

Work-Related Stress and Well-Being and Effects of an Intervention among Elementary School Teachers

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ABSTRACT

Aim: The aim of this study was to investigate factors associated with work-related stress and well-being and to determine the effects of an intervention among elementary school teachers.

Methods: Cross-sectional, sequential and three-step mixed research. A total of 105 teachers selected from four schools participated in the first step and answered a questionnaire about socio-contextual and work-related health variables, the Lipp Stress Symptom Inventory, and the Work Well-Being Scale. Subsequently, 23 teachers from an intentionally selected school participated in an intervention and focus group discussion. The analyzes were performed using SPSS and MAXQDA programs.

Results: There was a predominance of females, full-time workers (53%), 58.3% had at least one occupational disease, and 72.4% had been absent from work at least once. The overall level of stress was 48.1% (moderate), 30.8% had a high level of stress, 45% were in the exhaustion level, and 32% were in the resistance level. Most subjects positively evaluated their work.

Conclusion: The school environment proved to be a factor for the development of occupational diseases, due to lack of emotional healthcare for professionals who work on it. The intervention served as a coping strategy that helped teachers alleviate school-related stress and a healthcare tool.

INTRODUCTION

Schools are organizations that requires teachers a difficult and demanding job. The demands faced by teachers are constantly associated with physical and mental problems ^[1]. Occupational health of teachers is a public health problem and studies suggest that interventions are needed to assist them in coping with stress and anxiety, dealing with conflicts involving students, colleagues, managers, or family members, and to reduce costs related to the treatment of the burnout syndrome, absenteeism and turnover of professionals ^[2,3]. Stress generates physiological responses to sensory

or psychological stimuli, causing an adaptation of the organism to stressors. This adaptation has three phases: alert phase, resistance phase and exhaustion phase. In a Brazilian study, a fourth stress phase called "quasi-exhaustion" (an intermediary phase between resistance and exhaustion) has been identified. This phase is manifested by symptoms such as poor sleep, impaired memory, physical and mental fatigue, mood fluctuation, increased anxiety, and falling work productivity^[3,4]. These factors are troubling for professionals who are responsible for formal education. Thus, research is needed to improve work motivation, satisfaction and well-being in schools as these factors have a direct impact on health.

Well-being at is a factor that can affect the work performance positively and negatively. When well-being is perceived as negative, behaviors of isolation, apathy and the social devaluation may occur^[5]. These perceptions are related to individual (age, gender, previous experiences, occupation, and personality) and external factors (salary, career advancement opportunities, working conditions, and nature of work), and all these factors generate dissatisfaction and discomfort, with an impact on health^[6]. On the other hand, when well-being is perceived as positive, it may favor the teachers' perception of their own potential and the achievement of life goals^[6]. Therefore, the perception of well-being in the work environment is an important factor for teachers' health.

In this sense, the perception of well-being in the workplace is an important factor for teachers. Evidences show that job security, compensation, and promotion of well-being are factors related to the permanence of teachers in their jobs at secondary schools^[7]. On the other hand, there are factors associated with burden in this job, such as demands to be a competent teacher and specific personal and institutional demands of the profession. Teachers often assume the role of educating the future generations, but also have an important role in influencing the development of citizenship of individuals and in promoting the achievement of knowledge, skills and behaviours^[8]. Dedicated teachers who are aware of their role have a high sense of responsibility, are committed to the prosperity of societies, and by having these duties, can develop high levels of stress^[5].

Despite the available evidence, there is still a gap in studies involving actions and interventions focused on occupational health of teachers in the Brazilian school context^[9,10]. We question whether health professionals, especially nurses, can facilitate and provide care specifically focused on teachers' health.

Given the scarcity of research, this study aimed to investigate factors associated with work-related stress and well-being and to determine the effects of an intervention among elementary school teachers.

MATERIALS AND METHODS

A cross-sectional, sequential and three-step research based on the mixed-methods sequential explanatory design was conducted^[11]. Initially, 123 teachers were recruited from four elementary schools located in Sao Paulo, Brazil. The final sample consisted of 105 teachers. The criteria were that participant had to be in working at school at the time of data collection and had to complete all questionnaire items. A total of 18 subjects were excluded for not meeting these criteria.

The eight care intervention sessions were performed in an intentionally selected school and the sample was composed by 23 teachers, recruited and divided in two groups. These teachers were divided in two groups named G1 (12 participants) and G2 (11 participants). For the collection of qualitative data, the same composition remained in the focus groups. The participants were identified in the text with letters (where "P" stands for "participants" and "G" stands for "Group").

The first research step (data collection) was carried out by one of the researchers in the four selected schools, from December 2017 to August 2018, using three instruments. The first was a questionnaire about socio-contextual and work-related health variables, such as gender, education, marital status, family income, and health conditions. The second was the Lipp's inventory of symptoms stress for adults (ISSL) an instrument with 37 items about somatic symptoms and 19 psychological symptoms of stress: 15 items are about physical/psychological symptoms (10 physical and 5 psychological symptoms); 12 physical and 11 psychological items refer to symptoms that occurred in the last month. Phase 3 stress (near-exhaustion) is diagnosed based on the frequency of items marked in the resistance phase^[4]. The ISSL standardized by Lipp and Guevara was based on a three-phase model developed by Selye. Data from a research that used the ISSL in a sample of 1853 Brazilians (64% female and 36% male, aged 15 to 75 years) indicated the need for a fourth phase, called quasi-exhaustion, between the resistance and the exhaustion phase. The identification of this fourth phase of stress require the understanding that symptoms vary depending on the phase. The third instrument was the Work Wellbeing Scale (WWS), which consists of 30 items divided into three factors: 9 items related to positive affect, 12 items related to negative affect, and 9 items related to work satisfaction^[12,13]. In the present study, only the last 9 items were evaluated regarding work performance, which refers to the individual's perception of his/her own work, how his/her skills and potentials are developed, and how he/she progresses in

achieving his/her life goals. The choice of this instrument was made in order to achieve the research aims, as this instrument includes representative dimensions of 'achievement at work' [13].

The second research step was conducted from August to December 2018 and consisted of eight sessions called "Care Experiences", as follows: "Shamanic cards/Animals tarot", "Pulsation of life", "Male and female integration", "Sun and moon-critical compassionate glance", "Body and mind chakras centering", "Working tensions and overcoming challenges", "Working anger and integrity with yourself and others", and "Love and trust tunnel". The techniques involved physical actions such as promoting stillness of body and mind, highlighting the importance of understanding the emotions manifested through symptoms. Each experience had a specific goal, but all seek to awaken the body memory explicit during the exchange of group experiences. All sessions were conducted by a nurse with expertise in the techniques proposed by Barreto [14].

The third research step was the collection of qualitative data after the sessions. This data collection was made using focus group discussions (two groups), guided by the following questions: "How was it for you to participate in the Care Experiences sessions and what was your perception of the impact of these experiences on your professional and personal life?".

Data were reviewed and entered into Excel (2010 version) spread sheets, and then transferred to SPSS version 20. Descriptive data analysis was performed for the socio-contextual characterization of the sample and the LSSI and WWS scores were analysed. The content from the focus groups was submitted to textual analysis using the MAXQDA (2018.1) program. The readings resulted in the creation of theme codes from open coding. A content analysis of reorganized, grouped, or separated codes generated sub-codes. The data visualization tool of the MAXQDA program [15] was then used. In the last review, the theme codes were evaluated and selected based on their suitability for the composition of the category and subcategory grid, defined based on the analysis of the textual content and on theoretical foundation. Finally, the relation between codes and sub-codes was performed, which generated two categories that responded to the objectives.

Regarding the ethical procedures, the study was approved by the Institutional Review Board at the Federal University of Sao Paulo (project #2905871). The research met the assumptions set in the Resolution 466/12 of the National Health Council of the Brazilian Ministry of Health.

RESULTS

The descriptive analysis of the total sample composed by 105 teachers revealed a predominance of females (88.6% versus 11.4% male). The mean age was 46.7 years (SD = 9.5; range = 30-71 years), 69.9% were married or cohabiting with their partner, 50.0% were catholic, and 90.4% were living in their own house.

The monthly income ranged between 4 and 6 minimal Brazilian wages (in 2017, the national minimal wage costed R \$937, approximately US\$235). Regarding working hours, 53% participants worked 40 hours weekly, 52.1% were full-time workers, and 47.9% part-time workers. A total of 46.2% of the teachers reported having a good health, but 58.3% reported that they had suffered from at least one occupational disease during their lives, and 72.4% required medical clearance from work at least once. Emotional problems were reported by 21.6% and 28.5% use psychological counseling services.

The analysis of the LSSI scores [4] revealed that 48.1% of the teachers had a moderate level, 30.8% had a high level, 23.5% had a low level, 3.8% had a very high level, and 3.8% had a very low level of stress, as shown in **Figure 1**.

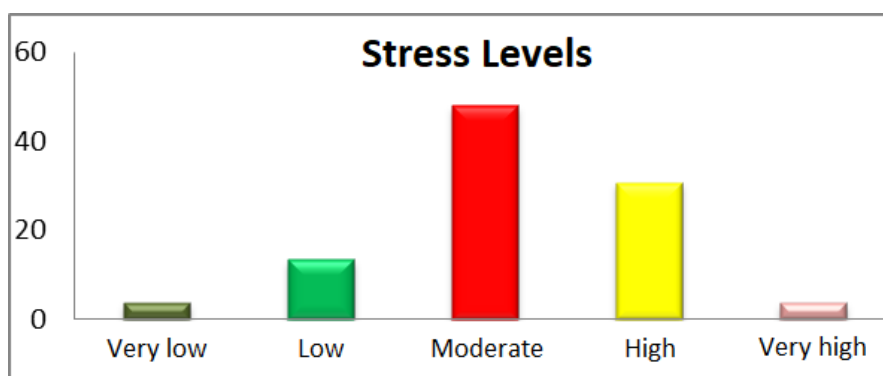


Figure 1. Levels of stress among teachers.

Regarding the stress phases in which the teachers were, 45% were in the exhaustion phase and 32% in the resistance phase, as shown in **Figure 2**. The classification corresponds to the following values: ≥ 5 , ≥ 14 and ≥ 20 .

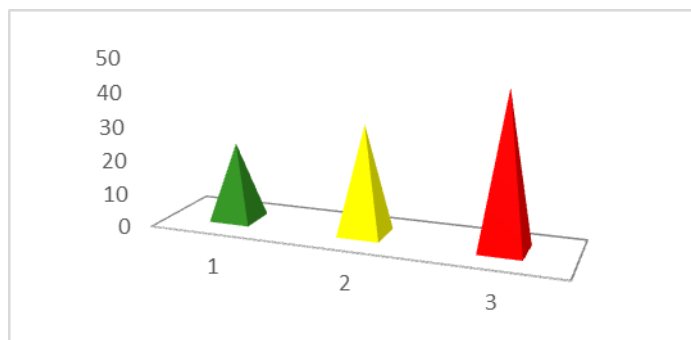


Figure 2. Stress phases manifested by teachers.

Regarding work-related well-being in the last six months, 53.8% of participants were satisfied with their work-related activities, and 24% were partially satisfied.

Experiences that emerged from the focus groups

The grouping of codes and sub-codes generated by the MAXMaps tool generated a map of categories and sub-categories related to the demands exposed by the participants, as shown in **Figure 3**.

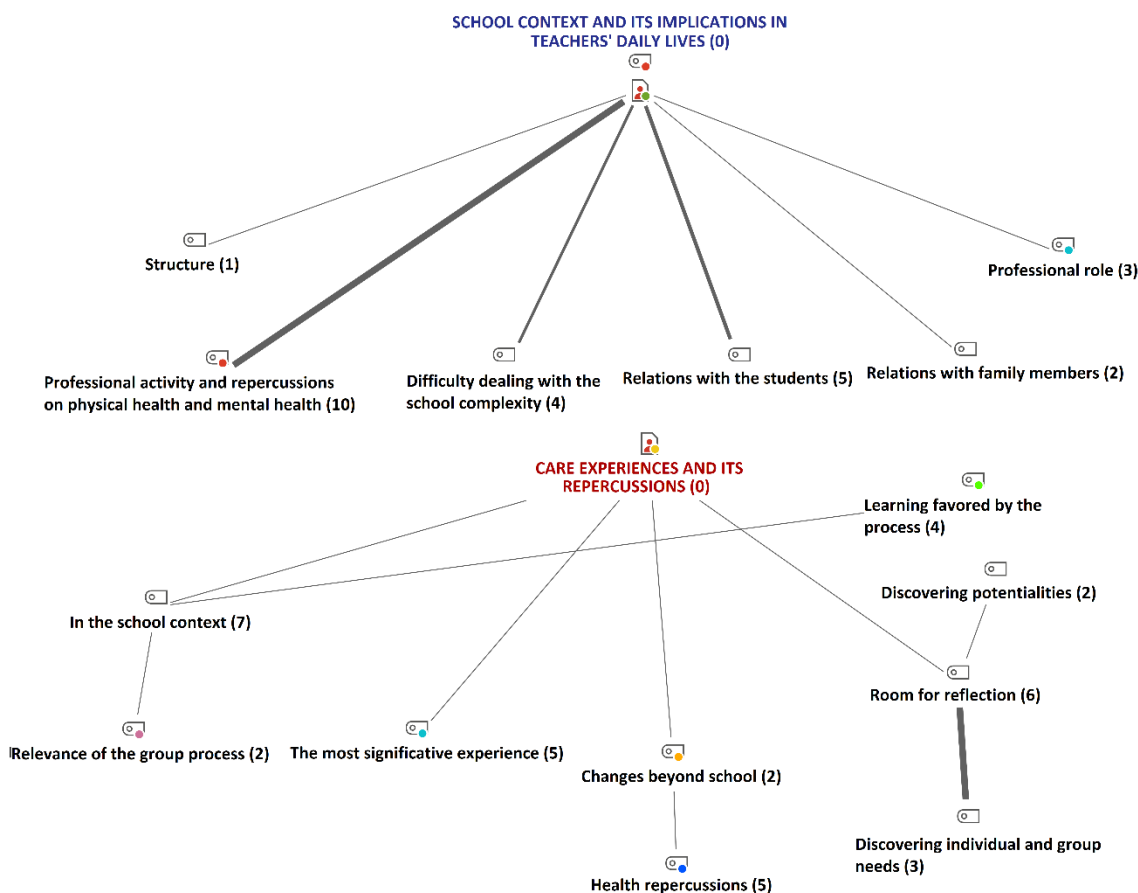


Figure 3. Map of categories and associated codes.

In the first category, "School context and its implications in teachers' daily lives", teachers stated that lack of structure and little institutional investment on teachers' emotional health are important problems that occur.

I think there is a lack of structure in public administration to help us. We need this kind of thing (interventions) to improve and to get support during work. (P1-G2)

Teaching is perceived as a social construction that contributes to the accumulation of different roles and emotional burden. Participants also highlighted the fact that most teachers in elementary school are women.

There is the cultural factor, the way in which the role of women is perceived by society and the family ... we carry a heavy burden, a historical and family burden. Usually we are the safe harbor of the family, the reference ... we have to hold the fort, so sometimes we don't allow ourselves to be fragile, we don't admit weaknesses, we don't allow ourselves to cry. (P2-G1)

On the demands in daily work, teachers mentioned the increase of mental disorders, the search for psychiatric help and medication use.

Psychiatric illnesses are increasing among teachers. Take me, for example; I have never taken psychoactive drugs, have never gone to the psychiatrist, but this year I had to, because of work overload. (P3-G2)

Participants also reported difficulties in coping with student demands, which impact on mood variability and lack of emotional control.

Last week, a bad student misbehaved during the exam. I asked him twice to hand over the exam and leave the room, but he refused to obey. Then he left the classroom very aggressive, angry, and that led me to despair ... it really got on my nerves. (P4-G2)

Teachers reported the need to use authority to impose limits and to ensure an adequate learning environment, which end up expanding the role of educator.

Much is left on teacher's shoulders. My duty is not to raise the student, but to teach him. This has been going on for a few years now: I'm a friend, I'm a teacher, sometimes I have to be a "wicked witch", but I also have to be the psychologist, the mother, so I don't really know what my role is. Teachers are carrying a lot of burden on their shoulders. Sometimes we don't know which way to go. (P5-G1)

I feel like there are things that go beyond the classroom. The problems students bring, or experience are heavy burdens. (P5-G2)

In the second category "Care experiences and its repercussions", there was an initial insecurity of participants to expose themselves, but this feeling was dispelled as the meetings took place.

I was afraid of what might come up in the group sessions because we don't want to show our ugly part, just our beautiful part. But I think it was all very respectful. Very sensitively done. (P1-G1)

Teachers noticed changes in their behaviors as a result of the meetings. They reported that they learned strategies to stay calm and establish a proper dialogue with students.

The sessions helped me better understand the students. I was very upset with students who didn't do things the way they should be done The sessions helped me understand that it is better for me to calm down and to fight less with the students. (P3-G1)

The intervention provided support for reflection about attitudes that favor personal and professional changes, as well as a space for exchange and knowledge.

We didn't talk about our feelings and emotions often. But how can you take care of someone if you are not well? ... These group experiences were very helpful to me. (P6-G2)

In the sessions, I realized that at the same time that I became humanized, knowing a little more about each colleague's story, I affirmed myself in some beliefs regarding limits and tolerance, both at home and at work. (P4 -G1)

Each of us was able to take care of ourselves and the others in some way. That was very meaningful to me ... it was a good opportunity for each of us to speak. (P11-G2)

The meetings provided teachers an opportunity to see each other as an extension of themselves and to perceive common problems, helping to value their own potential and express emotions.

I became more observant of my colleagues as human beings, not only as professionals, and I began to mirror them. Sometimes I would hear them say they had the same problems as me. (P8-G2)

I realized I could do things I didn't know I was capable of. Today I see everything different and I recognize the changes in my attitudes. (P17-G1)

I was living in a whirlwind and these experiences brought a change of behavior because it managed to bring out my emotions. When you put your emotions out, you can really renew yourself. It's not just talking, you can also hug and be hugged ... when they come (emotions), you really renew yourself. (P4-G1)

The intervention was perceived by the participants as an opportunity to overcome the professional barrier and to broaden the dialogue beyond school issues.

We strengthened ourselves as a group, as human beings, and we also managed to overcome the barriers of the profession and the walls of classrooms. Before, we always talked about problems, but now, even in silence, during the group dynamics, in the moments of reflection, in the moments of introspection, we managed to be collectively absorbed, so it was very good! The collective, the conviviality, it was all very good! (P11-G2)

Although the intervention was not extended to students' families, some teachers reported changes in communication with parents.

At the last parent meeting I was surprised by the attitude of one of the mothers. She was saying "please" as if she was on my side. I did not expect it. Then I realized that, somehow, the intervention also reached the parents, even not being present at the group experiences. I feel that something has changed. (P12-G1)

DISCUSSION

Teaching is one of the jobs at risk for physical and emotional illnesses, which can be triggered by occupational stress and other factors. According to the International Labor Organization (ILO), the occupational health encompasses the physical and mental domains^[16].

Because of the importance of teachers for the development of society, teachers' health has been a factor of concern around the world, especially the risk for burnout syndrome, triggered by chronic stress^[17]. The findings from this study related to occupational health, gender, age, marital status, type of residence, and family composition are similar to the profile reported by the Anhsio Teixeira National Institute for Study and Research, which indicates a predominance of women in Brazilian elementary schools^[18]. Often, education is seen as a female activity, related to the "call of caring and educating". Thus, over time, there has been a tendency for men to pursue other professions. In Brazil, it is believed that the choice of this profession by women is multifactorial, associated with culture, beliefs, values and opportunities.

The participants' speeches show that they perform multiple functions and roles to meet the learning demands and the needs of the students. This often causes an emotional overload, which ends up interfering in the interrelationship between those involved, both in the school and family context. Social and economic changes are directly reflected in family and school structures^[19]. Specifically, in Brazilian society, one of the consequences is the family division of responsibilities in regard to the education of children in schools. The teachers' statements show that contextual difficulties lead them take actions to help students deal with struggles that go beyond school. Teachers end up performing functions beyond the exercise of teaching, mainly due to the vulnerability of their students and the lack of opportunities in the students' own homes to face personal problems.

Factors related to the teachers' family composition and dynamics were also of interest in this study. During the meetings, the participants apparently did not consider the possibility of such issues being related with stress in the work environment. The narratives show that the teachers seem to care more for the problems of their students than for their own problems. This may have led them to assume that healthcare is secondary, being perceived as important only in situations of aggravation of illness and absence from work. Some teachers also revealed that, for social or economic reasons, they play the role of supporting the family in difficult situations, which also exposes them to stress. Thus, it is clear that the relationships and demands of the teachers' family also influence their work activity.

In Brazil, elementary school teachers often earn low salaries compared to other higher education professionals. In addition, wages differ between regions of Brazil, which is worrying and characterizes the devaluation of the teaching career^[20]. Salary is a reward for work activity and an important factor for the quality of life and health of the workers.

Regarding the perception of health, the data showed a contradiction: although the teachers reported having good health, most recognize suffering from diseases related to work. There was a high frequency of reports of absence from work, including the perception of increased financial expenses for medical treatment due to occupational diseases. Stress was considered moderate based on the instrument used during data collection (most teachers scored 3 on a self-perception Likert scale from 0-5). However, a further analysis showed that some teachers are in the exhaustion phase of stress. This result is worrisome because this phase can cause physical illnesses and the burnout syndrome^[21].

The teachers' statements also show that there is a relationship between stress generated by problems experienced at the school environment and the occurrence of mental and physical health conditions. Thus, it was observed that although teachers experience stressful situations at work, there is a tendency to minimize or neglect stress-related signs

and symptoms. Because such symptoms are not always identified as resulting from work activities, these professionals tend to seek specialized help only in the face of aggravation. Situations experienced in the school context, the innumerable demands, and the social devaluation interfere in the teachers' perception of well-being and affect the teaching-learning process [22,23]. The findings suggest that institutional changes and interventions (such as those carried out in this research) may favor teachers' well-being and improve the work processes in schools.

Physical illnesses are valued more than psychological distress, which is more difficult to perceive or accept, or even understand as a health problem [24,25]. The results confirmed the need for health education that addresses these issues and fosters an understanding of comprehensive healthcare for teachers. For example, a public policy should be adopted in regard to the risks to teachers' physical and mental health.

The evaluation of the corporal follow-ups when exercised in a thorough manner through a physical examination, shows signs and symptoms that are pillars to trace the nursing diagnoses, which will provide basis for a care planning according to the needs [22]. In this perspective the instrument provides such parameters, devices and propaedeutic methods that must be used to guarantee the patient a holistic and resolute care.

In this respect, nurses can contribute through specific actions for teachers. Such action becomes legitimate and necessary due to the gap found in terms of disease prevention and health promotion in the school context [26,27]. This demonstrates the importance of healthcare interventions for teachers and the need for professionals that are able to deal with school-related physical and mental health issues.

There is a need for health workers in the school environment, providing active listening and promoting collaborative coping spaces [28]. In this sense, nursing, which has care as one of the pillars of the profession, finds in the school a favorable place for the identification of risks and for the implementation of health and well-being promotion actions, which can also contribute to increased job satisfaction (which in this study, was considered partial) [29,30].

The intervention was considered effective by the participants as a tool to take care of themselves and others, to externalize emotions and feelings (such as fear, anger, anguish and uncertainties), to improve interpersonal relationships, and to recognize subjective potentialities that help coping with difficulties. Therefore, the results confirm the importance of promoting a care space in the school in order to promote occupational health of teachers.

CONCLUSION

The findings of this study show that the healthcare of elementary school teachers is an emerging necessity. The role of nurses in schools has advanced in developed countries. Continuous support and the development of care actions by nurses in the school context can favor teachers, students and family members. Participants from this research provided data suggesting that studies should be continued to provide new evidence regarding methods of intervention to promote the teachers' health, especially to reduce stress and to promote well-being.

The main limitation of the study refers to the impossibility of implementing the intervention in the other schools included in the first phase of the study, which would favor a broader view of the phenomenon. The study met the proposed objectives and the intervention was assessed as effective by the teachers.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interests.

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