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1. Introduction

- 1 The term “stress,” and also “distress” come from the Latin “stringere” which means “hold tight, tender, turn off, offend.” In common usage it has a double connotation: the idea of suffering along with anxiety, depression and physical symptoms or the stimulation and excitement required in modern life. From a conceptual point of view, it may refer to both the causes and effects, and the state in which it puts an individual. The causes, impacts and states of stress may be either physiological and/or psychological in nature (Meister, 1981).
- 2 The ambiguity of the term “stress” explains its multidisciplinary usage and the lack of universal consensus regarding its definition and extent.

1.1 Job Stress: An Alarming Public Health Issue

- 3 Job stress is a phenomenon that is causing ever-increasing concern. In Europe, it has been listed in second place among health problems linked to working: 28% of employees are affected, or 41 million operators (European Agency for Safety and Health at Work, 2000 & 2002), and the term “epidemic” is now being used (Chanlat, 2007, p. 200). It is an epidemic

that is costing a great deal: expenses are estimated at between 185 and 269 billion euros a year (INRS, 2005).

- 4 Given the scale and cost of the problem, the European Union and its social partners are taking action to guarantee better health and safety for employees at their workplace. In this context, the 89/391/EEC Framework Directive established in 2002 requires employers to take into account the effects of stress on the health of their employees (Cox & Rial-González, 2002). In France, a number of trade union confederations have announced their desire to recognize stress as an occupational illness (Brown, Sarazin & Valley, 2004). And, for the first time, on September 5, 2007 Social Security recognized that a worker's death following a heart attack resulted from chronic stress caused by work (Bellan, 2007).

1.2 Job stress Caused by Work Overload?

- 5 The causes of the alarming increase in job stress in the professional milieu are certainly attributable to changes in labour developments, qualified by the growth and general spread of flexibility (Brangier, Lancry & Louche, 2004): job and job contract flexibility, work space flexibility, tight work flow and flexible working hours. In France for example the reduction of working hours has paradoxically contributed to an increase in production rates, a reduction in "idle time" work schedule overloads, work fragmentation, only some of the many elements significantly contributing to the increased time constraints that weigh heavily on employees (Quéinnec, Barthe & Verdier, 2000).
- 6 This increased stress appears in conjunction with socio-economic and organizational transformations at work. These changes have placed a great deal of strain on workers' mental health (Vézina, 1999), and intensified their work (Vézina & al., 2002). In Europe cross-sectional surveys underlined that in 1991, 35% employees felt they worked quickly, 38% felt their timeframe was tight, 48% said they frequently had to abandon a task in order to accomplish another. In 1996, these figures increased to 43%, 45% and 56%, meaning an average increase of 7.67% in just 5 years (Paoli, 1997).
- 7 Parallel to this work intensification, employees state their level of stress at work has increased during the last two decades (Davezies, 2001). In Britain, 79% of respondents felt their workload was the primary source of stress (TUC, 2004). In Japan, an alarming phenomenon called "Karoshi" seems to demonstrate this link: work overload (i.e. increasing pressure, extended working hours) causes an increase in the number of workers being affected by cardiovascular diseases, and we are well aware these are the consequences of stress (PSAC, 2003).
- 8 The issue of stress at work arises at the outset, and in a manner closely linked to an increase in workloads, with employees suggesting that these two aspects go hand in hand. From a scientific point of view, the concepts of stress and workload have long been the subject of a great deal of research, but independently in different disciplines, while from our viewpoint one cannot be considered without the other (Falzon & Sauvagnac, 2004). The objective of this article is to try and align and reconcile the concepts of stress and workload through an exploratory approach, from both the social psychology and ergonomic point of view. This work was done on the basis of a case study in a hospital gerontology department.

2. Stress management and workload: some theoretical elements

2.1 Stress and Job Stress

- 9 From the etymology point of view, the word “stress” comes from the Latin meaning *stringere*, meaning *to hold, to embrace, to offend*. Today its use is multidisciplinary, and thus there is no universal consensus regarding the definition and measurement of stress. As such, even the first “mechanistic” models assimilated stress into within a stimulus-response relationship (1928 Cannon cited by Graziani & Swendsen, 2004), and it is currently widely acknowledged that stress is a dynamic process (Paulhan, 1994; Rosnet, 2002).
- 10 In order to address this dynamic, the transactional model proposes a multifaceted approach, accounting for the affective, cognitive, social and physiological factors. According to Lazarus and Folkman (1984), there is no stress stimulus in itself but rather the subject is evaluated as being stressed or not. Thus, the concept of “perceived stress” emerged (Lindsay & Norman, 1980). If an individual believes that the requirements of a given situation (stress factors) exceed the available resources needed to meet them, then stress becomes evident. In response to this external constraint, the individual will develop an adaptive process: coping. Strategies used to handle the situation may be cognitive, emotional, behavioral or psychosocial, and are put into place in order to control the impact of the event on health. The choice of strategy depends on characteristics of the situation, the individuals and their relationships (Vaxevanoglou & Ponnelle, 1999).
- 11 The idea that an imbalance might exist between the situation and individual’s capacity to respond is found in occupational stress models. The adjustment theory put forward by Paines and Cooper (1978) identifies relations between inherent sources of stress in the organization, individual characteristics, and health and illness symptoms.
- 12 Other models are linked to gaps between situational constraints and the operator’s interests. The three-dimensional model put forward by Karasek (1981) argues that stress is caused by an imbalance between the degree of decision-making freedom and the requirements. More specifically, stress occurs when the degree of decision-making freedom is limited and associated with high psychological requirements, or when the degree of decision-making freedom is broad but associated with limited requirements. At the end of the 80s, this model was enhanced by the addition of the “social support” concept. This was defined as the set of useful interactions workers can find within their immediate entourage, including their colleagues. This social support can be emotional, referring to social cohesion, integration within the group, or instrumental, referring to the degree of help and assistance provided by others in carrying out tasks.

2.2 Workload and Regulatory Process

- 13 Early studies dealing with workload appeared in the 70s (Guillevic, 1991). Workload refers to a specific requirement level for a task at any given time (constraints) and the consequences of this task (restraints) once accomplished. According to Leplat (1997) workload results from combining the work requirements needed to fulfill an activity and

the restraints represented by its impact on the organization. Requirements may be related to physical, perceptual, cognitive, social, organization or ambience characteristics (Leplat & Cuny, 1984). The restraints include short, medium or long-term effects on the work on the worker's psychological or physical state (Spérandio, 1984).

- 14 For Guérin & Rochefort (2000) workload may be “a global and synthetic descriptor” of the effects of working at the physical, cognitive and mental levels. There is however a sense of ambiguity, raising the problem of whether the burden is a condition or a consequence of the work activity. These same authors consider workload as being localized in time and enabling operators to anticipate future workloads by comparing them with the present. This anticipation might specifically include initiating the establishment of a regulatory process.
- 15 On this point, Spérandio (1972) shows that the link between the constraints and restraints are mediated by the availability of resources, namely all working methods available to operators. According to this workload regulation model, a workload results in an operational method being implemented, and in return the workload can provoke a method change. When the requirement level is low, workers use a *modus operandi* combining multiple criteria. When the threat increases, restraint increases to the point of meeting a threshold (beyond which there is an overload), triggering the establishment of a more economical method. The loop process continues as such, with increasing demands, but it is not endless. When the vicariousness of the working method has become exhausted, the regulatory process may affect other levels (task modification, redistribution to team level, etc).
- 16 Poete and Rousseau (2003) suggest considering the workload from a three- dimensional perspective: the prescribed workload taken from work requirements, the real workload taken from the workers' activity and the subjective burden, the operators' sense of responsibility.
- 17 These workload elements are articulated and balanced according to the scope of action and compromises available to the workers. The latter may in fact adopt individual or collective compromises (process control) according to their own characteristics, requirements, and the variability of the job situation.
- 18 These theoretical contributions highlight certain points of convergence between the concepts of work stress and workload. While stress models distinguish between stress factors, perceived stress and coping strategies, the workload ergonomic approach evokes prescribed requirements, the subjective load and the regulatory process established at the work activity level. Over and above ascertaining this conceptual proximity, the interest lies in identifying mutual support provided from the two disciplinary fields and the complementary use of these concepts and methodological tools to attain a comprehensive approach.
- 19 The objective will be to combine these approaches in order to understand the relationship between stress perceived by the workers in aspects of the work they consider stressful and the actual workload (activities and compromises adopted).

3. Specific characteristics of stressor and workload determinants for caregiving staff

- 20 Among the 41 million stressed workers, not all are equally concerned. Women are more vulnerable than men to work stress or *job strain* (Niedhammer, 2007), and some sectors are more affected by stress than others. In Great Britain for example, stress levels at work are higher in national health services than in other comparable professions. Also, 28% of nurses say state they suffer from mental health problems, compared to 18% among the general working population.
- 21 This activity sector and nursing work in particular form the focus of this study. A great deal of work has emphasized the magnitude of stress and the significance of the workload, and also identified stress and workload factors, sometimes confusing the two (Estryn-Béhar, 1996; Stoïber & Bouillercé, 1999). Thus, reduced staff, the increased workload arising from it, timing (schedules, working weekends), relationship difficulties, but also confrontations with pain and death are some determinants of both stress and workload.
- 22 In the hospital sector, some factors specific to the workload were highlighted by the ergonomic approach. Factors contributing to the physical workload include posture, handling and movement. The lack of appropriately designed and adapted anthropometric and other equipment such as patient lifters, and also workplace architecture, cause operators to remain almost continually in standing positions and make many arduous trips (Estryn-Béhar & Fouillot, 1990).
- 23 Hospital work also includes a cognitive dimension, given the continuing evolution of patient status and diagnostic procedures for caregivers assigned to emergency situations. Caregivers have to collect, process, store, and transmit complex information, much of which fluctuates in accordance with the evolution of each patient's state of health (Martin & Gadbois, 2004). As such, responsibility, uncertainty, and temporal pressures of are all factors that contribute to increased mental effort (Nogareda Cuixart, 1991; Pottier & Estryn-Béhar, 1979; Gadbois & Martin, 2004; Estryn-Béhar & Fouillot, 1990). Further to these are constraints linked to frequent interruptions of work underway, inducing labor segmentation and an incessant updating of priorities.
- 24 Some of these stress factors and workloads can be found in numerous working situations while others are specific to the work of caregivers themselves. This is specifically the case when they are confronted with pain and death. In industrialized countries, death has become an inescapable dimension of hospital work. Changes in family behaviour mean that the elderly obtain less support from their children and are frequently institutionalized. In France 5.5% of those over 65 years of age live in institutions, making this Western European country on in which elderly are most excluded from the family unit. With nearly 70% of French people dying in hospitals, these institutions have become a "holding place between life and death" (Manoukian, 2004; Molinié, 2005).
- 25 Having to face death and also cope with pain, caregivers are reminded of the veracity of the human condition, and this situation results in their experiencing a sense of powerlessness, entwined with the desire to do something, and this combination can cause caregivers to feel very ill at ease. This feeling may intensify due to the lack of positive feedback regarding their work: communication with patients is rarely meaningful and

patients' families can be demanding and critical (Robert, 2005). Moreover, caregivers are not well prepared to deal with these emotions (their own, those of their patients and their patients' families). Then, as they are called upon to carry out their regular work, they have little time and few opportunities to express their feelings (Stoiber & Boullierce, 1999).

- 26 These physical, mental and psychic demands on health operators are exacerbated by the lack of personnel, high rates of absenteeism and turnover.

4. Exploratory study in a gerontology department

4.1 Context Details: An Emerging Demand

- 27 During our initial contact with the hospital administration, requests related to workload and stress surfaced increasingly. In fact, officials were worried about the rates of absenteeism and high turnover rates they were seeing. These phenomena were even more disturbing because they considered them as warning alerts concerning organizational stress (Brown, 2004) and that nurses understood turnover to be a factor in work dissatisfaction (Berney, Marazzi, Wasserfallen, 2002).
- 28 Hospital supervisors were concerned with a possible link between these high rates, workload and stress, thus evoking a chain process. According to them, the lack of health caregiver personnel on the labour market leads to staff shortages. This lack of personnel undeniable leads to an increase in workload for caregivers on duty. This burden consequently affects caregivers, who are absent for health reasons or who to move to other sections or other structures. This phenomenon aggravates the problem of inadequate staffing, and then the hospital administration has difficulty finding the personnel required in properly operating their hospital, and thus conserving the staff already employed at the hospital becomes a priority.
- 29 The focus of our study is supported by the awareness of several studies underlining the importance of stress and workload in the hospital milieu (Dartiguepeyrou, 1999; Bourbonnais & al., 2005).
- 30 Officials from the hospital directed us to a particular department, gerontology, because it was one in which they were most concerned with turnover. Upon arriving in this section, we discovered that caregivers were just as interested in workload and stress as were the supervisors. For both sides this was above all a request for recognition, as evidenced in the objective: "*raise above the situation.*"

4.2 Description of Gerontology Unit

- 31 The study was conducted in a public hospital and, more specifically, in the gerontology department. This department was unique in that there was little hope in improving the patients' state of health.
- 32 At the time of the study, the unit cared for 38 elderly patients (89 years of age on average) and most were suffering from senile dementia, Alzheimer's disease and/or hemiplegia. To care for these patients, a caregiver team comprising: 2 doctors, 1 nursing supervisor, 8 nurses, 18 nurse's aids (NA) and health care assistants (HCAs). This number was only theoretical because in reality there was an obvious lack of staff. For example, during the

morning shift (7:00am-3:00pm), the actual number of nurses and nursing assistants was still below the prescribed level: 1 nurse instead of 2 (or 3 depending on the overlapping of shifts) and 2 nurses' aides instead of 3 (or 4 depending on the overlapping of shifts). Also considered a testing situation, during this shift the nurses along with 2 nurse's aides were responsible for distributing drugs, handling patient, washing and care duties and also updating medical records, attending meetings to transmit information, supplying care equipment and medicine. The study thus focused on the morning shift.

4.3 Problem and Methodology

- 33 Given the context and the theoretical elements stated, the issues revolved around the actual workload, perceived stress and the regulatory process. On the one hand the objective was to learn whether a heavy workload could be consistently associated with a high level of perceived stress. On the other hand, if, in order to cope, nurses adopted regulation strategies based on work groups, on social support and mutual assistance.
- 34 In response to these questions, the methodological approach combined ergonomic activity with data collection through the use of questionnaires. The ergonomic analysis made it possible to determine the real workload at the physical (movement, posturing and handling) and cognitive (interruptions) levels, but also reflected on collective awareness (requests for aid and mutual assistance carried out). The *in situ* approach (monitoring nurses' activities in the hallway, the care room and the patient rooms) was based on behaviour observation techniques.
- 35 The questionnaire, used to learn more about perceived stress, was created by the authors especially for this study and based on potential stressors identified previously during the activity analysis. The objective was to gather valid data, meaning data corresponding to the actual working conditions of the nurses. The questionnaire thus induced the nurses to express their feelings and thus provide subjective data. It consisted of 19 items grouped in 6 categories: type of task, ingratitude for work, relations between individuals, physical effort, work interruptions and unforeseen additional tasks. At the end of each morning, the nurses being tracked was asked to express their feelings about these items through positioning themselves on a scale ranging from 1 (not at all stressful) to 5 (very stressful).
- 36 Hospital access conditions limited our on-site investigation to 12 days, and thus the systematic collection of data extended over 6 morning shifts. During this data-collection period, 3 nurses were assigned to the shift, with two of them being tracked on several occasions (Nurse A was tracked 1 time; Nurse B, 2 times; Nurse C, 3 times). Their activities were continuously recorded throughout the duration of the shift.

4.4 Results

- 37 The results below are qualitative in nature, since the limited sample population did not allow the results to be submitted for statistical processing. As such they concerned trends, but they did however provide an initial assessment on the state of stress among nurses and allow a preliminary assessment on the causes and consequences of this state of stress.
- 38 The initial results were taken from data collected by the questionnaire. They provided scores on perceived stress and the extent of work recognized as being stressful. Following this data covering on ergonomic analysis, pertaining to the distribution of medicine,

patient care and washing, was obtained during the morning shift, covering a period of 8 hours. The data collected took physical exertion, interruptions and requests for assistance into account, and was synthesized with the scores on perceived stress.

4.4.1 Scores on perceived stress and work elements considered as stressful

- 39 The scale of values employed in the questionnaire introduced a minimum score of 19 points (1 point x 19 items) and a maximum score of 95 points (5 points x 19 items). The theoretical average score was thus calculated to be 38 points $[(95 - 19 \text{ points}) / 2]$.
- 40 The perceived stress scores obtained by nurses during the 6 work shifts varied between 20 and 62 points (see Table 1).
- 41 The stress level perceived by Nurse A was almost nil (20 points). Three scores were close to the average (31, 32, 39) and two were fairly high (44, 62).
- 42 The level of stress perceived by Nurses B and C, tracked on several occasions, varied from one job to another (the score ranged from 31 to 62 points for Nurse B and 32 to 44 for Nurse C).

Table 1. Perceived Stress Scores for Nurses A, B and C During 6 Work Shifts, and Work Elements Considered as Stressful

Nurses		A	B	C	C	C	B
Perceived stress scores		20	31	32	39	44	62
work elements considered as stressful	Task types	X	X				X
	Ingratitude		X	X			X
	Physical effort			X			X
	Unexpected				X	X	
	Relations				X	X	X
	Interruptions				X	X	X
Total number of stressful aspects evoked		1	2	2	3	3	5

- 43 Each work element was cited about equally, being 2 or 3 times (see Table 1). An increase in the perceived stress level was associated with the mention of work elements absent in the lower scores (unforeseen relations, interruptions), and also an accumulation of elements considered as being stressful. In fact, the number of work elements considered as stressful had increased along with scores for perceived stress (1 element retained for the lowest score to 5 elements selected for the highest score).

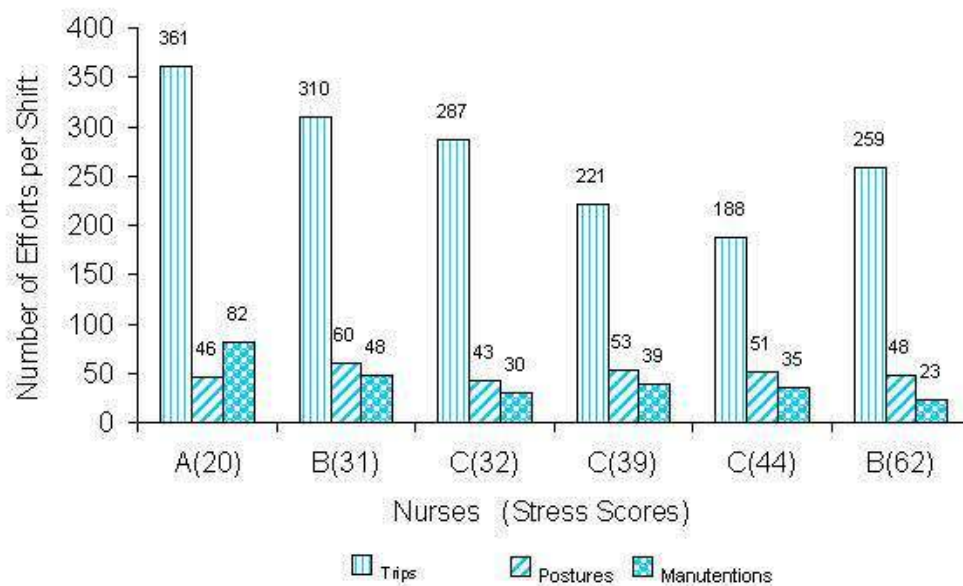
4.4.2 Physical effort

- 44 Physical effort refers to trips, postures and handling. The number of trips varied considerably from one job to another, varying from one to two (see Figure 1). The same

applied to handling. For the work shifts as a whole, the number of painful postures was more or less homogeneous.

- 45 A lower number of trips were accompanied by an increase in stress scores. Nurse A made the maximum number of trips (361, averaging 45 trips per hour) and had the lowest perceived stress score (20). A comparison of the number of trips and stress scores for Nurse C confirms this trend: the number of trips decreased in according to an increase in perceived stress scores. The overall trend for handling is similar to that of trips.
- 46 Furthermore, in comparing these results with those shown in Table 1, clearly shows that these observations revealed the amount of effort is not really that important, since nurses upheld that stress was an important element in their work.

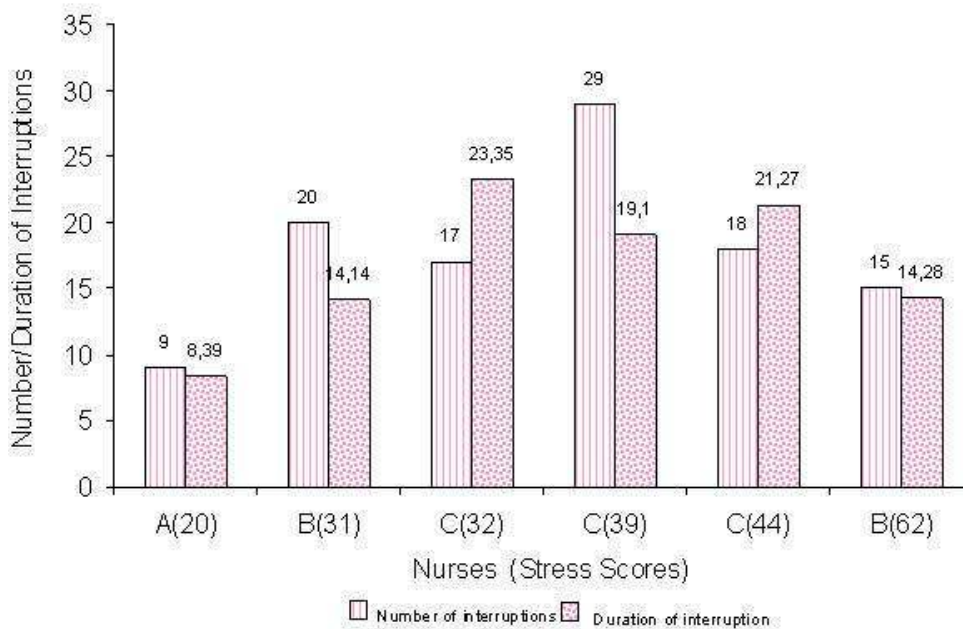
Figure 1. Number of Trips, Postures and Handlings by Nurses A, B and C during 6 Work Shifts and Associated Perceived Stress Scores



4.4.3 Task interruptions

- 47 An interruption is considered to take place whenever nurses have to suspend the execution of one task in order to undertake a new one (i.e. suspend caring for bedsores to transmit information to a colleague or a patient's relations).

Figure 2. Number and Duration of Interruptions for Nurses A, B And C During 6 Work Shifts and Associated Perceived Stress Scores

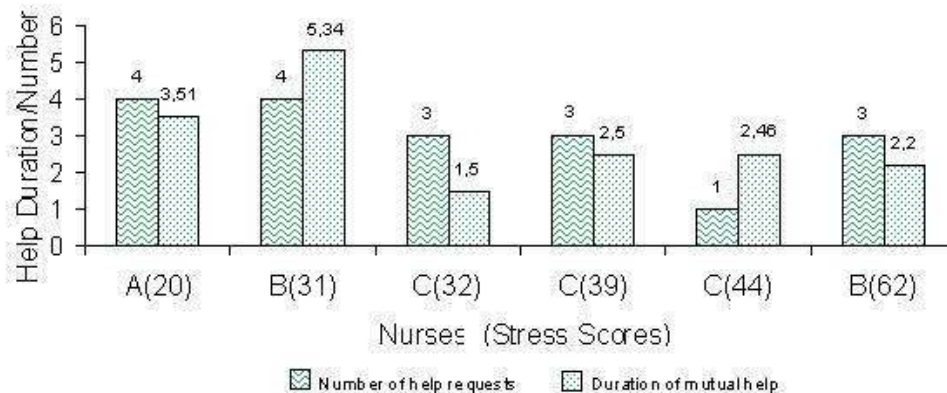


- 48 Depending on the shift, the duration and number of interruptions fluctuated (see Figure 2). The number of interruptions varied from 9 to 29 per work shift, or 1 time each hour and 1 interruption every 19 minutes respectively. Note that the majority (67%) were interruptions from colleagues, and more specifically health care assistants, and within the nursing context. With these quantitative results no link can be made between interruptions and perceived stress scores, even though the lowest stress score is associated with the minimum number and duration of interruptions.
- 49 From a more qualitative point of view, this implies considering the fact that interruptions perturb activities (e.g. error and/or omission upon resumption of activity) as well as individual and collective work organization. The interruptions may have an impact on perceived stress level as a function of the possible time lapse before resumption of the suspended activity but also by the possibility of being replaced.

4.4.4 Requests for help

- 50 Spoken requests for help are isolated and always at the nurse's initiative. Colleagues do not spontaneously offer help. Nurses work according to sector, if 2 nurses are working simultaneously on the department, they are left on their own to deal with patients in their sector. It is for this reason that they seek help from nursing aides or health care assistants, for example, to manipulate certain patients. Requests for help are routinely addressed to nursing aides and healthcare assistants and follow-up consists of cooperative mutual aid.
- 51 The frequency of help requests was relatively homogeneous from one shift to another (3 shifts totalling 3 requests for help; 2 shifts totalling 4 requests for help). It was quite rare to have 1 to 4 per shift (see Figure 3).

Figure 3. Number of Requests for Help and Duration of Help from Coworkers for Nurses A, B and C, and Associated Perceived Stress Scores during 6 Shifts



- 52 Nevertheless, we noted that the frequency of help requests was high when stress scores were low. Indeed, Nurses A and B, who obtained stress scores between 20 and 31 points respectively, sought help 4 times from their colleagues, while Nurse C, whose stress score was 44 points, made only 1 request. This observation was not valid for the highest perceived stress score: Nurse B was sought 3 times by her colleagues during this particular shift.
- 53 Similarly, the duration of help given by others was greater for minimum stress scores than for higher stress scores. Stress scores between 20 and 31 points were associated with help lasting 3 min. 51 sec. and 5 min. 34 sec. respectively, while the highest stress scores of 44 and 62 points lasting 2 min. 46 sec. and 2 min 20 sec. respectively.

4.5 Discussion

- 54 The results of this exploratory study, which combined a psychosocial and ergonomic approach, highlight several stress factors. They suggest that the level of perceived stress for gerontology nurses depends on both causal attribution and on the regulation process they adopt.

4.5.1 Characteristics of psychosocial and perceived stress: from individual to workgroup

- 55 The results show that the level of stress perceived by the same nurse fluctuates according from one shift to another (intra-individual variability). Contrary to the transactional theory postulate (Lazarus & Folkman, 1984), the level of perceived stress in this study does not seem attributable to the degree of stress tolerance for each nurse. In this case the work situation characteristics thus appear to play a marked role on the levels of perceived stress. Low stress scores are associated with physical exertion, ingratitude and type of tasks, while high scores are associated with relational elements, and with unexpected interruptions in work. Thus, the greater the score, the more causes of stress are passed onto the work team and the organization. Among those persons concerned by these various factors, the identification of stress factors moves focus from the individual towards the group.

56 Moreover, the stress level increases according to multiplication of work elements recognized as being stressful. It is a function of the accumulated elements being considered more stressful than a highly stressful aspect. This finding supports the idea advanced by psychosocial models that the more individuals have to face difficult events, the more they are likely to experience health problems (Aubert & Pagès, 1989).

4.5.2 Adaptive regulatory process and pathogens

57 The results show that an increase in perceived stress does not systematically follow from an increase in actual workload. On the contrary, the more the perceived stress scores are increased, the more the physical effort and requests for help tend to diminish.

58 On the one hand when there is actual decrease in real physical exertion, it is no longer evoked as an element of stress. Its actual decrease may have resulted from a regulatory process established by the nurses to maintain workloads and stress at acceptable levels. In a hospital department with real, permanent understaffing, physical exertion diminishes, especially in terms of movement, allowing them to "economize." This being said, this economy remains relative and the effectiveness of this regulatory process only partial. Physical exertion is certainly no longer considered stressful given that the perceived stress scores do not stop increasing, in spite of a decrease in actual physical exertion. The compromise developed by the nurses to manage their workload was based on reduced physical effort, which in turn had a manifest pathogenic impact. The nurses say "blame it on economizing."

59 On the other hand, the highest perceived stress scores were accompanied by a reduction in requests for help, which were already relatively rare. Seeking help from colleagues may be costly in terms of time (time lost and/or time lost by colleagues sought), and may involve a risk (risk of conflict, recovery from extra work). The fear of disturbing colleagues, delaying work progress and therefore the fear of being excluded from the group, consequently leads nurses not to seek/restrict help requests. For collective stress this fear was identified as a risk factor (Daujard, 2001). In this study, not being able to rely on group work may be a factor in perceived stress. This reduction in help requests may also translate into the use of strategies by nurses to voluntarily limit interpersonal relationships, qualified as stressful during those work shifts that had higher perceived stress scores.

60 The reduction in requests for help and trips resulted in nurses withdrawing, not being unable to rely on mutual help and on each other as a means of "coping." As such, group regulations can be an essential resource in offsetting the variability of any work situation (Barthe, 2000). The isolation resulting from extremely limiting work organization (number of patients, time pressure, lack of staff) is accentuated by the implementation of avoidance strategies, the only option nurses have in completing all their tasks for all patients. This "prohibited" collective recourse (Clot, 2002) leads to these coping strategies and to the individual regulation, the limits of which are quickly reached. This group remedy makes it possible to "prohibit" certain workload elements, in this case physical elements, but adds others, the psychological element in particular. Clot, Kostulsky & Litim (2004) undertook a reflective process regarding the intervention accomplished in similar care-giving departments providing care to the elderly during long and short stays. The authors showed that caregivers had the impression they were not doing their jobs properly because they were trapped between doing what they should, the work

organization that did not provide them the means needed to do so and an impossible confrontation between their individual work and that of their colleagues. This tension wears out caregivers and affects their health.

- 61 Isolation, which in fact reflects an adaptive regulatory process or strategy for coping through avoidance, has pathogenic repercussions on the health of each individual. When during our presence two nurses broke down in tears and one of them resigned, this attested to the impact on their mental health: they "cracked." This hospital gerontology department, regarded as a place for "dying" patients, was becoming a place for "dying" caregivers who were no longer there and who developed feelings of worthlessness and powerlessness (Neveu, 1996).
- 62 The risk of culminating in a state of professional fatigue or burn-out, which according to Falzon and Sauvagnac (2004), is a consequence of stress that can affect individual workers' personal resources, which is characterized by a breakdown in the rules of the trade.
- 63 The regulatory process and coping strategies, considered solely in terms of a beneficial adaptation, must be supplemented by accounting for the latent ambiguity within the regulation concept, which sometimes further accentuates the gap between needs and resources.

5. Conclusion: reasons for taking a combinatorial and perspective approach

- 64 The implementation of a methodological approach combines the knowledge of social psychology and ergonomics. The combined contribution from these two disciplinary fields can be seen at both the methodological and explanatory levels. The evaluation of perceived stress along with the stressful elements of work can help provide details on the shape of a subjective load. The *in situ* analysis of the activity allows the real work demands and compromises that nurses adopt to be resituated. Despite its methodological limitations (few comments, small sample population, etc.), this study has established an approach that can be used to determine work elements that are indeed stressful and those that are perceived as being stressful, and understand their respective places in the stress process.
- 65 The study focuses on work demands, worker capabilities, perceived stress and the choice of strategies that link these elements. Stress can thus form a part of a process in which performance and the work outcome play a vital role. At the hospital, performance bears a direct relation on the quality of care provided to patients. In geriatrics it is more than care, it is the quality of reception provided to the elderly that is being targeted, a quality determined by the relationship between caregivers, patients and families. Currently, there are certain constraints weighing on these services, and which create a feeling of uneasiness among caregivers, leaving them with the impression they are doing the bare minimum for patients: ensuring physical "comfort" at the expense of "psychological" comfort. Moreover, patients and their families are aware of time constraints faced by caregivers; they avoid disturbing them and for the most part speak to them only during problematic situations. Contacts are limited to the point that patients and their relatives would only dare interrupt caregivers when they wish to show their gratitude. As such, health care workers receive very little positive feedback regarding their work.

- 66 The current wish to “humanize” the geriatrics department seems an unavoidable method for improving the quality of patient care and the working condition of caregivers. However, this humanization can only be made possible through reflecting on the overall situation, targeting solutions that will give caregivers the opportunity to achieve this relational objective and taking charge of reception they given the elderly.

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ABSTRACTS

This article attempts to address the concepts of workload and job stress in a joint way, combining a psychosocial and ergonomic approach. This exploratory study was conducted among nurses in a Gerontology hospital. The objective was to learn why an increase in workload led to an increase in perceived stress levels and also whether nurses adopted a regulatory process based on social support. The Initial results show that the increase in perceived stress scores is associated with an increased number of work aspects considered stressful and a decrease in physical exertion. They show that the lowest stress scores appear when the nurses are provided with help in carrying out their tasks and when their work is not interrupted. Finally, the highest stress scores occur when nurses do not help each other. These results show evidence that the establishment of a regulatory process that is both adaptive and pathogenic. In order to handle a work overload, nurses isolated themselves in order to accomplish their duties and this isolation has an impact on their health.

Cet article tente d'aborder les concepts de charge de travail et de stress professionnel de façon conjointe, en combinant une approche psychosociale et une approche ergonomique. Cette étude exploratoire a été menée auprès des infirmières d'un service hospitalier de gérontologie. L'objectif est de savoir, d'une part, si une augmentation de la charge de travail conduit à une hausse du niveau de stress perçu et, d'autre part, si les infirmières adoptent des processus de régulation appuyés sur le soutien social. Les premiers résultats montrent que l'augmentation des scores de stress perçu est associée à une augmentation du nombre d'aspects du travail jugés stressants et une baisse des efforts physiques. Ils montrent que les scores de stress les plus bas apparaissent quand les infirmières bénéficient d'une aide pour réaliser leurs tâches et que leur activité de travail n'est pas interrompue. Enfin, les scores de stress les plus élevés surviennent lorsque les infirmières ne s'entraident pas. Ces résultats témoignent de la mise en place d'un processus de régulation à la fois adaptatif et pathogène. Pour faire face à une charge de travail élevée, les infirmières s'isolent pour accomplir leurs tâches et cet isolement a des répercussions sur leur santé.

Este artículo intenta abordar de manera conjunta los conceptos de carga de trabajo y estrés profesional, combinando los enfoques psicosocial y ergonómico. Este estudio exploratorio implicó a enfermeras de un servicio de gerontología de un hospital. El objetivo es saber, por un lado, si un aumento de la carga de trabajo conduce a un aumento del nivel de estrés percibido, y por otro lado, si las enfermeras adoptan procesos de regulación basados en el apoyo social. Los primeros resultados muestran que el aumento de los niveles de estrés percibido está asociado a un aumento del número de aspectos del trabajo percibidos como estresantes y a una disminución de los esfuerzos físicos. Los niveles más bajos de estrés aparecen cuando las enfermeras reciben ayuda para realizar su tarea y cuando su actividad laboral no es interrumpida. Finalmente, los niveles de estrés más elevados surgen cuando las enfermeras no se ayudan mutuamente. Los resultados muestran el desarrollo de un proceso de regulación que es a la vez adaptativo y patógeno. Para afrontar la carga de trabajo elevada y cumplir sus tareas, las enfermeras se aíslan y este aislamiento tiene repercusiones sobre su salud.

INDEX

Palabras claves: hospital, ergonomía, estrés, carga de trabajo, regulación

Mots-clés: hôpital, ergonomie, stress, charge de travail, régulation

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