ABSTRACT

Objective: To identify the prevalence of Burnout Syndrome in medical professionals, nurses and nursing technicians working in an Onco-Hematological Pediatric Hospital in São Paulo. Method: An exploratory, descriptive study with cross-sectional design and quantitative approach, with a sample of 188 health professionals. Data were collected using two self-report instruments: the Maslach Burnout Inventory (MBI-HSS) which is a biosocial data form, and a non-participant observation guide. Results: High depersonalization for nurses (29.8%), low job performance for physicians (27.8%), and of nursing technicians (25.5%). High scores were identified in at least two domains of Burnout in 19.2% of nurses, 16.8% of nursing technicians, and 16.6% of doctors. Conclusion: Health professionals are highly vulnerable to each of the dimensions of Burnout syndrome – namely emotional exhaustion, alienation, and low job performance/satisfaction - in the hospital work.

DESCRIPTORS
Burnout, Professional; Health Personnel; Occupational Health.
INTRODUCTION

Studying the stress of health professionals in hospitals allows a better understanding of its causes which contributes to revealing everyday issues related to mental health often faced by professionals\(^{(1)}\).

Burnout syndrome (BS) is a psychosocial phenomenon in response to chronic interpersonal stressors present in/at work. In the context of Psychology, the most widely used definition has been from Maslach and Jackson, where burnout is referred to as “a multidimensional syndrome consisting of emotional exhaustion, depersonalization, and reduced personal accomplishment”\(^{(2-3)}\).

BS has been recognized as a condition experienced by professionals who perform activities in which a high degree of contact with other people is involved, including health professionals, whose job involves intense and sustained attention to people who are in need or dependent\(^{(2)}\).

The clinical picture is varied and can include somatic, psychological and behavioral symptoms among professionals, and produce negative consequences on individual, professional, family and social levels. In the context of health institutions this is highlighted by high levels of absenteeism from sickness\(^{(4)}\) and presenteeism\(^{(5)}\) with a consequent compromise in quality of service in the institutions.

The main action of health work is patient care. The care actions go beyond the technical procedures and knowledge, posing a constant emotional burden on health professionals when relieving suffering and maintain dignity of patients, and control and facilitate ways of dealing with crises in situations of negative outcomes.

Health professionals working in pediatric oncology are faced with daily situations of suffering, pain and loss. Performing diagnostic investigations, submitting prognoses, making decisions and monitoring treatment and all its vicissitudes, along with the uncertainty of healing/curing and the possibility of death are all activities that put health professionals in situations of strong emotional burden\(^{(6)}\).

In general, studies on BS in health institutions only evaluate one professional category, for example, nursing workers\(^{(7-10)}\) or medical professionals\(^{(11-13)}\), or analyze health professionals irrespective of profession. The literature on the subject showed that in Brazil there are few studies on a group of health professionals from the same institution in order to obtain a characterization of mental illness in the workplace as a whole.

Given the above, we highlight the importance of choosing the hospital context as the field of study, confronting the importance of investigating the labor aspects associated with BS in a health team composed of doctors, nurses and nursing technicians who work in treating serious diseases (Hematology/Oncology) in vulnerable patients (children). These professionals share something in common in their day-to-day work; dealing with sick children. It is a time of extreme personal significance for the patient and their family due to the dependence of care and their often emotional fragility.

Considering the stress involved in coping with the suffering, pain and death, the question that guided this research was: What is the prevalence of BS among health professionals who deal with vulnerable patients (children) with serious diseases (Hematology/Oncology) on a daily basis?

This study aimed to identify the prevalence of BS for medical professionals, nurses and nursing technicians of an onco-hematological children’s hospital in São Paulo.

METHOD

An exploratory-descriptive study with a cross-sectional design and quantitative approach was developed in a children's hospital in the city of Campinas/SP. The criterion for choosing this hospital was based on the particular characteristic of the health team working in a specific context of onco-hematological pediatric patient care. Data collection was carried out between March and September 2012.

Considering chronicity and the stress intensity for the manifestation of BS, the study population consisted of physicians, nurses and nursing technicians, whose inclusion criteria were: working in the institution for over six months with a minimum of a 20-hour-per-week workload. The exclusion criterion was incomplete return of the questionnaire.

As provided by a staff list, the hospital had 265 health professionals; 67 doctors, 65 nurses and 133 nursing technicians. Of these, 41 did not meet the criteria of working for at least six months or at least 20 hours per week in the institution, so they did not become part of the research, making 224 eligible subjects in the sample.

Among the 120 eligible nursing technicians, five were on sick leave, eight were on maternity leave, eight were not located after three attempts and four refused to participate in the study, resulting in a final sample of 95 technicians. Of the 59 eligible nurses, two were not located after three attempts, of the 45 doctors considered eligible because they had a workload of at least 20 hours per week, two refused to participate and seven were not located after three attempts, resulting in 36 doctors. Thus, a total of 188 professionals participated in the study (sample loss of 16%).

Two instruments were used to collect self-reported data: A biosocial questionnaire, based on other studies on the subject\(^{(5-8)}\), and the Maslach Burnout Inventory (MBI) HSS version (Human Services Survey)\(^{(2)}\). The MBI-HSS was prepared by Christina Maslach and Susan Jackson\(^{(2)}\), translated and validated in Portuguese by Lautert\(^{(7)}\), with 22 items divided into three areas: emotional exhaustion, alienation/depersonalization and low personal accomplishment. It consists of a frequency scale of five points ranging from one (never) to five (always)\(^{(7)}\). The score in each dimension is calculated by summing the points of the items for each of the dimensions. High scores on emotional exhaustion and alienation/depersonalization associated with low job performance satisfaction score indicate BS\(^{(7)}\).

In order to know the characteristics of the work context, the working environment and interpersonal relationships in the hospital where the study took place, non-participant observations were conducted for sampling of time, totaling 20 observation periods lasting three hours each and recorded in a field diary.
After the professionals individually answered the quantitative questionnaire, the researcher remained in their sectors together with the workers while respecting safety standards and hospital infection control. Medical clinics, intensive care unit, bone marrow transplantation sector, application of chemotherapy, collection of tests, the toy library, a games room, the cafeteria, the nursing and physician station, the patient rooms and waiting room were all observed.

The non-participant observation and the field diary were used to verify the behavior and interpersonal relationships in the daily routines of doctors and nursing staff professionals with the patients and their families and with other team members in order to identify some of the singularities of children's Hematology/Oncology work that could help explain the size of BS of workers. These data were incorporated in the discussion of this study in order to enrich it.

The quantitative results were analyzed using descriptive statistical data (mean, standard deviation, median and percentage) and presented in the form of tables, using the resources of the software Statistical Package for the Social Sciences (SPSS)® version 20.

To study the factors of interest related to the three domains of the MBI-HSS (emotional exhaustion, depersonalization and low personal accomplishment), calculations were made separately for each professional category. The cutoff points were performed by quartile for the three areas, the sample was divided into four equal parts of 25%.

Categorical variables were described by means of ratios and proportions. Numerical variables were described through measures of central tendency and dispersion. The significance level (α) was set at 5%, with significance level of p<0.05 and confidence intervals - CI of 95% statistical confidence. Differences in proportions were tested by Pearson’s test (chi-square).

The differences in the means of numerical variables were tested using the Kruskal-Wallis test. To test the independent effect of the biosocial questionnaire variables on outcomes for Burnout for each domain, univariate and multiple logistical regression models were used with stepwise selection criterion variables.

Cronbach’s alpha coefficient was used to analyze the internal consistency of the three domains of the MBI-HSS. In the psychometric tests of this study, the reliability was 0.86 for emotional exhaustion; 0.62 for depersonalization and 0.73 for personal accomplishment.

The research project was submitted to the Research Institute and the Research Ethics Committee (CEP) of the study hospital and was approved with the opinion No. 20486/2012.

Table 1 – Distribution of the three MBI-HSS dimensions and the respective percentages for each professional category - Campinas, SP, 2012.

| DIMENSIONS           | Technicians% | Nurses% | Doctors% |
|----------------------|--------------|---------|----------|
| **Emotional exhaustion** |              |         |          |
| High                 | 21.1         | 24.6    | 25.0     |
| Moderate             | 54.7         | 49.1    | 52.8     |
| Low                  | 23.2         | 26.3    | 22.2     |

RESULTS

Regarding biosocial characteristics among the research subjects, 50.5% were nursing technicians; 30.3% nurses and 19.1% doctors. We emphasize a high percentage of women, with 71.6% of women among nursing technicians, 78.9% of nurses and 58.3% among physicians. With regard to marital status, most were married or living with a partner, 52.6% among nursing technicians, 57.9% of nurses and 63.8% among physicians. 60% of Technical nurses did not have children, the percentage among nurses without children was 52.6% and among physicians it was 47.2%.

As for professional features, it can be noted that the higher average age was found in doctors (39.5 years), followed by nurses (35.9 years) and nursing technicians (34.5 years). Doctors also had the highest average in the time since graduation (14.9 years), length of employment (14.2 years) and time of institution (8.7 years). The nurses had an average of 13.1 years of time in the profession, followed by technicians with 11.9 years.

With regard to work in the institution, the nurses had an average of 7.6 years, 5.6 years for nursing technicians and 8.7 years for the doctors at the hospital. Most professionals held their employment relationship by the Brazilian Consolidation of Labor Laws (in Portuguese: Consolidação das Leis do Trabalho -CLT): 98.9% among technicians; 96.5% among nurses and 55.6% among physicians. Health care professionals who had two or more jobs were observed as 51.6% among technicians; 35.1% among nurses and 61.1% among physicians.

It was found that 17.6% of nurses associated their health problems with work in the hospital. Among doctors this percentage was 11.1%, and among the nursing technicians it was 9.5%. The health problems most frequently reported among the three professions were lower back pain and depression. We found 40.4% of cases of absenteeism among nurses, 25.0% for physicians and 23.2% for nursing technicians. The causes of the most cited absences were for musculoskeletal diseases, followed by surgical procedures and pregnancy-related problems. It is noted that the problems associated with pregnancy have emerged as a major cause in the three professional categories.

Distributions of the three dimensions with the respective percentages of involvement in each professional category were tabulated. Among the three professional categories, physicians had the highest percentage of high emotional exhaustion and feelings of low job satisfaction, and nurses had high depersonalization (Table 1).
Prevalence of Burnout syndrome in health professionals of an onco-hematological pediatric hospital

...continuation

For a diagnosis suggestive of BS, it is necessary to obtain higher cut-off points for the three dimensions that characterize it\(^6\). In isolation, each of the areas also provides valuable information on the state of the sample. Table 2 was constructed in order to identify the percentage of employees that have obtained high scores in one, two or three dimensions.

Table 2 - Distribution of the three MBI-HSS areas with their respective percentage by each professional category - Campinas, SP, 2012.

| Professionals | One High Domain (%) | Two High Domains (%) | Three High Domains (Burnout) (%) |
|---------------|---------------------|----------------------|---------------------------------|
| Nurse Tech.   | 45                  | 47.3                 | 16                              |
| Nurses        | 29                  | 50.8                 | 11                              |
| Doctors       | 14                  | 38.0                 | 6                               |
| Total         | 88                  | 33                   | 9                               |

DISCUSSION

To facilitate the understanding of the results, and considering the specificities of working professionals, the discussion was held separately by profession. By understanding that while working in the same institution, the nature of the demands and the degree of autonomy and control of their work has their own individual specificity for nurses, nursing technicians and physicians.

NURSING TECHNICIANS

The data analysis of nursing technicians showed a correlation between the variable of health problems regarding hospital work (P ≤ 0.05) to the areas emotional exhaustion and depersonalization. That is, the technicians who have had some health problems related to their work in the hospital felt more emotionally worn out and showed more symptoms of depersonalization. These data corroborate the results of a study\(^{10}\) in the city of Campinas with nursing technicians where the same correlations between this variable and areas of depersonalization and emotional exhaustion were obtained. The work overload may contribute to the development of professional depersonalization and makes them more susceptible to health problems.

Some of the health problems mentioned by the professionals may have psychosomatic cause and contribute to the

Table 3 presents correlations between biosocial variables and MBI-HSS areas (P ≤ 0.05) to the areas of the MBI-HSS for each professional category. Nursing technicians presented four correlations, nurses presented two correlations and physicians three. These results are examined in the Discussion.

Table 3 – Correlations between biosocial variables and domains of the MBI-HSS for each professional category studied - Campinas, SP, Brazil in 2012.

| Variables          | Emotional Exhaustion | Depersonalization | Low professional satisfaction |
|--------------------|----------------------|-------------------|-------------------------------|
| Nurse Technicians  |                      |                   |                               |
| Gender             | -                    | -                 | 0.02*                         |
| Marital Status     | -                    | -                 | <0.00*                        |
| Health Problems    | 0.05†                | <0.00†            | -                             |
| Nurses             |                      |                   |                               |
| Marital Status     | 0.04*                | -                 | -                             |
| Health Problems    | 0.01†                | -                 | -                             |
| Doctors            |                      |                   |                               |
| Contract           | -                    | -                 | 0.005*                        |
| Number of jobs     | -                    | -                 | 0.049*                        |
| Health Problems    | 0.024†               | -                 | -                             |

* Pearson or Kruskal Wallis Test p ≤ 0.05; † Multivariate Logistic Regression p ≤ .05
development of BS. Symptoms may occur immediately or remain silent to generate important pathological processes in the individual. Each person reacts uniquely to chronic stress and can provide a range of psychosomatic reactions that affects many aspects of their life\(^{(14)}\).

For the *low professional satisfaction*, the variables that were significantly correlated values were marriage status and male gender. A study\(^{(9)}\) of Porto Alegre-RS hospital nursing technicians found that women generally had lower job satisfaction than men, unlike the data in this study. This is a fact which is admitted in only a few statements in view of the small number of male participants.

Most nursing technicians with high scores in *low professional satisfaction* dimension lived with a partner (40.9%), which differs from another study\(^{(10)}\). However, there is no consensus on this issue, since the quality of the relationship, having children and time to care for their families can have a positive or negative influence\(^{(10)}\).

Another factor that appears to contribute to job dissatisfaction is the lack of career path for nursing staff (technicians and nurses) at the studied hospital. Due to the non-recognition in the form of promotion and gratification by the organization, professionals tend to feel that their work is not valued, despite their dedication and long-time working at the institution\(^{(15)}\).

Dissatisfaction and BS compromise the quality of work and may contribute to the increase of occupational accidents and errors, conflicts, lack of humanization of care and patient dissatisfaction. In addition, health professionals with BS avoid direct contact with people - targeting their assistance and may develop depersonalization\(^{(16)}\).

This study found that five nursing technicians presented the three areas suggestive of BS with a prevalence of 5.3% in this specific group. A total of 16 technicians presented two areas with high scores, which is suggestive of BS (16.8%). This percentage is considered high as it means that these professionals are subjected to chronic stress, and if no intervention is made or if they fail in implementing individual defensive strategies, they can develop the BS.

A study with nursing technicians\(^{(10)}\) found 5.9% with the three areas suggestive of BS, a prevalence similar to the present investigation. In another study\(^{(6)}\) conducted among healthcare staff of a child oncology hospital with qualitative design, aspects related to the diagnosis, treatment and death were mentioned among the stressors of caring for the children in the hospital. The treatment was seen by professionals as very painful for the child, and dealing with their suffering can often be worse than witnessing death.

Professionals feel they are not prepared to cope with the losses to the point of feeling guilty for natural human pain in facing death\(^{(17)}\). In relationships with colleagues, they perceive it as improper or unacceptable human need to share their grief in the workplace\(^{(17)}\). These factors can have a major influence in triggering BS, as well as in their respective dimensions. A nursing staff in a susceptible state for BS usually evaluates care as something painful and stressful\(^{(15)}\).

Aspects observed in those studies proved as predictors of BS in the hospital reality investigated. This could be ascertained by observing the work environment.

Being a hospital specialized in child oncology and hematology means that there is intense pressure and requirement in the performance of professional duties. The nursing technicians need to use complex handling techniques and chemotherapy drugs in dealing with very unwell children as well as their families, as the hospital allows the presence of family members to accompany the children 24/7. Among the positive aspects observed it was found that the implementation of Standard Operating Procedures (SOP) that although diminish the autonomy of the professional, they limit and standardize the techniques to be adopted, thus reducing the possibility of iatrogenic effects.

### Nurses

In this professional category significant correlations were found ($p \leq 0.05$) between emotional exhaustion, marital status (with a partner) and health problems related to work. Regarding *marital status*, similar results were observed in another study\(^{(18)}\), which also found that married health professionals were more likely to have high emotional exhaustion.

However, there are studies indicating that singles are more likely to develop BS, because married people or those with a stable partner experience feelings of family responsibility and greater resistance to the syndrome, an association with the ability to cope with emotional problems\(^{(19)}\). In fact, there is no consensus in the literature on the development of BS and marital status.

As for the variable *health problems related to work*, another study\(^{(20)}\) found an association with emotional exhaustion. This perception must be emphasized, as it may be an indication that the worker in understanding the relationships between health and work and their consequences can seek help as soon as possible in case of work-related suffering. Both the depersonalization dimension and *low job satisfaction* scale showed no statistical association with any variable. However, when compared to other professionals of the researched institution and with other studies done with nurses\(^{(8,20)}\), this research has found a high level of depersonalization.

It is understood that it is from their experiences that people develop and rework their strategies to cope with stressors and suffering. Thus, some individuals may have fewer skills to overcome the weariness from personal and professional situations, especially with regard to the fact that on one hand they have to cope with the establishment of affective bonds with their patients, and on the other, an emotional detachment to enable them to assist\(^{(21)}\). The difficulty in coping with the suffering of others can cause professionals to use defensive strategies such as depersonalization, as evidenced in this study.

Two nurses (3.5%) had three domains suggestive of BS. A study of only nurses in a university hospital in the city of Campinas\(^{(6)}\) showed that 7.3% had three domains suggestive of BS. Another study in the city of Recife of nurses in a general hospital\(^{(18)}\) also found similar results, with 4.7%
indicative of BS. It is noted that the criteria used for comparison between the studies cited was to evaluate the prevalence of BS from the presence of high levels in the three dimensions of the syndrome, as also indicated by the creator of the MBI instrument, and to compare the prevalence of this syndrome only among the same professional categories.

Having a very strict criteria to detect BS can contribute to the underestimation of its prevalence. Moreover, it is reiterated that the present study was conducted with nurses working with child Hematology/Oncology and there were no other studies to estimate the prevalence of BS in this work situation.

Some work context characteristics may contribute to the development of the syndrome or any of its dimensions. The nursing work in the hospital requires concentration and constant attention. Because of this pressure and the inherent requirements in this type of specialization, there were reports of high absenteeism on weekends and even during the week on the nursing team. This fact generates warnings to try to lessen the excessive absences.

In this study, the research subjects' reports and observations of the dynamics and organization of the work in the various sectors have identified some work situations that could act as minimizing factors for the development of BS in the health professionals studied. For example, the fact that caring for children brings personal satisfaction and social recognition inspires strength and is an example of life and perseverance, despite the feeling of sadness to see the suffering or death of a child.

Professionals also voiced the feeling of pride to work in the hospital due to the positive image of the institution for its competence, for the type of service it offers to the population and by its commitment to patients, besides the institution being an international benchmark in the treatment of children's cancer. These data can positively influence the amount of professional satisfaction.

**Doctors**

A significant association of the variable health problems related to work was obtained with the emotional exhaustion dimension. As mentioned, it is important that health professionals consider that their work triggers or exacerbates mental and physical illness. In this perspective, the worker and the institution's awareness and knowledge of occupational diseases is a necessary aspect for its diagnosis and early treatment and prevention.

There was a positive correlation between low job satisfaction scale with type of employment contract and the number of jobs. The contract type named outsourced was statistically significant, which leads to the supposition that the precarious type of relationship with the institution makes the professional feel less valued, compared to a CLT contract (Brazilian Labor Laws). Furthermore, the “outsourced” professional does not receive as many benefits, for example, a career path.

Physicians who had a greater number of jobs showed more symptoms related to low job satisfaction. This may be due to excessive weekly working hours, increased travel time and increased physical and mental fatigue, affecting their time for rest and recreation.

Medical professionals have consistently increased their working hours in multiple jobs as a compensation mechanism for loss of pay and replacement by autonomous work. Better salaries are needed so that people do not need so many jobs and can focus on a single workplace.

Another factor that can influence low job satisfaction is the lack of recognition at work. In a qualitative study of health professionals at a children's oncology hospital, respondents reported the lack of recognition of their work in the institution as a major source of stress. Professionals realize their investment at work, but did not have the recognition of colleagues or superiors to carry forward their projects or for creating satisfactory forms of customer service.

These observations indicate that the current working model of hospitals is unsatisfactory and is aggravating overwork, multiple jobs, low pay and high professional responsibility, which brings difficulties into their relationships with patients. This chronic wear enhances the action of factors that affect the physical and psychological integrity of workers.

This study found two doctors with the three areas suggestive of BS, a prevalence of 5.6%. A study of oncologists found 3.0% of professionals with high scores in all three dimensions of BS. Another study mentions harmful behavior of doctors in relation to their health, tending to minimize risks, being afraid of making a diagnosis, doing treatment and losing their self-esteem.

However, there are numerous psychological rewards inherent to the medical profession: relieving pain and suffering, curing diseases, saving lives, diagnosing correctly, feeling competent, teaching, advising, educating, preventing disease, and receiving recognition and gratitude are some psychological characteristics that may contribute to the prevention of BS and make it a very rewarding profession. These positive feelings when applied to children's Hematology/Oncology may be even more pronounced because as pointed out by the professionals themselves, caring for children inspires strength, courage and gratification.

One aspect that deserves to be highlighted in relation to BS in medical oncologists is the issue of experiencing bereavement. There is an expectation to be honest, compassionate and able to advise and comfort patients and their families in their time of despair. However, the professionals often do not have time or space to develop their own suffering and sorrow for the death of their patients. The unresolved grief can overflow, affecting the capacity for compassion and emotional investment in patients.

The study institution is an international reference in the treatment of cancer and hematological diseases of children and adolescents and has a cure rate of about 80% of patients. In this context, hospital health professionals are proud to be part of the multidisciplinary team, with higher than a 92% satisfaction rate, as found in this study.

To achieve these results, it is demanded that health professionals require dedication, an excess of responsibility and constant effort. From the perception of professionals,
RESUMO

Objetivo: Identificar a prevalência da Síndrome de Burnout em profissionais médicos, enfermeiros e técnicos de enfermagem que trabalham em um hospital oncohematológico infantil no estado de São Paulo. Método: Estudo exploratório, descritivo, com delineamento transversal e abordagem quantitativa, cuja amostra foi composta 188 profissionais de saúde. Os dados foram coletados utilizando-se dois instrumentos de autopreenchimento: o Maslach Burnout Inventory (MBI-HSS) e um formulário de dados biosociais, além de um roteiro de observação não participante. Resultados: Apresentaram alta despersonalização 29,8% dos enfermeiros e baixa realização profissional 27,8% dos médicos e 25,5% dos técnicos de enfermagem. Foram identificados com altos escores em pelo menos dois domínios do Burnout. Conclusão: Existe importante vulnerabilidade dos profissionais de saúde para a Síndrome de Burnout, potencializada pela identificação da presença elevada de cada uma de suas dimensões no ambiente de trabalho hospitalar.

DESCRITORES

Esgotamento profissional; Pessoal de Saúde; Saúde do Trabalhador.

RESUMEN

Objetivo: Identificar la prevalencia del Síndrome de Burnout en profesionales médicos, enfermeros y técnicos de enfermería que trabajan en un hospital oncohematológico infantil en el Estado de São Paulo. Método: Estudio exploratorio, descriptivo, de corte transversal y abordaje cuantitativo, cuya muestra estuvo compuesta de 188 profesionales de salud. Los datos fueron recogidos utilizando dos instrumentos de autorelleno: el Maslach Burnout Inventory (MBI-HSS) y un formulario de datos biosociales, además de un guión de observación no participante. Resultados: Presentaron alta despersonalización el 29,8% de los enfermeros y baja realización profesional el 27,8% de los médicos y el 25,5% de los técnicos de enfermería. Fueron identificados con altos puntajes en por lo menos dos dominios del Burnout el 19,2% de los enfermeros, el 16,8% de los técnicos de enfermería y el 16,6% de los médicos. Conclusión: Existe una importante vulnerabilidad de los profesionales de salud para el Síndrome de Burnout, potenciada por la identificación de la presencia elevada de cada uno de sus dimensiones en el ambiente de trabajo hospitalario.

DESCRITORES

Agotamiento Profesional; Personal de Salud; Salud Laboral.
Prevalence of Burnout syndrome in health professionals of an onco-hematological pediatric hospital

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