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INFLUENCES OF SLEEP-WAKE DISORDERS ON CARDIOVASCULAR HEALTH IN PRIMARY HEALTH CARE

INFLUÊNCIAS DOS TRANSTORNOS DE SONO-VIGÍLIA SOBRE A SAÚDE CARDIOVASCULAR NA ATENÇÃO PRIMÁRIA À SAÚDE

INFLUENCIA DE LOS TRASTORNOS DEL SUEÑO-VIGILIA SOBRE LA SALUD CARDIOVASCULAR EN LA ATENCIÓN PRIMARIA A LA SALUD

Laércio Deleon de Melo[1]
Juliana de Lima Brandão[2]
Denicy de Nazaré Pereira Chagas[3]
Giane Aparecida Delfino Neves[4]
Paulo Henrique Bezerra da Silva[5]
Isabella Lima Silva Teixeira[6]
Agnes Alvarenga Rosendo[7]

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Objective: to discuss the harmful factors to sleep and their influence on cardiovascular health in the perception of hypertensive patients assisted by a Brazilian Basic Health Unit. Method: a descriptive study with a qualitative approach, conducted in a primary care service in Minas Gerais, Brazil. Characterization data and in-depth individual interviews were collected in 2019, with 40 hypertensive patients aged ≥18 years. The characterization data were analyzed with the support of Microsoft Excel-365 for frequencies and the interviews in Nvivo Pró-11. Results: the participants, predominantly women, elderly, retired, reported poor sleep quality and use of anxiolytic/antidepressant drugs. Two discursive categories emerged: Sleep and rest preserved as determinants of quality of life and health; and Insomnia: an everyday reality linked to psychosocial, biological and environmental conditions. Final considerations: insomnia generates negative impacts on cardiovascular health and quality of life, requiring specialized care in cardiovascular nursing.

Descriptor: Cardiovascular Nursing. Sleep Wake Disorders. Hypertension. Cardiovascular Diseases. Primary Health Care.

Corresponding author: Laércio Deleon de Melo, laerciodeleondl@yahoo.com.br

[1] Universidade do Estado do Rio de Janeiro, Rio de Janeiro, RJ, Brazil. https://orcid.org/0000-0002-8470-7040.
[2] Universidade do Estado do Rio de Janeiro, Rio de Janeiro, RJ, Brazil. https://orcid.org/0000-0003-1463-2829.
[3] Universidade Federal de Juiz de Fora, Juiz de Fora, MG, Brazil. https://orcid.org/0000-0001-5928-4384.
[4] Faculdade de Ciências Médicas e da Saúde de Juiz de Fora, Juiz de Fora, MG, Brazil. https://orcid.org/0000-0002-0065-8115.
[5] Centro Universitário Estácio Juiz de Fora. Juiz de Fora, MG, Brazil. https://orcid.org/0000-0002-9057-9102.
[6] Centro Universitário Estácio Juiz de Fora. Juiz de Fora, MG, Brazil. https://orcid.org/0000-0002-9572-2385.
[7] Centro Universitário Estácio Juiz de Fora, Juiz de Fora, MG, Brazil. https://orcid.org/0000-0002-2287-1670.

Objetivo: discutir os fatores prejudiciais ao sono e suas influências sobre a saúde cardiovascular na percepção de hipertensos atendidos por uma Unidade Básica de Saúde brasileira. Método: estudo descritivo, de abordagem qualitativa, realizado em um serviço de Atenção Básica Mineiro, Brasil. Foram coletados dados de caracterização e entrevista individual em profundidade, em 2019, com 40 hipertensos de idade≥18 anos. Os dados de caracterização foram analisados com apoio do Microsoft Excel-365 para frequências e as entrevistas no Nvivo Pró-11. Resultados: as participantes, predominantemente mulheres, idosas, aposentadas, relataram sono de má qualidade e uso de fármacos ansiolíticos/antidepressivos. Duas categorias discursivas emergiram: Sono e repouso preservados como determinantes da qualidade de vida e saúde; e Insônia: uma realidade cotidiana ligada aos condicionantes psicossociais, biológicos e ambientais. Considerações finais: a insônia gera impactos negativos na saúde cardiovascular e na qualidade de vida, necessitando de cuidados especializados no âmbito da enfermagem cardiovascular.

Descritores: Enfermagem Cardiovascular. Transtornos do Sono-Vigília. Hipertensão. Doenças Cardiovasculares. Atenção Primária à Saúde.

Objetivo: discutir los factores dañinos al sueño y sus influencias sobre la salud cardiovascular en la percepción de hipertensos atendidos por una Unidad Básica de Salud brasileña. Método: estudio descriptivo, de abordaje cualitativo, realizado en un servicio de Atención Básica Minero, Brasil. Se recogieron datos de caracterización y entrevista individual en profundidad, en 2019, con 40 hipertensos de edad ≥18 años. Los datos de caracterización fueron analizados con el apoyo de Microsoft Excel-365 para frecuencias y las entrevistas en el Nvivo Pro-11. Resultados: las participantes, predominantemente mujeres, ancianas, jubiladas, relataron sueño de mala calidad y uso de fármacos ansiolíticos/antidepresivos. Dos categorías discursivas surgieron: Sueño y reposo preservados como determinantes de la calidad de vida y salud; e Insomnio: una realidad cotidiana ligada a los condicionantes psicosociales, biológicos y ambientales. Consideraciones finales: el insomnio genera impactos negativos en la salud cardiovascular y en la calidad de vida, necesitando de cuidados especializados en el ámbito de la enfermería cardiovascular.

Descriptors: Enfermería Cardiovascular. Trastornos del Sueño-Vigilia. Hipertensión. Enfermedades Cardiovasculares. Atención Primaria de Salud.

Introduction

Primary Health Care (PHC) is composed of a set of actions developed by a multidisciplinary team, which acts in an interdisciplinary way, focused on the population of a predetermined territory and aims to positively impact the health determinants and conditioning factors of the community. It is considered to be the preferred gateway for users to the Brazilian Unified Health System (UHS), ordering the Health Care Network (HCN), which provides care and resolution for 80% of situations related to the health-disease process of users still in PC[1].

Chronic Non-communicable Diseases (CNCDs), which include Cardiovascular Diseases (CVDs), with emphasis on Systemic Arterial Hypertension (SAH), as a chronic comorbidity associated, in most cases, with the emergence of other CVDs, They deserve attention from PHC health professionals, whose care should be provided in an interdisciplinary and collective approach[2]. Only in 2017, data on the Global Burden of Diseases (GBD) indicated that the CVDs were responsible for 28.8% of the total causes of deaths in the world[3].

Thus, CVDs are the leading cause of death, hospitalizations and outpatient care worldwide, including in developing countries such as Brazil[3-4]. SAH is associated with 45% of these cardiac deaths that include Coronary Artery Disease (CAD) and Heart Failure (HF). There is also an association of hypertension with 51% of deaths due to Cerebrovascular Disease (CbVD) and a lower percentage of deaths directly related to SAH (13%). In this sense, SAH, as a multifactorial cause, is more lethal due to its lesions in target organs and/or its associated complications[3].

(Inter)national scientific evidence indicates that sleep pattern and quality are considered a contributing risk factor for the emergence or worsening of hypertension and CVDs, in isolation or associated with other risk factors[2-4], such as psychosocial stress[5], smoking[6], alcoholism[7],

eating habits[8], pharmacotherapy of continuous use[9] and sleep-wake disorders[4,9-10].

The most evident sleep disorders are: restless legs syndrome, insufficiency in the number of hours slept, insomnia and obstructive sleep apnea syndrome. The latter is the most frequent disorder in hypertensive patients[11]. Thus, in this investigation, sleep is conceived as a primordial element for human survival, being located at the base of the pyramid along with other essential elements related to physiology, such as breathing, homeostasis and excretion, which are considered basic requirements for the maintenance of human life[12].

Given the context presented, there was a scientific gap regarding the approach of sleep-wake disorders and their influence on cardiovascular health, from the perspective of hypertensive patients assisted by BHC and UHS users, This research is a contribution to the fields of Cardiovascular Nursing and Collective Health when demonstrating, by the discourse of the users themselves, how these disorders present themselves and affect their health, more specifically cardiovascular.

Thus, the guiding questions were elaborated: How are the factors that impair the sleep of hypertensive people perceived and managed by users of a Brazilian BHC service? What are the influences of sleep-wake disorders on their cardiovascular health?

The objective was to discuss the factors harmful to sleep and its influences on cardiovascular health in the perception of hypertensive patients assisted by a Brazilian Basic Health Unit.

Method

Qualitative, descriptive research with thematic-categorical content analysis[9]. All criteria of the Consolidated Criteria For Reporting Qualitative Research (COREQ) protocol were met in order to achieve theoretical and methodological robustness.

The study population was constituted according to the registry of a Basic Health Unit (BHU) of a health macro-region of Minas Gerais (MG), Brazil. The unit had 50 registered hypertensive people, who were approached to participate. Eligibility criteria were: hypertensive people, aged ≥18 years, belonging to the previous registry of the BHU provided by the supervisor of the Unit.

People who postponed or rescheduled the interview for more than three separate occasions were excluded, totaling ten losses. Thus, at the end, 40 participants were interviewed. The collection took place during the nursing consultations, structured according to the Nursing Process (NP)[12], in compliance with (inter) national recommendations[3-4] and the Ministry of Health (MH)[1] appropriate to the routine of the BHU scenario.

The interview included a semi-structured script composed of sociodemographic characterization; in-depth individual interview with audio recording about sleep quality; and field diary containing additional information, such as continuous use medications and other information emerged in the interview, considered relevant by the researcher, and that were not among the questions of the data collection instrument.

The data collection instrument (DCI) was previously constructed by the main investigator, in accordance with the (inter)national guidelines for the approach to hypertensive and cardiopathic patients[3-4] and subsequently validated by three qualified experts with experience in the fields of cardiovascular nursing and PHC.

The interview was triggered by the following guiding questions: How many consecutive hours do you sleep on average per night? ; How do you rate your sleep? Why?; For you, what harms your sleep? Why?; Do you take any sleeping pills? Which one(s)?; Tell me a situation that happened to you and that interfered with your sleep.

The interviews were previously scheduled at a compatible time for the participant/researcher binomial. There was previous training of the two researchers involved in the data collection stage. Data collection occurred between the months of September and November 2019, with an average estimated duration of one hour each.

The characterization data were treated in Microsoft Excel 365, by descriptive statistics (absolute and relative frequency). The discursive contents from the interviews and field diary records were fully transcribed, with subsequent fluctuating/in-depth reading of the corpus, for appropriation of the subjects and triggering the analysis process. This occurred in a systematized manner, through the qualitative importance of the emerging subjects for the investigated object, highlighting the themes capable of revealing the different aspects in the composition of the content analysis[13].

The NVivo Pro11® software was used as support for the definition of a priori categories, in addition to the ability of the results to reflect in quantity and intensity the multidimensionality of the investigated phenomenon seeking quality and deepening of these results[13].

The thematic-categorical content analysis was expressed by participant code, verification of the context units, clipping, classification and coding of the Units of Records (URs) and coding to aggregate the URs into Units of Meaning (UMs)[13]. The construction of the categories was designed to portray the quality of sleep from the perspective of the participants and the intervening factors, as well as their repercussions on health and blood pressure control.

The signature of the Informed Consent Form (ICF) was performed immediately in the approach of the participants, being assured the secrecy/anonymity with the use of alphanumeric codes (for example: P27). The matrix investigation, which integrates the results of this research, followed all ethical and legal requirements, being approved by the Research Ethics Committee (REC) with the consubstantiated Opinion n. 3,466,543, approved on 07/27/2019, being respected all ethical and legal aspects of Resolution n. 466/2012, of the National Health Council (NHC).

Results

Table 1 shows the sociodemographic characterization of the participants.

Table 1 – Sociodemographic, professional and economic characterization of the participants. Juiz de Fora, Minas Gerais, Brazil – 2019. (N=40) (continued)

Variables	n	%
Sex		
Women	21	52.5
Men	19	47.5
Age (years)		
18 - 59	14	35.0
60 - 79	23	57.5
>80	3	7.5
Self-reported skin color		
White	21	52.5
Brown/Black	19	47.5
Marital situation		
Married	23	57.5
With partner	12	30.0
Single	5	12.5
Children		
Yes	35	87.5
No	5	12.5
Religion		
Catholic	25	50.0
Evangelical	16	40.0
Schooling		
Elementary school (≤9 years of study)	16	40.0

Table 1 – Sociodemographic, professional and economic characterization of the participants. Juiz de Fora, Minas Gerais, Brazil – 2019. (N=40) (conclusion)

Variables	n	%
High school (between 9 and 12 years of study)	24	60
Profession		
Industrial activities	16	40.0
Domestic services	14	35.0
Dealer	10	25.0
Retirement		
Yes	34	85.0
No	6	15

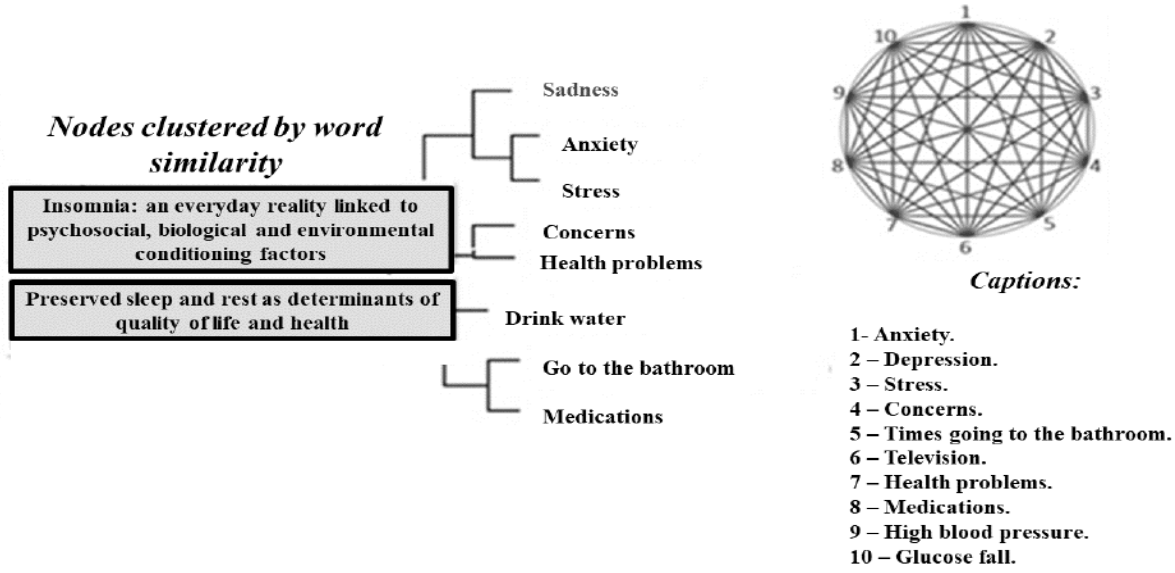
Source: created by authors

Participants reported the use of the following drugs: Anxiolytics – Clonazepam five (12.5%), Diazepam three (7.5%), Escitalopram three (7.5%), Alprazolam two (5%), Bromazepam two (5%); Antidepressants – Citalopram (10%). This scenario was attributed to a continuous dependence to control anxiety and depressive symptoms, according to reports in the field diary, and, of the 15 participants who make continuous use of anxiolytics, 12 (80%) consider the use of these drugs as a positive point and believe that personal or health problems can disrupt sleep and rest. The use of diuretics, such as hydrochlorazide, spirolactone and furosemide, was also reported by 13 (32.5%) participants.

It is noteworthy that 25 (62.5%) participants did not evaluate their sleep as good and reported sleeping less than six hours per night. This information was reinforced by the field diary records, such as reports of signs and symptoms of insomnia, such as stress, depression, interval sleep at night, drowsiness and little willingness during the day to perform work activities, etc. Moreover, despite the use of anxiolytic and antidepressant pharmacotherapy reported by the participants, only 15 (37.5%) reported sleeping well, in an estimated time of approximately eight hours of uninterrupted sleep per night.

In the thematic-categorical content analysis, composed of 59 URs and 116 UMs, two categories emerged that expressed a dichotomy of points of view between participants who claimed to sleep well and those who considered their sleep insufficient or impaired, as expressed in Figure 1.

Figure 1 – Dendrogram and Circle graph according to categorical content-thematic analysis. Juiz de Fora, Minas Gerais, Brazil – 2019. (N=40)



Source: created by authors

For better understanding and deepening of the results, these were sometimes triangulated with the results acquired by the other collection techniques, that is, the characterization questionnaire and the field diary records.

Category 1, entitled *Sleep and rest preserved as determinants of quality of life and health*, represented 29.5% of the discursive content of the participants who portrayed a positive self-assessment of sleep quality, justified by the ability to maintain sleep at night uninterruptedly, for a period of eight hours or, if awakening occurred during the night, this was motivated by the need for urination or water intake, as discourses below:

> *I lie down and sleep and, in the morning, I wake up the same way, I don't even change my position. I never took sleeping pills.* (P16).
>
> *I sleep well! Sometimes I wake up, go to the bathroom, drink water and come back. Then, within 10 to 15 minutes, I go back to sleep.* (P17).
>
> *I sleep eight hours a night, straight and without waking up. I never had insomnia!* (P21).
>
> *Sometimes I wake up and go to the bathroom because I take medication. I come back, lie down and sleep.* (P23).

Category 2, entitled *Insomnia: an everyday reality linked to psychosocial, biological and environmental conditioning factors*, represented 70.5% of the discursive content and was presented in three subcategories, divided according to the conditioning factors, presented below:

Psychosocial conditioning factors:

> *I don't sleep well. I keep asking the doctor to prescribe some medicine, but she said she wouldn't..* (P4).
>
> *At night, I only sleep about three to four hours. These days, I'm more worried, my life is very busy and I have a lot of problems at work, family, etc. From time to time, I take Clonazepam, as I feel the need to sleep.* (P7).
>
> *I take Alprazolam, it is already part of my life. If I don't take it, I won't sleep.* (P28).
>
> *I wake up around 4 am every day. I think it must be anxiety.* (P30).
>
> *I sleep on average three hours a night, when I sleep. What keeps me up at night are worries.* (P40).

Biological conditioning factors:

> *I wake up a lot to go to the bathroom during the night. My glucose also tends to fall and my blood pressure goes up.* (P3).
>
> *The amount of insomnia I have increased even more after my period stopped. Then, I became more nervous. I always take a nap, but I don't get that good sleep anymore.* (P15).
>
> *I only take naps. I can sleep better during the day. Just yesterday, I couldn't stand it, I couldn't even stand up during the day and I laid down. But when night came, I no longer slept.* (P20).
>
> *I really want to go to the bathroom after I go to bed. I get stressed for this reason and end up losing sleep. The pressure sometimes rises too.* (P33).

Environmental conditioning factors:

> *I live on the side of the street, cars pass by all the time, and now there's a construction site close to my house, right in front. Every time, there are cars passing by, dogs barking. The pressure even rises. So, to sleep, it's just the power of medicines.* (P5).
>
> *I have to take medicine to sleep otherwise I'll stay awake all night. What distracts me a lot is the television, if it's on, I forget to sleep.* (P13).
>
> *I sleep little because of working too much. On average five hours of sleep. What got in the way was the service, I worked too long. I don't take sleeping pills, I don't accept.* (P25).
>
> *Noise and light disrupt sleep.* (P35).

In this sense, sleep-wake disorders are influenced by the triad of conditioning factors: psychosocial, biological and environmental.

Discussion

The sociodemographic characterization of the 40 hypertensive participants involved women, elderly, married, with children and retired. Thus, the justifications for the reports about Sleep-Wake Disorders by the participants were marked by psychosocial stressors, as evidenced in dendrogram and circle graph (stress, sadness, worry, anxiety, depression, etc.), which are common to the fact that they are women, elderly women and housekeepers, being corroborated by other investigations[5-8,14-15].

Regarding the characterization of the participants, there is a counterpoint in relation to the needs of lifestyle adjustments required in the

process of coping with hypertension, such as: higher water intake, according to professional guidance; prescribed pharmacotherapy, motivated by the occurrence of comorbidities that cause polypharmacy; frequent trips to the bathroom for nighttime urination that may be associated with possible incontinence; fluid intake predominantly during the night and/or the use of common diuretics in the treatment of SAH[9,14,16-17].

As for the use of drugs, the greater number of urinations due to the use of diuretics of the hypertensive person is a biological condition, and may interrupt his/her sleep due to urgency to urinate. Thus, simple strategies of (self-)care are required, such as the use of diuretics in the morning, in order not to interrupt the person's nocturnal circadian rhythm[9].

The use of drugs in the daily life of PC users in relation to their living and health conditions is associated with the presence of psychosocial stressors that contribute to the emergence of disorders, such as anxiety and depression[15] and that often can lead these people to addiction to Psychoactive Substances (PASs), for example, alcoholism and smoking. Such substances are ineffective forms of coping, which directly affect the health-disease process in a negative way and require the attention of health professionals[1,4,14-15].

Regarding the continuous use of anxiolytics, the findings are corroborated by other investigations[4,15] and converge to the understanding of sleep and rest as an BHN, located at the base of the pyramid, essential to the existence and maintenance of human life and health, which directly influences the quality of life and health-disease process[3].

Most discourses show reports of interrupted or short-term sleep, motivated by concerns, anxiety, stress, etc. The speech of the participant P30 evidences that the presence of insomnia may be associated with the occurrence of other disorders, with a strong tendency towards mental ones, since it is able to predict the onset of episodes of depression, anxiety, alcohol abuse and other PASs, or psychosis, with risks of suicidal ideation and behavior[18].

Symptoms of sadness and worry are more associated with poor sleep quality[19]. Thus, significant changes in the duration and quality of night sleep consequently lead to reduced quality of life and daytime performance, as expressed by the study participants.

The reflexes of this reality of insomnia can also culminate in the occurrence of excessive daytime sleepiness, fatigue and headache. The reduced amount of sleep and its poor quality, without an effective physiological rest, have a substantial negative impact on the cardiovascular health of the person and are associated with higher rates of morbidity and mortality justified by SAH, Diabetes Mellitus (DM), respiratory disorders and obesity[1,16-17].

Scientific evidence indicates a moderate association between sleep disorders and stressful life, and negative thoughts can affect the onset of sleep and also its quality[15,20]. In this context, sleep is closely related to the occurrence of hypertension and has important effects on the function of the cardiovascular system, interfering with heart rate and blood pressure indices, as well as with the pathophysiology of the development of CVDs[20-25].

Moreover, sleep habits and characteristics interfere with cardiac rhythm and life expectancy, especially in the elderly. A prospective cohort conducted with 160 elderly people from northern Brazil aimed to estimate the risk of death and cardiovascular events in the elderly who complained of excessive daytime sleepiness and nocturnal insomnia. Over eight years of follow-up, it concluded that mortality was influenced by emotional state, insomnia and depression (RR=2.04; 1.06-3.89), insomnia severity (RR=2.39; 1.52-4.56), sleep latency between 16-30 minutes (RR=3.54; 1.26-9.94) and 31-60 minutes (RR=2.23; 1.12-4.47), which independently increased the risk of death[26].

Thus, insomnia, that is, difficulty falling asleep or staying asleep throughout the night, is a fairly common disorder. This disorder affects the feeling of well-being that, in its subjectivity, may favor the occurrence of mental, cognitive and somatic diurnal changes. As a consequence,

physical fatigue, inattention, drowsiness, psychosocial stress, anxiety, depression and SAH may occur the next day[5,10].

Regarding the biological constraints, in the speech of the participant P20, there is an inversion of the normal circadian rhythm, evidencing the existence of a sleep-wake disorder. The short duration of night sleep or its low quality may have been compensated by daytime sleep, which may have mitigated adverse health outcomes. This interpretation was corroborated by another investigation, which also highlights that habitual daytime sleep can reduce the risk of SAH incidence independently, according to results from a cohort study[27].

Therefore, the circadian rhythm, as a physiological clock, is a natural biomarker of the relationship between wakefulness and rest, being natural to occur a daytime vigil and a night rest, lasting approximately eight hours/night. A sleep period below six hours/night is already considered short-lived and is associated with increased risk of CVDs, especially SAH, HF, Acute Myocardial Infarction (AMI), Cerebrovascular Accident (CVA) and metabolic anomalies, such as obesity and DM[3-4].

Thus, daytime sleep compensation can therefore play an important role in preventing hypertension in adults and the elderly who manage to sleep for short periods at night. In this sense, daytime "napping" can improve neuroendocrine stress and immune recovery, with potential prophylactic effect on long-term cardiovascular health[27-28].

In addition to insomnia, participants P3 and P33 mention the occurrence of hypertension. In this logic, insomnia predisposes the individual without the diagnosis of hypertension to the emergence of high blood pressure levels and can worsen blood pressure control among people known to be hypertensive. This is because, during sleep, the reduction of blood pressure levels by 10% to 20% is considered normal when compared to the waking period, also called physiological night rest. However, when this process does not occur, evidence indicates an increased risk of CVDs, such as hypertensive emergencies AMI and CVA[3-4,10,29].

Concerning the reports of nighttime hypertension, highlighted in the discourse of participants P3 and P33, it is also worth mentioning the recommendations of Ambulatory Blood Pressure Monitoring (MAPA). This has historically been the strategy considered the gold standard for measuring blood pressure (BP), since the examination allows the calculation of mean BP values during the day and night, in a period of 24h[29-31].

Furthermore, even when SAH is optimally controlled during the day, if nocturnal hypertensive peaks occur, the risk of cardiovascular events is higher[25]. The need for accurate measurement, prediction and adequate treatment of hypertension becomes irrefutable as an essential strategy for the management of the disease and the prevention of associated cardiovascular risks[3-4].

In the discourses, reports on the physiopathogenic mechanisms of insomnia stand out: hypertension, restlessness/agitation (P33) and the conditioning factors of the need for urination urgently and repeatedly at night (P3). This is justified by the use of diuretics as therapy associated with antihypertensive treatment.

The indicative factors that constitute physiopathogenic mechanisms of hypertension and are closely related to the development of sleep disorders are: hyperactivity of the sympathetic nervous system and the renin-angiotensin system, increased endothelial/nitric oxide ratio, use of recombinant erythropoietin, presence of secondary hyperparathyroidism, and increased extracellular volume[3-4].

Thus, participants present evidence of hyperactivity of the sympathetic nervous system and the renin-angiotensin system. Moreover, hormonal changes can reinforce these events, such as menopause, reported by participant P15. This may corroborate the reduction of sleep quality/duration, with increased cortisol levels, reduction of melatonin, increased insulin resistance, release of post-inflammatory cytokines, among others[16].

The speech of the participant P13 shows that the technologies, in the case of television, are sources of distraction for the moments of insomnia. Noise external to the sleep environment and local clarity are pointed out as capable of reducing the number of hours of sleep of the individual during the night, as mentioned by participants P5 and P35. In this sense, there is evidence that artificial light, emitted by some technologies in the sleep and rest environment of people, has the potential to modify the physiological circadian rhythm, such as cell phones, television, environmental lighting, etc.

However, extremely long and/or short total sleep periods are associated with an increased risk of SAH. People with short or moderate night sleep durations, especially the short duration of night sleep, can benefit from the usual daytime sleep to prevent hypertension, provided that their living and working conditions allow such adaptation[27].

In this sense, it is interesting to highlight the discourse of the participant P25 in relation to the reduction of the average duration of sleep time, justified as a result of excessive work activities and working conditions. This statement is in line with the rapid development of modern capitalist society and with changes in population lifestyle, which led to a consequent decrease in the average duration of time and quality of sleep[20].

Several approaches are still necessary to understand the natural history of the disease involved in the CVDs, as well as their repercussion on the social, economic, political and cultural aspects of the individual and in the collectivity. New analyses and theoretical reflections are needed on these aspects that impact the health sector, and whose confrontation demands the protagonism of science so that it encompasses, in the context discussed here, strategies aimed at strengthening health policies and systems, evaluation of sleep-wake disorders and their influence on CVD.

A possible limitation of the present investigation concerns the small number of participants. To minimize this sample fragility, the approach of all people present in the previous registry provided by the BHU was adopted as a strategy. Even so, the number of participants (n=40) was incompatible with the application of scales to evaluate sleep-wake disorders. Nevertheless, the integral approach of the eligible participants and the confirmation of the theoretical saturation allowed a reflexive analysis of the results.

This research is a contribution to the scientific community, as these results reinforce the recognition of the need to carry out new interdisciplinary reflections on professional care performed in PC. The individual and collective approaches of hypertensive patients should be focused on the specific demands of this group, in order to re-plan the care provided by different health professionals, so that collective assistance encompasses users' perceptions of the conditioning factors of sleep-wake disorders, as well as their influences on quality of life and health, making them protagonists of care.

Final Considerations

Most participants considered as harmful factors to sleep the conditions of insomnia of psychosocial, biological and environmental origin, which negatively affected their cardiovascular health and, therefore, the quality of life, requiring specialized care in the field of cardiovascular nursing.

This study allowed the knowledge of the proposed panorama regarding sleep quality and impacts on cardiovascular health. However, it opens new questions that give rise to other approaches and an increase in the target audience, and may even cover an assigned area of greater capillarity to make a "n" that allows the treatment of data with more precise designs, as the mixed method, such as the scales of evaluation of sleep-wake disorders.

Collaborations:

1 – conception and planning of the project: Laércio Deleon de Melo;

2 – analysis and interpretation of data: Laércio Deleon de Melo, Juliana de Lima Brandão, Denicy

de Nazaré Pereira Chagas, Giane Aparecida Delfino Neves, Paulo Henrique Bezerra da Silva, Isabella Lima Silva Teixeira and Agnes Alvarenga Rosendo;

3 – writing and/or critical review: Laércio Deleon de Melo, Juliana de Lima Brandão, Denicy de Nazaré Pereira Chagas, Giane Aparecida Delfino Neves, Paulo Henrique Bezerra da Silva, Isabella Lima Silva Teixeira and Agnes Alvarenga Rosendo;

4 – approval of the final version: Laércio Deleon de Melo, Juliana de Lima Brandão, Denicy de Nazaré Pereira Chagas, Giane Aparecida Delfino Neves, Paulo Henrique Bezerra da Silva, Isabella Lima Silva Teixeira and Agnes Alvarenga Rozendo.

Competing interests

There are no competing interests.

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