ABSTRACT
Objective: to analyze the working conditions referred by workers based on Betty Neuman’s theory and of labor laws. Method: a survey with a simple random sample of outsourced Administrative Technical Education (ATE) at a public university. Analysis of descriptive statistics supported by Betty Neuman’s theory. Results: of 184 subjects: 65.5% were women; income up to three minimum wages (69.1%); required 11 years of education to develop the work (69.2%); had a job (81.5%); they did not work at night (87.8%), and they had the job for less than two years (55.7%). Exposure to biological, chemical, physical, ergonomic and psychosocial risks was mentioned. Among working conditions: job insecurity, low wages, less qualified and subordination to the poor conditions. Conclusion: an analysis based on a theoretical philosophical nursing possible to identify the stressors to which these workers are exposed, according to their perceptions. Descriptors: Nursing; Worker’s Health; Work Conditions.

RESUMO
Objetivo: analisar as condições de trabalho autorreferidas por trabalhadores à luz da teoria de Betty Neuman e das leis de trabalho. Método: survery com amostra aleatória simples composta de Técnicos Administrativos em Educação (ATE) terceirizados de uma universidade pública. Análise por estatística descritiva sustentada peloteoria de Betty Neuman. Resultados: dos 184 sujeitos: 65,5% eram mulheres; renda até três salários mínimos (69,1%); necessário 11 anos de escolaridade para desenvolver o trabalho (69,2%); possuía um emprego (81,5%); não trabalhavam à noite (87,8%) e vínculo empregatício há menos de dois anos (55,7%). Mencionado exposição a riscos biológicos, químicos, físicos, ergonômicos e psicosociais. Dentre condições de trabalho: instabilidade no emprego, baixos salários, menor qualificação e subordinação às condições precárias. Conclusão: análise à luz de um referencial teórico filosófico de enfermagem possibilitou identificar os estressores a que estes trabalhadores estão expostos, segundo suas percepções. Descriptores: Enfermagem; Saúde do Trabalhador; Condições de Trabalho.

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INTRODUCTION

The work is a vital activity for the existence of the individual. Thus, it is a category that occupies a central place in our society and people's lives. The fact that the man can transform nature and oneself through work, it demonstrates the importance of this in life and society.

Thus, it is responsible for the survival of individuals through the workforce, but often it subjects the worker to exhausting journeys, the precarious conditions of social rights, uncertainties regarding the maintenance of employment and various types of illness arising from the integration in job.

The conditions of life and work of individuals and population groups influence health status and is considered a social determinant, that is how an individual fits into society can determine how he gets sick, as well as how he fits in society is the way he fits into the work.

In Brazil, the number of studies and scientific production for workers' health have grown. However, in the literature, studies related to civil servants working conditions are scarce. It is noteworthy that these servers fit in the tertiary sector of the economy, responsible for the services.

The worker in the public sector is undervalued and is considered as inefficient and disinterested by the population. However, this assessment does not consider the fact that they may also be submitted to the precariousness of their working conditions and reaching conditions of suffering and illness.

Studies on workers' health even concerned with the technological changes and the new modes of production did not seek in-depth understanding of issues relating to the services sector, although new forms of psychic wear, labor disturbances, and diseases are present in this sector.

Also, the public sector has been growing the phenomenon that consists of the service or company stop directly hiring workers to perform a certain activity, transferring this responsibility to another company. It is called outsourcing, a model that has been growing private enterprises. In public companies, this process is also present, but the State engages public and private companies to carry out, through activities, endangering labor relationships and reducing accompanying conditions or discussion on what conditions, these workers are exposed.

Considering the workers' health is a multidisciplinary and multi-playing field, the look of nursing is essential for this field of activity. Since the purpose of the nurse’s job is to take care, it becomes fundamental to study the working conditions to which these workers are subjected, so their performance has visibility in social care construction. Believing the conditions of work and life interfere with workers' health-disease process, and observing that under the Brazilian public service research into the working conditions of servers continues without adequate attention, we think it is important to study the conditions of work of the outsourced Technical and Administrative Education (TAE) at a public university.

Thus, the objectives of this study are:

- To analyze working conditions reported by outsourced workers of a public university based on Betty Neuman's theory.
- To draw the socioeconomic and demographic profile of the outsourced workers of a public university.
- To describe, in the perception of workers, which are the health risks they consider to be exposed in the workplace.

Theoretical Reference

Three pillars were used for the structuring of this research: Betty Neuman’s theory; Labour laws and Constitution of the Federal Republic of Brazil.

Betty Neuman’s Theory

Degree in nursing in the United States in 1957 with a Masters of Mental Health concluded in 1966; she became a Ph.D. in Clinical Psychology in 1985 at Pacific Western University. She acted in a hospital, industry, consulting and nursing education in Los Angeles, in Virginia and Ohio. The areas of expertise are medical and surgical, intensive care and communicable diseases. She pioneered the community movement of mental health in the 60's and received influence of the Stress theory (Selye and Lazarus), of all systems (Chardin and Cornu) and general systems theory (Von Bertalanfy and Lazio), to the construction of her theoretical and philosophical proposal beginning to be presented in 1972, suggested in 1989 in the modality known currently.

In Betty Neuman system model, every human being has a basic structure that is influenced by five types of variables. These variables can be physiological, psychological, sociocultural, developmental and spiritual, which are present in three complex layers of energy that give stability to the human structure. These layers are positioned concentrically around and are being exposed to external and internal forces characterized by three types of stressors.
These stressors are stimulatory forces acting on the energy system of the individual. Stressors can be intrapersonal (forces that occur within the individual), interpersonal (forces that arise in the interaction with each other) and extra-personal (forces that occur outside the system and are originated out of it, represented by the environmental conditions). 10-11

Among meta-paradigms proposed by Neuman, there are: 1) individual: force system consisted of a common basic structure of all human beings, which is influenced by five variables; 2) environment composed of internal and external forces around the individual that influence and are influenced by it, forming an open forces system; 3) health-disease process: continuum having at the end, the representation of the stability/harmony of all the parts and subparts of the individual system of forces, represented by the best condition for a given time and having, at the other end, the unstable conditions/disharmony of this system representing the disease state; 4) nursing: health professional to help maintain the individual’s system stability through the application of their knowledge, in order to reduce, prevent or stabilize stressful conditions as to provide the best health condition for a given time. 10-11

• Consolidation of Laws of Labor, the 1988 Constitution of the Republic of Brazil and Regulatory Standards

The Consolidation of Labor Laws (CLT), by Decree-Law 5452, May 1, 1943, in the normal working hours for employees in any private activity says that the individual should not exceed eight (8) hours per day unless it is set another limit. 12

The 1988 Constitution of the Republic of Brazil, regarding working hours, in Article 7 item XIII provides that the normal hours of work should not exceed eight hours and forty-four hours a week and can be granted compensation schedules and/or reduction of the journey if agreed. 13

Regarding the unhealthy, dangerous and painful activity, the laws support it are the Labor Code (CLT), Articles 189-197, which discussed the unhealthy or dangerous work, and the Federal Constitution of 1988, in the chapter of Social Rights, in Article 7 item XXIII, when discusses the additional remuneration for strenuous, unhealthy or dangerous activities, according to the law. 12-13

The unsanitary refers to activities that, by their origin, conditions or working methods, expose workers to harmful agents to health above the tolerance limits set on the grounds of origin and agent intensity and the period in which the worker is exposed. When the work is performed under the conditions described above, exceeding the tolerance limits set by the Ministry of Labor, guaranteed additional 40%, 20%, and 10%, respectively, of the minimum wage in the region, according to the classification in grades: Maximum, medium and minimum. 12

Dangerous activities refer to the type of work that maintains continuous contact with flammable or explosive in increased risk situations. The work in these conditions ensures the additional employee 30% of salary, without considering the increases resulting from bonuses, prizes or participation in the company's profits. 12

An important issue of these additional and working conditions is that the CLT (1943) did not contain any information about the painfulness. However, the 1988 Constitution, in the Article 7 item XXIII, ensures additional remuneration for strenuous, unhealthy or dangerous work. 12

In addition, there is also the Regulatory Standard 9 (NR - 9) in the Program Environmental Risk Prevention Ordinance 25, last updated on December 29, 1994, which mandates the preparation and implementation of this program by the employers and institutions that have workers, to protect their health and integrity, through prevention, recognition, evaluation and control of the occurrence of installed environmental risks or will be installed in the work environment, considering the preservation of environment and natural resources. This standard supports us in environmental risks: physical, chemical and biological. 14

Regulatory Standard 32 (NR-32) through Ordinance 485 of 11 November 2005 on safety and health at work in health care. This standard supports us on biological risks and stresses the importance of the Program of Environmental Risks Prevention - PPRA. 15

METHOD

Survey that integrates the research << Technical and Administrative on Education Workers: Conditions of Work and Life >>.

Simple random sample of outsourced workers of a public university in the state of Minas Gerais. Inclusion criteria were: 1) people of both genders; 2) aged over 18 years old; 3) all skin color, marital status and level of education declared; 4) agreement to participate as unpaid volunteers and they signed the Informed Consent Form (TCLE) and
RESULTS

The demographic, socioeconomic profile of the 184 participants was characterized as 65.5% were women, with a mean age of 33.2 years old (variability 20-64 years old); 54% of them are white and 51.2% had or had conjugal life experience because they are married or divorced or widowed; 69.1% received up to three minimum wages; 30.9%, more than three minimum wages; 59.8% claimed to be Catholic, and 18.9% were Protestant; Spiritualists 14.2% and 4.7% were atheists and 2.4% were part of other faiths.

The rent when considered based on the commitment to the family expenditures identified that 43.1% of women were heads of household or integrated with their income, household maintenance while 54.1% of men had the same participation.

Among the 61 male participants, 39.3% claimed to have children and, among the 116 women, 41.4% had children.

Most of the participants had only a job (81.5%); with fixed working hours (67.9%) and did not work at night (87.7%). Regarding working hours, 38.3% of employees reported 44 working hours per week and 20.6% reported 40 hours per week.

Still referring to working hours, 37.3% reported having to remove or shorten a meal, or not do it due to work overload; 12% reported having to sleep in unusual times due to work; 33.1% reported having to exceed the normal hours of work.

In addition, 63% said they had to do several activities at the same time; 50% reported having to resolve situations or unforeseen work problems without help; 17.9% felt very uncomfortable with the physical requirements adopted at work (gestures, postures, efforts, displacements); 44.8% reported feeling very uncomfortable about having a job for which they feel exploited.

Among the participants, 55.7% worked for two years or less at the University; 32.4% worked for two and a half to five years, and 11.9% worked for more than six years. It is worth mentioning that 26.1% of them had less than a year in the institution.

Regarding the qualification required to work at the university, 69.2% needed at least 11 years of education and 10.5%, at least, 14 years, and those who were heads of households had 11 years of education (58.5%) and more than 15 years of education (41.5%), respectively.

Out of workers who reported having complete high school, 70.6% are women and 29.4% men; 10.5% respondents who completed higher education, 66.7% are women and 33.3% men.

There were 112 workers (60.9%) considering the evaluation of the work environment as unhealthy, painful or dangerous. Regarding the health risks in this environment, 20.6% of workers realized they were exposed to constant noise or nuisance, 15.6% of radiation, 19.4% to intense heat. Furthermore, 32.8% of the workers being perceived exposed to dust and gasses and 22.2% to adhesives, solvents, pigments, dyes, diluents, and other disinfectants, or chemical hazards.

Biological risks as fungi, bacteria, viruses, animal or plant material were perceived by 32.8% of workers.
Ergonomic risks were highlighted by participants since 49.7% are exposed to repetitive gestures, 18.9% and awkward posture, 18.9% to the intense physical effort (handled or moved heavy loads) and 29.3% to influence the pace of a machine or equipment.

Among the psychosocial risks, participants claimed to be exposed to verbal abuse (56.1%), sexual harassment (17.8%), the constant surveillance of the activity carried out (32.7%), the multiplicity of stimuli simultaneously (63%), the production standards and/or tight deadlines, being subjected to quality control, shorter tax time, fixed and rigid schedules (43.4%).

**DISCUSSION**

Concerning to women’s work, the data found in this study follow the Brazilian trend about the increase in female participation in the labor market. However, the positions held by women are often represented by the predominance of precarious activities and lower remuneration compared to men.16

Regarding the amount of income assessed according to the commitment to family spending, the subcontracting the outsourced participants are exposed, focused on the reduction of labor costs at the expense of numerical hiring workforce, generates changes in the way insertion of the worker and the amount of compensation offered by the labor market.9,17

When comparing the income of outsourced workers with the staff from the same institution, there was compensation gap for similar activities carried out by them. This fact showed that the integration into the labor market proved to be uneven. This income gap was corroborated by data identified in other investigations.18

Workplaces that offer different employment relationships between people performing similar activities, stimulating competitiveness and productivity requirements are unhealthy and likely to tense and conflictual relations.9,19

Taking the head of the household, have compromised compensation in the domestic budget and receive lower pay for similar activities performance justifying the exposure of participants to sociocultural origin of stressors (discrimination of employment for similar activities) and psychological (living with double shifts characterized by insertion in children education activities and/or home activities).

The situations described above, when analyzed based on Betty Neuman’s theory, allow us to infer the exposure of participants to stressful situations in transpersonal and interpersonal origin, respectively.10–1

On the other hand, the fact of the participants have only one job; have fixed working hours and do not work at night appears as a positive factor for health.

From the theoretical framework adopted, the meeting of these conditions can be considered a fortified element of flexible lines of defense. The applicability of Neuman’s theory to the health of workers allows us to infer that the variables when dynamically balanced (physiological, psychological, socio-cultural, and spiritual development), can protect them when in contact with situations/stress conditions. Reducing the possibility of this meeting and to strengthen the flexible line of defense for the reordering of these variables present in all the concentric lines of the power system is a possibility of health promotion worker at primary level.10–1

Regarding working hours, most of the values found are provided in labor legislation.12,1 However, there was a portion of workers who reported working 48–80 hours per week, that is, high workloads. They are capable of generating occupational stress, physical and mental exhaustion, decreased productivity, workload and fatigue.20

Although most workers follow the labor workload foreseen in the legislation, they reported having to compromise mealtime due to work overload, as well as having the altered sleep schedule and still have the need to go beyond the normal working hours, which commits the leisure time and rest.20

Also, some realities were found in daily work and could be seen as critical to the health of workers, such as the need imposed to perform various activities at the same time; having to resolve situations or unforeseen unaided; bodily requirements adopted and uncomfortable about having a job for which they feel exploited. These data revealed overwork, physical and mental wear in which contract workers were.

Examining the possibility of having symptoms resulting from labor activities among participants based on the philosophical proposal of Betty Neuman, the application of this theory may be held in secondary performance level. This can be explained as the result of the emergence of reactions (signs and symptoms) raised by them be from contact with stressful situations from the workplace. In this sense, the goal of
secondary intervention lines will aim to strengthen the internal resistance of the individual force system for the purpose of reducing the intensity and the appearance of these reactions.10-1

Concerning to working time in the institution, the fact that significant portions of them possess less than a year in the institution features precarious employment and the instability they experience while outsourced workers.13

The lack of work routine of control and instability provided by the employment relationship can be experienced as stressors of transpersonal sociocultural origin (environment that has little control over it) and interpersonal (power relationship with the employer who hires him as a third party in an environment in which other workers have stable bonds).10-1

It was observed by the qualification-related data required to operate in the research institution that women occupy more positions that require study and are therefore more qualified regarding education time than men.

Participants considered the work environment as unhealthy, painful or dangerous. The own conceptual framework for an activity to be unhealthy, painful or dangerous12 is enough to be considered as a stressor according to the theoretical approach of Betty Neuman, and its impact on the physiological, psychological and sociocultural variables of intrapersonal origin can focus on the dynamics the person’s energy system as to cause diseases.10-1

The environment was identified as a supplier of physical risks from the technical requirements for the transformation of the work object and can be exemplified by the noise, radiation, humidity, temperature, among others.21-2 Also of chemical risks, chemical agents are represented by substances that may come into contact with the body through the respiratory route, either in the form of dust, smoke, fog, mist, gas or vapor, or by exposure to the source, may have contact or be absorbed by the body through the skin or swallowed.14

Biological risks were also identified by the participants, especially by health professionals. The identification of biological risks involves exposure source, reservoir(s); routes of transmission and penetration; the form of transmissibility, pathogenicity and virulence of the agent; the persistence of the biological agent in the environment; the existence of epidemiological evidence/statistics; local clearing; exposure and characteristics of the developed services that have implications for the Program Environmental Risk Prevention Program (PPRA).15

Regarding the ergonomic risks, they arise from the lack of adaptation of work to the man, triggering musculoskeletal overload, such as heavy physical exertion, which can lead to back pain, fatigue and musculoskeletal diseases as is the case of Repetitive Strain Injury - Musculoskeletal Disease Work-related (LER-MSDs). These diseases can lead to temporary or permanent incapacity for work.21-24-4

Participants claim still being exposed to psychosocial risks. They are derived from relationships and organization of the unfavorable work to the worker, resulting in mental overload, for example, head pressure, excessive, dangerous and complex activities, employment instability, required degree of concentration, low social support and low power of decision that can lead to stress, fatigue, burnout syndrome, physical and psychological suffering.21,25-7

The labor organizations have been characterized by having negative environment conditions capable of generating emotional tensions that undermine the stability of the energy of being professional human system.10-1

Analyzing the impact of environmental risks on the continuum health-illness of workers in the light of Neuman’s theory, it was possible to identify the environmental factors of intranature, inter and extrapersonal are capable of forming themselves in disturbing conditions for the stability of the system of forces that makes up the individual and therefore disease process generating. 10-1

Figure 1 is a schematic framework consolidating the stressors and protective factors related to physiological, psychosocial, socio-cultural and developmental variables, according to the Theory of Betty Neuman to which workers may be exposed in this investigation.

Labour conditions and theory of Betty Neuman...
The issue being discussed with the outsourced work in the Brazilian public service in the context in which forms of work are precarious is to think about what is the value of life, the work environment while working for an individual’s health, given that he can spend half of their lifetime being influenced by the working conditions. In this sense, working conditions should reflect on the dignity and health conditions for workers.18

CONCLUSION

By analyzing the working conditions self-reported by outsourced workers of a public university based on Betty Neuman’s theory, it was possible to identify that most were young women, with an average income of up to three minimum wages, with a predominance of white declared skin color which hold or stable relationship, women with higher levels of education and inclusion in higher education activities.

Most workers had only one job, working on a fixed schedule and did not work at night. Regarding working hours, 38.3% of people reported working 44 hours per week, 7.4% of respondents reported working 48 hours per week and 2.9%, 80 hours per week. The workers’ length of service demonstrated less than two years of employment (55.7%) and from two to five years (32.4%).

Regarding the work environment was mentioned exposure to risk: biological, chemical, physical, ergonomic and psychosocial, and psychosocial risk was emphasized.

The characterization of the participants identified that the working conditions of outsourced professionals who have integrated this research include instability in employment, precarious employment, low wages, the less skilled and subordination to more precarious working conditions.

This research brought as a contribution the analysis of working conditions while a health component of TAE worker based on a theoretical-philosophical framework of nursing. This initiative enables to identify which stressors that these workers were exposed; which variables the individual can affect by the conditions of work since the occurrence of symptoms was self-reported. These evidence allow understanding which are possibilities of nursing insertion level in the promotion, treatment, and recovery of worker’s health.

This research has the limit that data are not likely to be extrapolated to other realities, becoming inference in other services. Given the above, it is suggested that its accomplishment with not outsourced Technical and Administrative Education workers, to check if the working conditions found are similar to those found divergent or those presented in this research.

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