensional characteristic of job satisfaction. The study allowed, therefore, to evaluate the perception of satisfaction in a heterogeneous sample regarding individual characteristics, work position, type of service, place and work environment. The selection bias was minimized because, in addition to the strategy of drawing lots, the response rate was high. The robustness of the results was confirmed, as the two multivariate data analysis techniques yielded similar results. The reliability of the satisfaction measure assessed by a single question, "Are you satisfied with your work?", instead of using validated scales, has already been authorized. The meta-analysis[40] did not identify significant differences in satisfaction estimates when comparing results from studies using scales with those using a single question to assess this perception. According to the researcher, measures of overall job satisfaction measured by a single item are probably more robust than those measured by scales, because they would be less influenced by noncontrollable factors.

Conclusion

The participants' satisfaction with work indicates the pertinence for the management to focus on environmental and psychosocial working conditions (social support, in this case) with probable advantages for the wellbeing of the nursing staff.

Collaborations

AA Assunção coordinated the study and created the article structure. AM Pimenta analyzed the data. Both authors participated in the writing, critical review and approval of the final version of the manuscript.

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