

MANAGERIAL STRESS ACCORDING TO RODGERS' EVOLUTIONARY CONCEPT ANALYSIS

Estresse gerencial: análise de conceito na perspectiva evolucionária de Rodgers

Estrés gerencial: análisis de concepto en la perspectiva evolutiva de Rodgers

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ABSTRACT

Objective: This paper investigates the concept of managerial stress according to Rodgers' evolutionary concept analysis. **Methods:** This is a descriptive study with a mixed approach. Data collection was carried out by searching publications in the Thesis and Dissertation Database of the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)* [Coordination for the Improvement of Higher Education Personnel] in May 2017. The descriptor "Occupational Stress" was used for the search. The data were analyzed quantitatively by means of descriptive statistics, and the qualitatively by means of similitude analysis with the *Interface de R pour Analyses Multidimensionnelles de Textes et de Questionnaires (IRAMUTEQ)* [R Interface for Multidimensional Analysis of Texts and Questionnaires] software. **Results:** The final sample consisted of 12 Brazilian publications in full. The following terms were found by using the conceptual analysis: occupational stress, individual, environment, health, and physical stress. **Conclusion:** Managerial stress was regarded as a set of organizational and interpersonal factors in workplaces, which cause physiological and psychological damage to workers, harming their health. Organizations are also affected directly by managerial stress.

Descriptors: Psychological stress, physiological stress, professional exhaustion, health care services administration, health care management.

RESUMO

Objetivo: analisar o conceito estresse gerencial na perspectiva evolucionária de Rodgers. **Método:** estudo descritivo de abordagem mista, cuja fonte da coleta de dados foi o Banco de Teses e Dissertações da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES). A busca foi realizada em maio de 2017, através do descritor “Estresse Ocupacional”. Foram incluídas produções brasileiras disponíveis na íntegra. Os dados quantitativos foram analisados a partir de estatística descritiva simples, e a variável qualitativa através da análise de similitude com suporte do IRAMUTEQ. **Resultados:** a amostra final contou com 12 estudos. Na análise conceitual foram encontrados os seguintes vocábulos: estresse ocupacional, indivíduo, ambiente, saúde e físico. **Conclusão:** conceituou-se estresse gerencial como um conjunto de fatores organizacionais e interpessoais no local de trabalho, que causam o desgaste fisiológico e psicológico do trabalhador, o que afeta a saúde do indivíduo, assim como reflete diretamente na instituição.

Descritores: Estresse psicológico; Estresse fisiológico; Esgotamento profissional; Administração de serviços de saúde; Gestão em saúde.

RESUMEN

Objetivo: analizar el concepto de estrés gerencial en la perspectiva evolutiva de Rodgers. **Método:** estudio descriptivo de enfoque mixto, cuya fuente de recolección de datos fue el Banco de Tesis y Disertaciones de la Coordinación de Perfeccionamiento de Personal de Nivel Superior (CAPES). La investigación se realizó en mayo de 2017, a través del descriptor “estrés ocupacional”. Las producciones brasileñas disponibles en su totalidad se incluyeron. Los datos cuantitativos se analizaron a partir de estadística descriptiva simples y la variable cualitativa a través del análisis de la similitud con soporte del IRAMUTEQ. **Resultados:** la muestra final contó con 12 estudios. En el análisis conceptual se encontraron los siguientes vocablos: estrés ocupacional, individuo, ambiente, salud y físico. **Conclusión:** estrés gerencial fue concebido como un conjunto de factores organizacional e interpersonales en el lugar de trabajo, que causan el desgaste fisiológico y psicológico del trabajador.

Descriptores: Estrés psicológico; Estrés fisiológico; Agotamiento profesional; Administración de servicios de salud; Gestión de la salud.

INTRODUCTION

Nowadays, stress is an emerging social phenomenon that affects individuals regardless of their economic and social conditions. This term is associated with an unspecific reaction of organisms to any physical or emotional stimuli. And, when they are subjected to balance-threatening stimuli, they tend to react with a set of specific responses, which characterizes stress.¹

When the individual is in a stressful situation, an effort is required from the body to adapt to these stressors, which can be perceived by the individual as a threat (negative) or a challenge (positive).¹

In order to describe the evolution of the stress process more clearly, an explanatory model called the “three-phase model of stress evolution” was created, which comprises three phases: *alarm* (the person faces a short duration stressor and the organism prepares to “fight or escape”); *resistance* (the stressor is of long duration and the organism tries to

re-establish the balance lost in the alarm phase); and *exhaustion* (when the individual’s resistance is not enough to deal with the stressor).² In this perspective, stress is a disease that has become recurrent and brings with it a high cost in terms of health and emotional well-being.³

Thus, the prolonged state of concern, alertness, and anxiety, which characterizes a strong stress load, has become a great enemy for people and organizations, as stressful elements can influence personal and professional behavior, compromising the effectiveness, results and quality of life of human beings.

In this context, occupational stress is highlighted, which can be defined as a process in which the individual perceives demands from work as stressors, which by hindering their ability to cope provoke negative reactions in the subject. This phenomenon is present in any profession.³

In a pioneering study on occupational stress, researchers defined five possible sources of this problem, which can be related to job aspects, covering aspects such as poor working conditions; information overload; deadline pressure; technological changes; physical environment such as air quality; role in an organization, including ambiguity and conflict of roles and their function; career development, including lack of job security, lack or excesses of promotion and obsolescence; interpersonal relationships at work; and how organizations are structured internally, including low involvement in decision making and political issues.⁴

In this way, the presence of stress in organizations can favor greater damage, both for workers and for the functioning of these services, since it leads to high rates of absenteeism, work accidents, health leave, decreased quality of life at work, increased interpersonal conflicts, among others.⁵

Health care professionals deal with critically ill patients, biological risks, and increased psychological pressure. This type of work demands more attention because it makes health care professionals more susceptible to develop health problems such as stress, which can even affect the quality of care provided.⁶ Also, it is important to consider the professionals in management positions working in these environments, as they have to manage human and material resources and deal with interpersonal relationship conflicts and situations for maintaining the quality of care.

Nonetheless, despite the broad discussion on this topic, little research was done involving health care professionals in management positions. Therefore, it is necessary to conduct more research on the causes and consequences of stress in this population. To accomplish this, it is important to carry out a study based on the Content Analysis, which allows identifying the subject from the participants, justifying the development of this work.⁷

In order to outline specific characteristics of a theme, the Content Analysis defines its relevant aspects more clearly,⁷ since it adopts the perspective of dynamism of concepts, allowing the research development.⁸

The following research questions guided the development of this study: “How is the concept of managerial stress is applied in Brazilian scientific literature?”, and “What is the contextual basis, substitute terms and concepts related managerial stress according to the Rodgers’ evolutionary concept?”

Thus, this study’s objective is to analyze the concept of managerial stress according to Rodgers’ evolutionary concept.

METHODS

This descriptive study with a mixed approach was based on the Rodgers’ evolutionary concept analysis, which corresponds to an inductive and descriptive model used to investigate the consensus and historical knowledge of a given concept.⁷

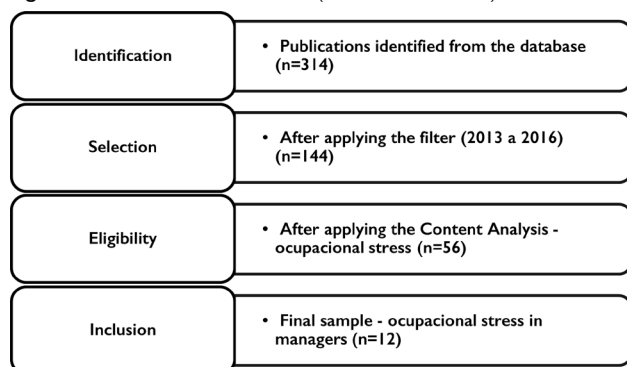
The Rodgers’ evolutionary concept analysis is composed of six steps: 1) defining the concept of interest; 2) selecting the field for data collection; 3) highlighting the concept’s characteristics and contextual bases (precedent and consequent); 4) analyzing the concept’s characteristics (substitute terms and related concepts); 5) identifying, if necessary, an example of the concept; and 6) determine the concept’s implications.⁷

The Thesis and Dissertation Database of the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)* [Coordination for the Improvement of Higher Education Personnel] was used for data collection. This database covers the dissertations and theses produced in Brazil. Monographic works were chosen because they provide more in-depth theoretical discussions on the subject, which is an essential aspect of the conceptual analysis.

The search was carried out in May 2017 by using the descriptor “Occupational Stress” from the *Descritores em Ciências da Saúde (DeCS)* [Health Sciences Descriptors]. Quotation marks were used to restrict the search result to works having the exact expression enclosed by them. The study population consisted of Brazilian publications on occupational stress available in full electronically.

For data analysis, the following steps were followed: title and abstract analysis; exclusion of duplicate studies; search for the full version; and reading in full (**Figure 1**).

Figure 1 - Data collection flowchart (in absolute numbers).



The data were organized in a Microsoft Excel spreadsheet in two sections: characterization and conceptual analysis. The characterization section was composed of: title of the work; year of publication; type of study; author’s education; university in which the study was carried out; institution type (work environment). The conceptual analysis section was composed of: the concept of managerial stress; characteristics of managerial stress (attributes); events that contributed to the emergence of the concept studied (antecedents); consequences of managerial stress (consequences); substitute terms; and related concepts.

Simple descriptive statistics was used for quantitative data analysis. The qualitative variable (concept) was analyzed by means of similitude analysis with the *Interface de R pour Analyses Multidimensionnelles de Textes et de Questionnaires (IRAMUTEQ)* [R Interface for Multidimensional Analysis of Texts and Questionnaires] software.

The similitude analysis “makes it possible to identify the cooccurrences between the words and their result indicates the connection between them, helping to identify the representation structure”.^{9,6} This analysis is carried out by observing the size of the words and the thickness of the lines that join them, which show the significance of the terms so that the analyzed phenomenon could be understood.¹⁰

No ethical assessment was necessary because the publications were accessible in the public domain.

RESULTS

The final sample comprises 12 studies out of an initial total of 314, characterizing a low number of publications on the subject in Brazil (3.4%).

Among them, dissertations were predominant (91.7%). The defense of the theses and dissertations occurred recently (from 2013 to 2016) in a continuous way. Most of them happened in 2015 (41.7%), the year in which the database temporal dimension was restricted. Therefore, the results presented in this study must be understood considering this limitation.

The publications’ authors graduated in Administration (33.3%), Psychology (25.0%), Accounting Sciences (8.3%), Social Studies (8.3%), Speech Therapy (8.3%), Commercial Management (8.3%), and Pedagogy (8.3%).

The dissertations and theses were developed in five higher education institutions: *Faculdade Novos Horizontes* (58.3%); *Universidade Federal de Minas Gerais* (16.7%); *Universidade Comunitária da Região de Chapecó* (8.3%); *Pontifícia Universidade Católica de São Paulo* (8.3%); and *Universidade do Estado da Bahia* (8.3%).

The studies were carried out in four Brazilian geographic regions: Southeast (66.6%); South (8.3%);

North (8.3%); and Northeast (8.3%). One of the studies was conducted in several states (8.3%).

The studies were carried out in different environments and types of institutions: state department (8.3%); retail stores (8.3%); banks (8.3%); industrial environment (41.7%); and schools (33.3%).

The attributes, antecedents and consequences of the managerial stress concept are presented in **Tables 1, 2 and 3**, respectively.

Table 1 – Attributes of the managerial stress concept.

Variable	n (N=12)	%*
<i>Attributes</i>		
Psychic symptoms	8	66.70%
Social/interpersonal issues at work	5	41.70%
Work overload	5	41.70%
Exhaustion and burnout	5	41.70%
Tension	4	33.30%
Requirements	4	33.30%
Stimulus and Response	3	25.00%
Imbalance	2	16.70%
Discouragement	2	16.70%
Vulnerability	2	16.70%
Monotony stress	2	16.70%
Eustress and Distress	2	16.70%
Chronic stress	2	16.70%
Acute stress	2	16.70%
Decreased efficiency and Absenteeism	2	16.70%
Resistance	2	16.70%
Burnout	1	8.30%
Feelings of helplessness and hopelessness	1	8.30%
Negative self-concept	1	8.30%
Fatigue	1	8.30%
Exposure	1	8.30%
Challenges	1	8.30%
Responsibilities beyond limits	1	8.30%

*The sum of the values exceeds 100% because the studies showed more than one element for the same variable.

Table 2 – Antecedents of the managerial stress concept.

Variable	n (N=12)	%*
<i>Antecedents</i>		
Market, organizational, socioeconomic, and managerial changes/transformations	7	58.30%
Extensive working hours and overload	4	33.30%
Pressure and demand for achieving goals and improving performance	4	33.30%
Technology advances (telecommunications and computing)	3	25.00%
Imprecise definition of tasks and responsibilities	3	25.00%
Independence and distinction among studies on stress	2	16.70%

(Continue)

(Continuation)

Variable	n (N=12)	%*
Competitiveness	2	16.70%
Insecurity and uncertainty at work	2	16.70%
Frustration due to complexity	1	8.30%
Individual's role in the organization	1	8.30%
Interpersonal relationship	1	8.30%
Career development	1	8.30%
Organizational and environmental structure	1	8.30%
Home-work interface	1	8.30%
Precarious problem-solving support	1	8.30%
Lack of control over the work	1	8.30%
Insufficient interpersonal relationship	1	8.30%
Work-family interface	1	8.30%
Monotonous tasks	1	8.30%
Psychological/physiological homeostasis imbalance	1	8.30%

*The sum of the values exceeds 100% because the studies showed more than one element for the same variable.

Table 3 – Consequences of the managerial stress concept.

Variable	n (N=12)	%*
<i>Consequences</i>		
Decreased productivity and performance of the organization	9	75.00%
Increased absenteeism and medical leaves	8	66.70%
Psychological dysfunctions (anxiety and depression)	5	41.70%
Dissatisfaction and low commitment at work	5	41.70%
Occupational Diseases	3	25.00%
Psychological tension due to the lack of concentration on work	3	25.00%
Physical and mental fatigue	3	25.00%
Adaptation and confrontation	2	16.70%
Interpersonal problems	2	16.70%
High staff turnover	2	16.70%
Very high health and welfare costs	2	16.70%
Lack of future perspective	2	16.70%
Burnout	2	16.70%
Avoidance (escape), willingness to leave everything	2	16.70%
Apathy and passivity	2	16.70%
Physical exhaustion	2	16.70%
Physiological changes	2	16.70%
Worker's health damage	2	16.70%
Frustration and helplessness	2	16.70%
Malaise in people in management positions	1	8.30%
Chronic health problems	1	8.30%
Insecurity	1	8.30%
Accidents at work	1	8.30%
Smoking and drinking habits	1	8.30%
Psychosomatic complaints	1	8.30%
Immediate memory loss	1	8.30%

(Continue)

(Continuation)

Variable	n (N=12)	%*
Emotional indifference	1	8.30%
Nervousness	1	8.30%
Discouragement	1	8.30%
Commitment to quality of life	1	8.30%
Suffering	1	8.30%
Work pace changes	1	8.30%

*The sum of the values exceeds 100% because the studies showed more than one element for the same variable.

The managerial stress concept had 12 substitute terms, that is, words that the publications' authors used as synonyms, with emphasis on Occupational Stress (58.3%) and Stress at Work (41.7%). The rest were: Occupational Stress among Managers (25.0%); Stress among managers (16.7%); Managerial Stress (8.3%); Professional Stress (8.3%); Stress in organizations (8.3%); Stress at school (8.3%); Stress in the school context (8.3%); Stress agents

(8.3%); General adaptation syndrome (8.3%); and Distress and Eustress (8.3%).

From the analyzed theses and dissertations, 17 different types of concepts arose: Work environment (25.0%); Tension (25.0%); Quality of life (25.0%); Stress (3; 25.0%); People management (16.7%); Work environment (16.7%); Occupational health (8.3%); Work culture (8.3%); Labor market (8.3%); Management (8.3%); Syndrome (8.3%); Anxiety state (8.3%); Double shift (8.3%); Sources of stress (8.3%); Mental disorders (8.3%); and Perception (8.3%). It should be noted that half of the analyzed studies established coping strategies (50.0%) as a related concept.

In order to understand and establish an adequate concept of managerial stress and thus determine the step five of Rodgers' conceptual model (identifying, if necessary, an example of a concept), a lexicographical analysis of the of managerial stress concept presented in the chosen publications were performed with the similitude analysis provided by IRAMUTEQ (Figure 2).

Figure 2 - Similitude analysis of the managerial stress concept.



In view of this, the following words were highlighted in the analysis of the concept of management stress: occupational stress, individual, environment, health, and physical stress.

DISCUSSION

The predominance of dissertations may be related to the distribution of postgraduate programs in Brazil, which

had a 25% growth from 2013 to 2016, with a predominance of Master's courses.¹¹

As for the authors' education, it can be seen that Administration and Psychology were predominant since they have a direct influence on managerial stress. Administration focuses on organizational aspects and Psychology on organizational behavior.¹²

The high percentage of studies from the *Faculdade Novos Horizontes* may be related to the fact that the institution has a large number of graduate courses in management and administration.¹³

With regard to the distribution of the studies among the Brazilian regions, the study findings are in line with the distribution of graduate programs in Brazil, which reveals that the states of the South and Southeast regions have a greater number of programs.¹⁴ Consequently, there is a greater incentive to develop studies and an increased number of publications.

As for work environments, there was an emphasis on industries and schools. With regard to the industrial environment, it is known that the work process of professionals working in this sector is focused on interpersonal relationships. They deal with competition and, for the most part, excessive working hours.

In this context, a study conducted in *Manaus* city, *Amazonas* state, Brazil, which aimed at analyzing the level of stress among 158 female managers working in the industrial center of the city, revealed that 53% of the interviewees presented mild, moderate and very intense levels of stress. These results suggest that working time directly influences the probability of developing stress.¹⁵

Another study aimed at determining how occupational stress can affect psychosocial well-being reported that the inability to control interpersonal relationships was one of the main stressors among 586 professionals working in industries.¹⁶

Concerning the school environment, it is evident that this environment can be one source of stress because teaching demands great dedication, which causes tension.¹⁷

With regard to management positions in schools, the main stressor is the constant demand for professional competence involving knowledge of a variety of skills related to management, teaching, conflict mediation, and improving the quality of education.¹⁸

It is worth noting that, despite the high number of studies in industrial and school environments, no studies involving the health environment were found. However, the stress experienced by health care professionals has been greatly discussed, since health care professionals face high pressure, deal with biological risks and death, and care for critically ill patients, which can trigger health, psychological and stress problems.⁶

Nevertheless, there is still a gap in research concerning health care professionals working in administrative sections, especially managers. During data collection, no studies involving this group of professionals were found. In this context, there is a need for research on stress affecting managers in the health care environment. This particular

environment has a negative because of the high demands, high workload, and daily conflicts.¹⁹

Regarding the analyzed attributes (**Table 1**), the psychological symptoms with the highest chances of worsening human relationships are highlighted (66.70%), followed by social/interpersonal issues at work (41.70%), work overload (41.70%), and exhaustion and burnout (41.70%).

It is known that symptoms of stress are major indicators of impacts on the productivity of organizations. Stress can be established as a relationship of the body with physical and psychological components. Stress is caused by psychological changes experienced when a person is facing a situation that makes him/her angry, frightened, excited or confused, even if it makes him/her happy.²⁰

As can be seen in **Table 1**, more than 40% of the attributes are related to social and interpersonal issues at work, highlighting the need for a cautious look at the daily relationships. Connecting with people is difficult, which requires effort, acceptance, mutual respect, and especially empathy.

The impact of occupational stress on social relationships can be beneficial or harmful depending on the quality of this dimension in the daily life of the organization. "When social support is well developed in the organization, it has a protective effect that manifests itself in low levels of stress, that is, the higher the level of social support at work, the lower the level of stress.^{21:174} On the other hand, the lack of social support in organizations becomes a stressor.²¹⁻²²

Much of the literature describes that occupational stress is the result of a complex set of phenomena and not the consequence of a single external factor acting on workers, being understood as a tension reaction experienced them in the face of stressful stimuli that arise at work. This kind of stimuli is perceived as a threat to their integrity.²²⁻²³

In addition, these reactions may impair the workers' interaction with their jobs and the organizational environment, whether the latter is demanding or does not provide proper resources for them to cope with such situations.²⁴

Overload at work and exhaustion both correspond to more than 40% of the managerial stress concept. Stress can be considered an obstacle, since it can intercept and change the energy flow, thus disrupting the personal balance. Today's fast-paced life, especially in large urban centers, contributes to a large number of factors capable of interfering with this balance, which is considered of fundamental importance to people's health.²⁵

Thus, occupational stress has become a concern because it also affects the quality of the services provided by institutions. Professionals experience changes in their physical and mental well-being while working. After all,

they are exposed to constant pressure situations in the work environment.¹²

Considering the antecedents of the analyzed concept (**Table 2**), in other words, the historical events that contributed to its development, the studies highlighted organizational, socio-economic and managerial changes and transformations (58.3%); high working times and overload (33.3%), and pressure for achieving goals and better performance (33.3%).

In this framework, it is understood that globalization and capitalism, when combined with new technologies, competition, and unemployment, have brought about organizational changes. There was a reduced number of professionals and the appearance of new management models, which changed working conditions, favored long working times, and increased pressure and demands for achieving goals and better performance.²⁶

Regarding the consequences of the studied concept (**Table 3**), the most predominant were: reduction in productivity and decrease in the organization's performance (75.0%); increase in absenteeism and medical leaves (66.7%); and psychological disorders (anxiety and depression) (41.7%).

Thus, factors such as gastrointestinal disorders, irritability, insomnia, mood changes, decreased sexual desire, allergies, and tiredness reduces productivity and performance in organizations.

Another issue is the increase in absenteeism and in the number of medical leaves. Due to high levels of stress, professionals end up being absent from work more frequently causing problems to the staff, which, in turn, goes through a heavy workload. This directly affects the users who receive precarious assistance, thus making errors more likely to happen and, consequently, causing damage to institutions and people.

According to the study findings, the psychological disorders affecting the professionals were anxiety and depression. Stress is seen, according to its transactional concept, as a complex phenomenon, which stems from the stimulus and interaction of the individual with the internal and external environments.²⁷

Thus, stress can lead to physiological, psychological, emotional and behavioral changes. Institutions' organizational culture, poor working conditions, and the heavy workload (in cases of people working in more than one environment) make professionals physically and psychically exhausted, causing body dysfunctions that affect their mental health.²⁷

There is some confusion in the use of synonyms of the analyzed concept. It should be noted that the terms occupational stress and stress at work are widely used

in the literature because they are broad terms related to work, employment, occupation and source of income. However, they do not adequately represent the concept of managerial stress, which is focused on managers' stress.

In addition, another factor highlighted is the high number of substitute terms found in the study results, which may be related to the difficulty of acquiring a unified understanding of the managerial stress concept. In this sense, the conceptual analysis performed in this study can help to understand the concept more precisely for theoretical and practical uses, as well as for education and research, because the clearer and more precise the concepts are, the greater their understanding among those who use them.²⁸

With regard to the related concepts, there was an emphasis on coping strategies, which are understood as constantly changing cognitive and behavioral efforts developed to respond to specific external or internal demands assessed as excessive for the individual's resources.²⁹

There are also other definitions of coping strategies against stress. For example, it is understood that coping is a dynamic process aimed at solving the difficulties and demands required for adjusting the body.³⁰

Other authors perceive coping as a multidimensional construct comprised of a variety of cognitive and behavioral strategies that can be used to modify, re-evaluate and avoid stressful circumstances or to evaluate their adverse effects.³¹⁻³²

As for the emphasis on coping strategies, this was a positive factor, because according to a study coping can reduce the high damage that stress can cause in organizations.³³

Therefore, the need to develop studies on the managers' coping strategies is highlighted. These strategies are present in market forecasts and in the increased growth of workers who must be compensated for occupational stress. This argument can also be used to highlight the importance of research addressing the relationship between emotional exhaustion and coping developed by Brazilian workers during their on-duty activities.³⁴

Finally, it is highlighted that the concept of managerial stress was understood as a set of organizational and interpersonal factors in the workplace, which cause physiological and psychological damage to workers. Consequently, stress affects institutions directly.

These factors resulted from poor management due to the lack of planning ahead, care for the workers' health, and precarious public services (lack of professionals and heavy workload).

CONCLUSIONS

The Rodgers' evolutionary concept analysis made it possible to understand and distinguish the managerial stress concept

from others by understanding their attributes, antecedents, consequences, substitute terms, and related concepts.

In this sense, the managerial stress concept was understood as a set of organizational and interpersonal factors in the workplace, which cause physiological and psychological damage to workers and affect their health, thus affecting organizations directly.

A low number of publications in Brazil on the subject can be noticed. Among these, studies in the areas of Administration and Psychology are highlighted. It is worth noting that no study was found in the area of Health Sciences, which demands more research on stress affecting health care workers in management positions.

It was possible to identify that occupational stress has become a concern because it also affects the quality of the service provided by institutions. Thus, globalization and capitalism, associated with new technologies, competition, and unemployment, were highlighted as antecedents. These factors made cases of occupational stress grow sharply in organizations.

As limitations of the study, we highlight the database's temporal restriction (from 2013 to 2016), besides the low number of Brazilian studies on the subject. Therefore, it is suggested that publications from other countries should be included in the analysis.

As a contribution, it is hoped that the concrete applications of the managerial stress concept may be the basis of future studies. The need for developing research on managerial stress and health care managers is also underlined.

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