



**STRESS AMONG NURSING TEAM MEMBERS**  
**ESTRESSE ENTRE OS MEMBROS DA EQUIPE DE ENFERMAGEM**  
**ESTRÉS ENTRE LOS MIEMBROS DEL EQUIPO DE ENFERMERÍA**

Cláudia Cristiane Filgueira Martins Rodrigues<sup>1</sup>, Pétala Tuani Cândido de Oliveira Salvador<sup>2</sup>, Yole Matias Silveira de Assis<sup>3</sup>, Andréa Tayse de Lima Gomes<sup>4</sup>, Manaces dos Santos Bezerril<sup>5</sup>, Viviane Euzébia Pereira Santos<sup>6</sup>

**ABSTRACT**

**Objective:** to identify the level of stress of members of the nursing team. **Method:** cross-sectional quantitative study with 184 nursing workers from a Hospital in the Northeast of Brazil. A sociodemographic questionnaire and the Lipp Signs and Symptoms Inventory were applied. **Results:** practitioners' average time of work was 9.8 years (SD = 7.2 years) as health practitioners and they had been working 30.2 hours per week (SD = 18.7) on a duty-shift basis. The surgical clinic unit was the sector in which stress predominated (47.2%). Therefore, 35.9% of workers presented stress, predominantly in the resistance phase (20.7%). **Conclusion:** it was evidenced that stress is an event present in the daily routine of nursing practitioners, presenting in different proportions between the sectors, and the resistance phase was the most representative. **Descriptors:** Nursing; Physiological Stress; Pathological Stress.

**RESUMO**

**Objetivo:** identificar o nível de estresse de membros da equipe de enfermagem. **Método:** estudo transversal, quantitativo, realizado com 184 profissionais de enfermagem de um Hospital do Nordeste do Brasil. Aplicou-se questionário sociodemográfico e o Inventário de Sinais e Sintomas de Lipp. **Resultados:** os profissionais atuavam, em média, há 9,8 anos (DP- 7,2 anos) como profissionais de saúde e trabalhavam 30,2 horas semanais (DP- 18,7) em regime de plantão. A unidade de clínica cirúrgica foi o setor no qual predominou o estresse (47,2%). Assim sendo, 35,9% apresentavam estresse, predominando a fase de resistência (20,7%). **Conclusão:** evidenciou-se que o estresse é um evento presente no cotidiano dos profissionais de enfermagem, apresentando-se entre os setores em diferentes proporções, sendo a fase de resistência a mais representativa. **Descritores:** Enfermagem; Estresse Fisiológico; Estresse Patológico.

**RESUMEN**

**Objetivo:** identificar el nivel de estrés de miembros del equipo de enfermería. **Método:** estudio transversal, cuantitativo, realizado con 184 profesionales de enfermería de un Hospital de Nordeste de Brasil. Se aplicó un cuestionario socio-demográfico y el Inventario de Señales y Síntomas de Lipp. **Resultados:** los profesionales actuaban, en media, hace 9,8 años (DP- 7,2 años) como profesionales de salud y trabajaban 30,2 horas semanales (DP- 18,7) en régimen de guardia. La unidad de clínica quirúrgica fue el sector en el cual predominó el estrés (47,2%). Siendo así, 35,9% presentaban estrés, predominando la fase de resistencia (20,7%). **Conclusión:** se evidenció que el estrés es un evento presente en el cotidiano de los profesionales de enfermería, presentándose entre los sectores en diferentes proporciones, siendo la fase de resistencia la más representativa. **Descriptores:** Enfermería; Estrés Fisiológico; El Estrés Patológico.

<sup>1,2</sup>Nurses, PhD Professors, Health School, Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mails: [claudiacrisfm@yahoo.com.br](mailto:claudiacrisfm@yahoo.com.br); [petalatvani@hotmail.com](mailto:petalatvani@hotmail.com); <sup>3</sup>Nurse, Master in Nursing. Natal (RN), Brazil. E-mail: [yole\\_matias@hotmail.com](mailto:yole_matias@hotmail.com); <sup>4</sup>Nurse, Master Professor, Department of Nursing, Federal University of Rio Grande do Norte - Campus Santa Cruz. Santa Cruz (RN), Brazil. E-mail: [andrea.tlgomes@gmail.com](mailto:andrea.tlgomes@gmail.com); <sup>5</sup>Nursing, Master Student in Nursing, Graduate Program in Nursing, Federal University of Rio Grande do Norte/PPGENF/UFRN. Natal (RN), Brazil. E-mail: [manacesbezerril@hotmail.com](mailto:manacesbezerril@hotmail.com); <sup>6</sup>Nurse, PhD Professor, Department of Nursing/Federal University of Rio Grande do Norte/PPGENF/UFRN. Scholarship in Productivity (PQ 2016-2019). Natal (RN), Brazil. E-mail: [vivianeepsantos@gmail.com](mailto:vivianeepsantos@gmail.com)

## INTRODUCTION

The labor market, stimulated by the techno-scientific advance and the neoliberal system, has changed in the course of the history of society. There has been the search for accelerated production rhythms, inciting individualism and competition between workers.

These changes have brought significant consequences to the illness profile of these workers, causing physical and mental disorders, and among the psychic disorders, stress stand out. Worryingly, the International Stress Management Association (ISMA-BR) estimates that 70% of the economically active Brazilian population suffer from the implications of this event.<sup>1-2</sup>

The term "stress", according to the World Health Organization (WHO), comprises a set of psychological and/or physical phenomena that occur in the worker's body and can affect their health, quality of life and relationship with their peers in the professional environment, as well as in the family context.<sup>3</sup>

In this meantime, it is understood that stress results in complex and subjective phenomena that exceed the mechanisms of adaptation of the physical body to the stressor agent. In this conceptual model, this is the result of the interaction between the subject and the environment in which they are inserted, which can trigger the loss of homeostasis, resulting in chronic diseases, weakened immunity and physical pain.<sup>4</sup>

Thus, complex work environments, in which workers directly experience competitiveness, daily demands specific to each profession, emotional tension, anguish, suffering and, therefore, frequent confrontation with stressors, are places that influence the routine of life of each professional in a different way, which can cause the physical body to become ill and, consequently, stress.

Health professions are included in these working conditions. And among them, nursing occupies the fourth position among the most stressful professions in the public sector, according to studies conducted by the Health Education Authority.<sup>5</sup>

Such an assertion is understood when emphasizing that such practitioners are directly responsible for the care provided to the patient, have the need to act promptly and competently and are sometimes required with an overload of care, managerial, administrative and bureaucratic tasks in the health organization context.

In view of the above, studies<sup>6-8</sup> have been developed to evaluate the impact of stress on the work of these practitioners, as well as the implications for their workplace, relationships with patients and other members of the multidisciplinary team, and the consequences for the health of the nursing worker who experiences direct contact with these stressful events.

Thus, in view of the fact that health practitioners, especially the nursing team, constitute a category with unquestionable vulnerability to stressful events, and understanding that research that studies this phenomenon may support strategies for prevention and coping with stress this study aims to explore this theme and has the following guiding questions: do the nursing practitioners of a Hospital in the Northeast of Brazil present stress? If yes, what are the stress levels to which the nursing team is exposed in their workplace?

Thus, we aim to identify the level of stress of the nursing team members.

## METHOD

This is a cross-sectional study of quantitative approach, carried out with nursing professionals (nurses and nursing technicians) in the direct care sectors. A medical clinic unit, a surgical clinic, the surgical center and the Intensive Care Unit of a Hospital in the Northeast of Brazil were chosen for this study.

The choice of these sectors was due to the fact that they are units in which the practitioners take care directly of hospitalized patients and they represent different areas of care, constituting a different reality. In addition, this selection allowed us to analyze the differences and/or statistical similarities of stress among these work environments of the nursing professional.

The study population was composed of 184 nursing professionals, of both sexes, belonging to the staff of the hospital under study, in the various shifts (morning, afternoon and evening). There was no sample calculation, since all professionals who were available and who accepted to participate in the study were included, thus investigating all the professionals involved in this reality.

Exclusion criteria were: professionals in medical leave, leaves of any nature, vacations or who were unable to answer the questionnaire at the time of data collection.

Data collection was performed in February, 2015. Two self-administered questionnaires were used as instruments of data collection:

the sociodemographic questionnaire, aimed at characterizing the study subjects; and the Lipp's Inventory of Signs and Symptoms, 2000 (LISS).<sup>9</sup>

The LISS aims to identify and define the stages of stress in the study population. It is an instrument already validated and known nationwide for identifying the symptomatology of stress, thus indicating the beginning of a pathological condition.

This instrument is constructed by three tables with signs and symptoms that characterize each of the stages of stress. The score is measured so that: if the subject reports the occurrence of seven or more scores in table I, it means that they are in the *alarm stage* of stress, which is the first stage of stress; in the occurrence of four to nine scores in table II, the individual is in the *resistance stage* of stress; still in table II, if the obtained score is greater than 10 scores, the participant is in the *near-exhaustion stage* of stress; and, finally, if the interviewee reaches nine or more scores in table III, they are in the *exhaustion stage* of stress.<sup>9</sup>

After the instruments were applied, the data was tabulated in Microsoft Excel Starter 2010 spreadsheets. Firstly, descriptive analyzes were carried out to evaluate the distribution of items, as well as possible typos and omissions.

Continuous variables were analyzed by mean and standard deviation and categorical variables from absolute and relative frequency. The discussion of the data was based on the analysis of relevant current literature.

It should be noted that the research was carried out in accordance with established ethical procedures regarding human research, according to Resolution 466/2012 of the National Health Council (CNS). The project was approved by the Ethics and Research Committee of the Federal University of Rio Grande do Norte under Opinion 925.477 of December 18, 2014, under the number CAEE: 273.935.146.000.0553-7.

RESULTS

Descriptive analysis of the data revealed that, of the 184 participants, 33 (18%) were nurses and 151 (82%) were nursing technicians. They had an average of 9.8 years (SD = 7.2 years) as health practitioners and worked 30.2 hours per week (SD = 18.7) on duty shift. Table 1 presents the sociodemographic characteristics of the study population.

Tabela 1. Distribution of sociodemographic data of the nursing team of a hospital in Northeastern Brazil. Natal (RN), Brazil, 2015.

| Variables/category | n (184) | %    |
|--------------------|---------|------|
| Sex                |         |      |
| Male               | 28      | 15.2 |
| Female             | 156     | 84.8 |
| Age range (years)  |         |      |
| Up to 30 years old | 78      | 42.2 |
| 31 to 35 years old | 43      | 23.3 |
| 36 to 40 years old | 29      | 15.7 |
| 41 to 45 years old | 18      | 9.7  |
| 46 to 50 years old | 11      | 6.0  |
| Over 50 years old  | 6       | 3.1  |
| Marital status     |         |      |
| Single             | 54      | 29.3 |
| Married            | 82      | 44.5 |
| Stable union       | 26      | 14.8 |
| Divorced           | 15      | 8.1  |
| Widowed            | 6       | 3.2  |
| Number of children |         |      |
| 0                  | 87      | 47.2 |
| 1                  | 52      | 28.2 |
| 2                  | 37      | 20.1 |
| 3                  | 8       | 4.34 |
| Two employments    |         |      |
| Yes                | 114     | 61.9 |
| No                 | 70      | 38.1 |

Comparing the levels of stress with the sectors in which the professionals work, it was evidenced that the surgical clinical unit is the sector in which stress predominates, with 47.2%, as evidenced in Figure 1.

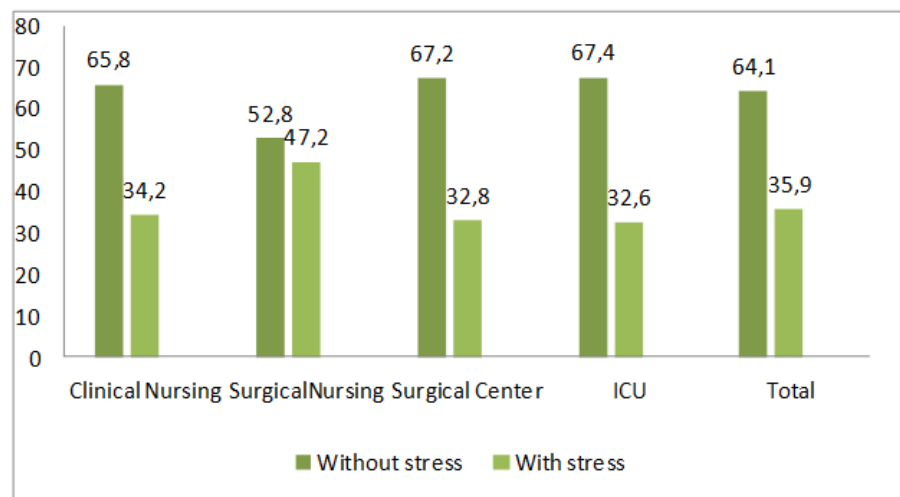


Figure 1. Presence of stress among the sectors of a Hospital in the Northeast of Brazil, in absolute numbers. Natal (RN), Brazil, 2015.

It was identified that 78% of study participants did not have stress. However, it is imperative to emphasize that 35.9% had some characteristic stage of this event. The

predominant stages of stress, according to sectors in which they work, are described in the distribution presented in Figure 2.

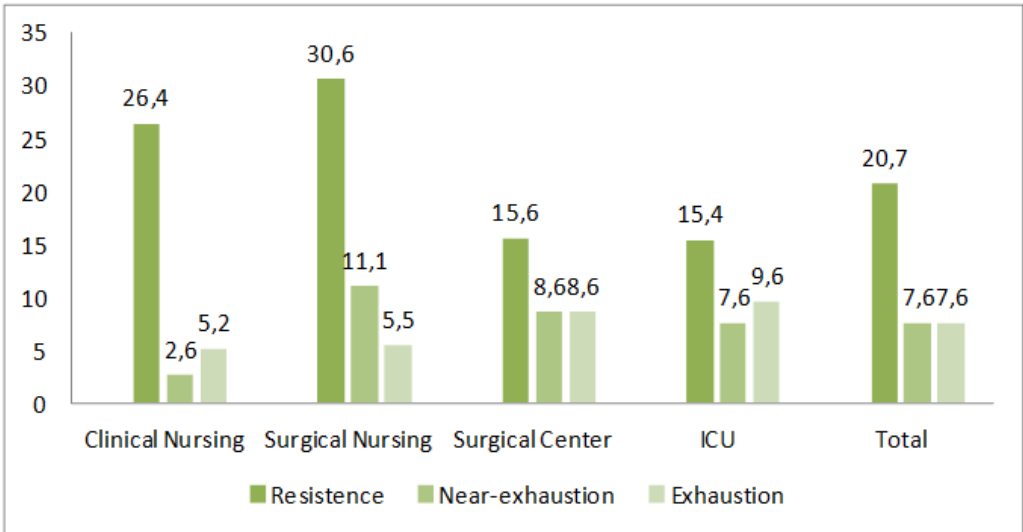


Figure 2. Stages of stress of the nursing team according to sector of a Hospital in the Northeast of Brazil, in absolute numbers. Natal (RN), Brazil, 2015.

The relationship between the level of stress and the professional category of the participants indicates that the majority of nursing technicians do not present stress (65.6%), neither do nurses (57.6%). However, a significant number of these practitioners are

in the resistance stage of stress. Among nursing technicians, this stage was present in 19.2% of the participants and, among the nurses, in 27.4%, according to the distribution presented in Table 2.

Table 2. Relationship between the level of stress and the professional category in a Hospital of the Northeast of Brazil. Natal (RN), Brazil, 2015.

| Variables/categories | Nurses |      | Nursing Technicians |      | Total |      |
|----------------------|--------|------|---------------------|------|-------|------|
|                      | n      | %    | n                   | %    | n     | %    |
| No stress            | 19     | 57.6 | 99                  | 65.6 | 118   | 64,1 |
| Alarm                | 0      | 0.0  | 0                   | 0.0  | 0     | 0.0  |
| Resistance           | 9      | 27.4 | 29                  | 19.2 | 38    | 20.7 |
| Near-exhaustion      | 3      | 9.0  | 11                  | 7.3  | 14    | 7.6  |
| Exhaustion           | 2      | 6.0  | 12                  | 7.9  | 14    | 7.6  |
| Total                | 33     | 100  | 151                 | 100  | 184   | 100  |

Thus, it was evidenced that stress is an event present in the daily life of these nursing professionals, occurring in the sectors in different proportions, and that the resistance stage was the most representative.

DISCUSSION

The sample consisted predominantly of women, married, without children and with a double employment relationship. This is a characteristic reality that corroborates a study carried out by the Federal Nursing

Council (COFEN) in 2015 to characterize the profile of these workers in Brazil, which indicated that 80.7% of the professionals are female. This reflects a historical feature of this profession.<sup>10</sup>

The predominance of the female gender also has relevant implications for the stressors of nursing practitioners, because female workers need to ally work at home, married life, care of their children, and because they are of productive age, the fact that many seek to study to qualify professionally.<sup>11</sup>

The occurrence of these factors can generate a phenomenon called in the literature of triple workload, triggering physical and psychological exhaustion and, consequently, stress.<sup>11</sup>

Thus, the possibility of the research sample experiencing this reality is enhanced, as 61.9% of the sample has two employment relationships and 84.8% are women. It is also worth noting that the triple workload is not, currently, a phenomenon exclusive to the female reality and, therefore, the possibility of the stressful events resulting from it cannot be ruled out in regard to the men who participated in the study.

In this context, it is elucidated that the double employment relationship is also a reality of this profession. A study conducted in the state of São Paulo, which sought to study the influence of sociodemographic variables on the perception of stress, showed a similar percentage of accumulation of employments among the investigated subjects, denoting a quantitative of 67.3%.<sup>1</sup>

Among the possible causes for this fact, researchers<sup>12-3</sup> point out that nursing workers seek multiple bond due to the need to obtain a better wage income, as well as because shift work facilitates this double journey.

A study that characterized the Brazilian nursing profile pointed out a worrying reality regarding the monthly income of workers, an aspect that can contribute to the existence of multiple links. According to that research, considering the monthly income of all the jobs and activities that the nursing team performs, it is verified that 1.8% of professionals in the team (around 27 thousand people) receives less than one minimum wage per month.<sup>10</sup>

And this is not a specific characteristic of a type of service, because it was identified that the four major sectors of employability of nursing (public, private, philanthropic and teaching) have sub-salaries. The private (21.4%) and philanthropic (21.5%) sectors are the ones that most practice salaries with values up to R\$ 1,000. In both sectors, the

salaries of more than half of the contingent employed are no more than R\$ 2,000.<sup>10</sup>

In addition to denoting poor working conditions, the double bond can also contribute to the emergence of stressful events in nursing practitioners, because constant contact with specific activities of the profession can be defined as stress-enhancers in the workplace, and as consequence, there is decrease or lack of time for leisure activities or even for personal life, visualized as mechanisms of stress prevention.

In this perspective, the double bond experienced by the majority of the research sample, together with the fact that practitioners worked an average of 30.2 hours per week (SD-18.7) on a duty-shift basis, reveals a professional overload, already associated in the literature to both the health practitioners' illness and to the risk factors for patient safety.<sup>14</sup>

Thus, it is highlighted the causal nexus established between overwork and health problems of nursing practitioners, leading to mental changes such as occupational/chronic stress, Burnout Syndrome, mental suffering and physical wear, such as musculoskeletal problems<sup>15-7</sup>, emphasizing a reality that needs to be seen as a subsidy for prevention and coping with stress.

Regarding the presence of stress among the members of the investigated nursing team, it can be observed that 64.1% of the practitioners do not have signs and symptoms characteristic of some stage of stress, which is similar to studies carried out in São Paulo and Rio Grande do Sul<sup>1,18</sup>, revealing that participants are in a position that may have significant health improvements through the implementation of effective strategies to prevent stress in the work environment. However, it is imperative to highlight that the symptomatology of stress was present in 35.9% of professionals, which is an indication that their bodies are facing direct contact with stressing agents and with probable causes of disorders, thus necessitating of urgent coping actions.

Regarding the stages of stress, the most prevalent in this study was the resistance stage, present in 20.7% of the practitioners who responded to the LISS, in agreement with previous studies performed with hospital nurses, which also evidenced the predominance of this stage.<sup>10-11,16-7.</sup>

This stage of stress is significant because it is the stage in which the confrontation with the stressor occurs quickly, triggering the increase of cortisol levels in the body,



generating somatization in the body, causing a greater vulnerability to diseases.<sup>18</sup>

Thus, in the resistance stage, the stress experienced by practitioners starts to have repercussions on the daily life of health services, because the signs and symptoms of stress are already evidenced, negatively influencing the work activities of nursing practitioners.<sup>18</sup>

The stages near-exhaustion and exhaustion were evidenced in this sample with the same percentage, with 7.6% of practitioners in each stage. These stress levels have a stronger symptomatology, with symptoms of confirmed arterial hypertension, constant dermatological problems and a sensation of physical and mental exhaustion<sup>19</sup>, evidencing the need for follow-up of the subjects that are in those stage, who need the evaluation of a trained professional, since the pathological aspects are already concerning.

With regard to the hospital unit analyzed, in which there was a prevalence of stress, we highlight the surgical clinic ward. In a different way, researches carried out in São Paulo and Rio de Janeiro identified the Intensive Care Unit as a sector where stress among workers prevailed.<sup>1,16</sup>

It is emphasized that the surgical clinic ward is characterized by receiving patients in the preoperative and postoperative periods, involving several medical specialties and requiring from the nursing staff a specific and directed knowledge to the different frames that the patients present, composing a work process that causes constant wear on these professionals.<sup>20</sup>

In addition, nursing practitioners who work in this sector perform activities with the patient in the preoperative period, which requires a specific orientation. They also perform pre and postoperative guidelines, high-complexity dressings, anamnesis, specific and directed physical examination to each case, evaluation of patients and prevention of complications.<sup>1,20</sup>

In this context, this sector ends up demanding constant attention from the nursing team and activities that require skill and readiness, sometimes causing these factors to be visualized by these workers as elements that trigger stress in the work environment. In addition, it is known that the activities of coordination, elaboration of specific routines and norms, especially in sectors that work with critical patients, are stressors for health practitioners<sup>1</sup>, a reality also evidenced in the studied hospital.

In addition, a study that analyzed the presence of Burnout Syndrome and stress among nursing professionals working in medium-sized hospitals showed that practitioners working in the administrative area and in sectors such as the hospitalization ward had higher results and consequences of stress<sup>20</sup>, which corroborates with the current study.

In addition, the second sector with the highest level of stress was the medical clinic unit, with 34.2% of the participants; followed by closed units: the surgical center, with 32.8%, and intensive care unit, with 32.6%.

These are numbers that differ from those reported in the literature, since the so-called closed or private units, such as surgical centers and intensive care units, are constantly highlighted as those that are considered as the most stressful ones.<sup>19-21</sup>

These units have a work dynamics that make professionals more susceptible to develop stress because they are characterized as sectors with circulation of people, great technological devices, machine noises and conflicting relationships between the members of the multidisciplinary team.<sup>21</sup>

From the results found in this work and in previous researches, it is noticed that, in any environment where nursing is inserted, stressful events are common, after all, the nursing profession is linked to the susceptibility of daily stress in its routine of specific care to the patient, daily dealing with situations of pain and death, besides the organizational context of health organizations.

Thus, the stress among nursing professionals has been considered a worldwide problem, since it has negative consequences to the quality and safety of care provided to the patient, and it also has implications for the work environment.

## CONCLUSION

The results of this study allow us to affirm that the studied sample has a low stress index; however, there is a somatization of signs and symptoms in these professionals' bodies, which can trigger a illness process in these subjects.

From the descriptive analyzes of the stress stages, it was possible to identify that the sample is in the resistance stage of stress, considered as the stage in which the somatization of signs and symptoms occurs in the physical body, with increase in the level of cortisol.

In view of this, we highlight the psychic, physical and emotional disorders that may be being experienced by the nursing professionals of this study, an aspect that needs to be denoted as a subsidy to plan strategies for coping with stress.

As a limitation, it should be noted that this study reflects a single reality investigated and is configured as a cross-sectional study, analyzing the population in a punctual way. Thus, it is important to encourage other studies on this subject, including longitudinal methodologies, in order to clarify and portray other realities.

The aim is to encourage the realization of other studies in each microscope of nursing, as well as to contribute to the prevention and coping of stress strategies in order to ensure the preservation of the health of health practitioners, in addition to contributing to the quality and safety of effective nursing care.

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#### Corresponding Address

Claudia Cristiane F. Martins Rodrigues  
Escola de Saúde  
Universidade Federal do Rio Grande do Norte  
Campus Universitário, Sala 6, 2º piso,  
Bairro Lagoa Nova, s/n  
CEP: 59078-970 – Natal (RN), Brazil