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Covid-19 and burnout in resident nurses at a university hospital

Covid-19 e burnout em enfermeiros residentes de um hospital universitário

Covid-19 y burnout en enfermeros residentes de un hospital universitario

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ABSTRACT

Objective: to analyze the occurrence of burnout among resident nurses at Covid-19 units of a university hospital. **Method**: in this quantitative, descriptive, cross-sectional study of a sample of 40 nurses residing in a public university hospital in Rio de Janeiro city, data were collected from October to December 2020 on Google Forms, using an instrument to characterize the sample and the Maslach Burnout Inventory - Human Services Survey. **Results**: the residents were predominantly female, married and over 25 years old. Scores for emotional exhaustion were high (55%), for depersonalization, average (47.5%) and for professional achievement, low (20%), and 12.5% of the sample met the criteria for burnout with risk of developing the syndrome. **Conclusion**: the pandemic increased burnout risks in the sample, requiring educational institutions to invest more in social and technical support to minimize illness.

Descriptors: Nursing; Coronavirus Infections; Graduate Education; Professional Burnout; Mental Health.

RESUMO

Objetivo: analisar a ocorrência de *burnout* em enfermeiros residentes de unidades Covid-19 de um hospital universitário. **Método:** quantitativo, descritivo do tipo transversal com uma amostra de 40 enfermeiros residentes de um hospital universitário público situado no município do Rio de Janeiro. A coleta de dados foi realizada de outubro a dezembro de 2020, via *Google Forms*, mediante instrumento de caracterização da amostra e o *Maslach Burnout Inventory - Human Services Survey*. **Resultados:** prevaleceram residentes do sexo feminino, casados e maiores de 25 anos. Verificou-se que 12,5% da amostra preencheram os critérios para *burnout* com risco de desenvolvimento da síndrome devido a altos escores em exaustão emocional (55%), médios em despersonalização (47,5%) e baixa realização profissional (20%). **Conclusão:** a pandemia aumentou os riscos de *burnout* na amostra, tornando-se necessário investimentos em suporte social e técnico por parte das instituições formadoras de modo a minimizar o adoecimento.

Descritores: Enfermagem; Infecções por Coronavírus; Educação de Pós-Graduação; Esgotamento Profissional; Saúde Mental.

RESUMEN

Objetivo: analizar la ocurrencia de burnout en enfermeras residentes en unidades Covid-19 de un hospital universitario. **Método:** cuantitativo, descriptivo del tipo transversal con una muestra de 40 enfermeros residentes de un hospital universitario público ubicado en la ciudad de Río de Janeiro. La recolección de datos se realizó de octubre a diciembre de 2020, vía *Google Forms*, utilizando un instrumento para caracterizar la muestra y el *Maslach Burnout Inventory - Human Services Survey*. **Resultados:** predominaron residentes del sexo femenino, casadas y mayores de 25 años. Se encontró que el 12,5% de la muestra cumplía con los criterios de *burnout* con riesgo de desarrollar el síndrome debido a puntuaciones altas en agotamiento emocional (55%), medianas en despersonalización (47,5%) y bajas en realización profesional (20%). **Conclusión:** la pandemia aumentó los riesgos de *burnout* en la muestra, volviendo necesario realizar inversiones en apoyo social y técnico por parte de las instituciones educativas para minimizar la enfermedad.

Descriptores: Enfermería; Infecciones por Coronavirus; Educación de Postgrado; Agotamiento Profesional; Salud Mental.

INTRODUCTION

In March 2020, the World Health Organization (WHO) characterized the disease caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-Cov-2) or COVID-19 as a pandemic state. During the second week of July 2021, 187,296,646 notifications of the disease and 4,046,470 deaths were confirmed worldwide. Brazil ranks third in the number of records of the infection, as well as in the number of deaths, even including health care workers. With mass vaccination, a decreasing trend in the number of cases and deaths has been observed. However, with the emergence of infections among vaccinated people and the new strains of the virus, there is a need to maintain protective measures such as social restriction, hand hygiene and use of masks by the population, among others[1,2].

The pandemic changed the routine of the services and imposed the urgent need to adapt to the new scenario on health managers and professionals, resulting in an intensification of the physical and psychological workload with

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implications for workers' health, given the risk of exposure to the virus, illness and death[3]. Such burdens refer to aspects related to patient care and other demands involving the organization of hospital work due to the lack of human resources, training, clear guidelines on the treatment and availability of individual and collective protective equipment[4,5].

Workers at the COVID-19 care units have been one of the groups most affected by the pandemic, in which psychological distress accompanied by symptoms of stress, anxiety and depressive reactions is observed[6-9]. Among the risk factors for the development of Burnout Syndrome in health professionals during the pandemic, work overload, fatigue, stress, depression and compromised social interaction should be highlighted[10].

As part of the health team, and as they are mostly young, inexperienced and have unresponsive adaptive strategies in coping with psychosocial stressors at work, residents are more likely to be at risk of developing Burnout Syndrome, with their quality of life affected in the physical and psychosocial dimensions[11,12]. In addition to the individual characteristics, stressors related to the structuring of the course can contribute to emotional exhaustion, including: the high degree of responsibility, the absence of tutors in the fields of practice, the extensive workload, theoretical activities, shift work, even at night and during weekends, reduced autonomy and the institutionalized power relations[13-15].

The limited knowledge accumulated by science about the virus and the disease itself during the pandemic has created difficulties facing it in terms of therapies and/or treatments adopted by the health institutions in view of the population's illness and risk of death. In this sense, successful experiences aimed at prevention, health promotion and treatment of physical and/or psychological disorders reported by other countries have been incorporated and/or adapted to our reality[2]. Such movements are in line with the campaign initiated by the Ministry of Health (*Ministério da Saúde*, MS) and the Pan American Health Organization (PAHO) by recognizing the relevance of strategies aimed at mitigating the health professionals' stress and anguish in the pandemic context[16].

The Burnout Syndrome is the body's response to a progressive process of emotional exhaustion and loss of professional interest when the coping methods fail or are insufficient. It is more frequent in workers who perform care activities, involving three multidimensional factors proposed from the Malasch Burnout Inventory: emotional exhaustion characterized by low enthusiasm and a sensation of resource exhaustion; depersonalization or insensitivity marked by negative attitudes of detachment, intolerance and impersonal treatment of patients and staff; and reduced professional fulfillment in which there is a feeling of insufficiency and low self-esteem[17].

In the development of the Burnout Syndrome, the person can present complaints of a physical (muscle pain, constant fatigue, gastrointestinal and neuroendocrine disorders), psychological (changes in memory, concentration, slowness and rumination of thoughts), emotional (anxiety, irritability, depression and aggressiveness) and behavioral (isolation, negligence, lack of interest in work or leisure, inflexibility) nature. These changes can lead to lack of interest in the daily activities and work and, sometimes, consumption of psychoactive substances is observed as a strategy to minimize suffering.[18]. Perfectionist, competitive, impatient and controlling individuals, who find it difficult to tolerate frustration and who attribute great meaning to work are more likely to develop the syndrome[19].

As mental health problems tend to worsen and/or increase during the pandemic[9,10,16], this study is justified by ratifying the role of educational and health institutions in preventing psychosocial stress and welcoming Nursing residents, contributing to the training process, health promotion and quality of life. Given the above, the objective of this study was to analyze the occurrence of Burnout Syndrome in resident nurses working in COVID-19 units at a university hospital.

METHOD

A quantitative, cross-sectional and descriptive study. The research field was a large-size public university hospital located in the municipality of Rio de Janeiro, which has COVID-19 care units. This is a unit recognized for its excellence in the areas of research, assistance, extension and training of professionals at the undergraduate and graduate levels, including residency programs in various areas.

The institution's Nursing residency is structured according to the legal precepts set forth in Resolution 657/2020 of the Federal Council of Nursing[20], lasting four academic semesters and organized into three areas and respective programs: Clinical Nursing (medical clinic, intensive care, nephrology, adolescents' health, psychiatry and workers' health); Surgical Nursing (surgical center, surgical and cardiovascular clinic); and Maternal-Child (neonatology, obstetrics and pediatrics).

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From a population of 87 residents, 40 Nursing residents from first and second year participated in the study, using non-probabilistic or convenience sampling, with the following inclusion criteria: residents enrolled in the course and who were performing technical-assistance activities in COVID-19 units, excluding those on vacation and away for medical or other treatments. Due to the risk of exposure to COVID-19 run by the researchers, it was decided to conduct data collection through the Google Forms digital platform, from October to December 2020. The participants' email addresses were obtained from the institution's Nursing training and evaluation service management.

After accessing the online form containing the invitation, reading the data about the study and information about the research objectives and ethical aspects, everyone checked the dialog box agreeing with the free and informed consent from. In the instrument, it was ratified that participation would be voluntary and the residents were guaranteed their right to withdraw their consent in any phase of the study. After indicating agreement with the aspects presented in the form, one copy of the consent was automatically forwarded to the participant and the other was attached to the database.

For data collection, a structured instrument developed by the authors was used, containing ten items on the variables regarding sociodemographic exposure (gender, age group, marital status), training (year of the residency, time since graduation and professional experience) and health conditions (medical leave in the last twelve months, leave due to COVID-19, monitoring in mental health and consumption of alcoholic beverages). At any suspicion of Burnout Syndrome, it was decided to use the Maslach Burnout Inventory (MBI), Human Services Survey (MBI-HSS) version, elaborated by Maslach, Leiter and Jackson[17].

The instrument was translated and validated in the country by Lautert[19] in a study conducted with hospital nurses. It has 22 items in the form of assertions whose scores are estimated using a Likert-type scale with answer options from never (0) to every day (5) that assess the three dimensions of Burnout Syndrome: nine items in Emotional Exhaustion (EE), five in Depersonalization (DP) and eight in Professional Fulfillment (PF).

In order to identify suspicion of Burnout Syndrome in the sample, we initially worked with the MBI-HSS answers of each participant, assuming that, in suspicion of Burnout Syndrome, there is a need for high scores in the EE and DP subscales and for a low score in PF[17], based on the following cutoff points: EE - Scores above 21 (High EE); from 11 to 21 (Average EE); values equal to or below 10 (Low EE); DP - Scores above 8 (High DP); from 3 to 8 (Average DP); and equal to or below 2 (Low DP). PF presents an inverse measure, where scores equal to or above 27 (High PF) are not indicative of Burnout Syndrome; from 21 to 26 (Average PF) and equal to or below 20 (Low PF)[17,18].

Descriptive statistics (absolute and relative frequencies) were used to describe the exposure variables, and the results were discussed based mainly on the studies carried out about Burnout Syndrome in residents and professionals in the Health and Nursing areas.

The study is based on Resolution 466/2012[21], of the National Health Council, which deals with the conduction of research studies involving human beings. It was approved by the institution's Research Ethics Committee, under opinion No. 4,109,547.

RESULTS AND DISCUSSION

In the sample, it was identified that five participants (12.5%) met all the requirements regarding suspicion of Burnout Syndrome, when considering the subscales and the respective cutoff points. In relation to the analysis of the dimensions involved, it was decided to collectively describe the answers to the instrument by means of descriptive statistics (Table 1).

TABLE 1: Distribution of the Burnout Syndrome subscales' scores in the sample according to MBI-HSS (n=40). Rio de Janeiro, RJ, Brazil, 2021.

Exaustão emocional	Scores	n	%
High	>21	22	55
Average	11 a 21	13	32.5
Low	< ou = 10	05	12.5
Depersonalization			
High	> 8	14	35
Average	03 a 08	19	47.5
Low	< ou = 02	07	17.5
Professional Fulfillment			
Low	< ou = 20	08	20
Average	21 a 27	09	22,5
High	> ou = a 27	23	57.5

Source: The authors, 2020.

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As verified, a significant percentage of the residents presented risk of developing Burnout Syndrome in view of the high scores on the EE (55%) and DP (35%) subscales and low values in PF (20%).

The presence of high EE is suggestive of an individual's exposure to environmental stressors and whose adaptive resources in terms of physiological, psychological and behavioral responses may not be effective in minimizing or eliminating them. There is a cognitive and behavioral effort on the part of the individuals in order to act on their own emotions and/or thoughts, change their perspective or work on the situation that generates stress in order to make it consistent with their expectations and with less energy expenditure. Hence the importance of the coping strategies adopted, which will depend on the personal and professional repertoire in terms of experiences related to the work context[22].

According to Table 2, the sample was mostly composed of female residents, married or in a consensual union, aged over 25 years old, with two or more years since graduation, attending the second year of the residency and without professional experience. A significant percentage of residents was distanced from the course for the treatment of health problems in the last twelve months before collection, even due to COVID-19. Monitoring of residents for mental health and consumption of alcoholic beverages was also verified.

TABLE 2: Distribution of the Nursing residents according to the MBI-HSS exposure variables and subscales (n=40). Rio de Janeiro. Brazil, 2020.

Variables	Burnout Syndrome dimensions							
	Sample		EE(n=22)		DP(n=14)		PF(n=8)	
	n	%	n	%	n	%	n	%
Gender								
Female	35	87.5	20	90.9	12	85.7	08	100
Male	05	12.5	02	9.1	02	14.3	-	-
Lives with partner								
Yes	27	67.5	13	59.1	09	64.3	07	87.5
No	13	32.5	09	40.9	05	35.7	01	12.5
Age group								
Up to 25 years old	16	40	10	45.5	05	35.7	03	37.5
More than 25 years old	24	60	12	54.5	09	64.3	05	62.5
Time since training								
1 year	12	30	07	31.8	02	14.3	01	12.5
2+ years	28	70	15	68.2	12	85.7	07	87.5
Professional experience								
Yes	09	22.5	07	31.8	06	42.8	01	12.5
No	31	77.5	15	68.2	08	57.2	07	87.5
Residency Group								
First year	15	37.5	07	31.8	04	28.6	02	25
Second year	25	62.5	15	68.2	10	71.4	06	75
Medical leave								
Yes	25	62.5	12	54.5	08	57.2	06	75
No	15	37.5	10	45.5	06	42.8	02	25
Leave due to COVID-19								
Yes	24	60	11	50	07	50	06	75
No	16	40	11	50	07	50	02	25
Monitoring in MH								
Yes	13	32.5	08	36.4	04	28.6	03	37.5
No	27	67.5	14	63.6	10	71.4	05	62.5
Consumption of alcoholic beverages								
Yes	21	52.5	10	45.5	10	71.4	08	100
No	19	47.5	12	54.5	04	28.6	-	-

Source: The authors. Note: MH: Mental Health. 2020.

Some sociodemographic data, such as female gender, married marital status and being over 25 years old, were associated with the risk of developing Burnout Syndrome in the sample, considering high scores in EE, PD and low PF. A study on Burnout Syndrome in medical residents and the association with the sociodemographic characteristics presented a statistically significant difference for development of the syndrome in women and depersonalization in men. In its turn, the existence of few studies on Burnout Syndrome and gender is a quite limited interpretation data[14].

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Regarding marital status, a significant percentage of residents that are married or in stable unions presented high EE and DP scores and low sense of PF. These data are in line with a study conducted with Nursing residents whose married marital status variable was associated with stress in the resistance phase at the end of the course, with quality of life being affected in the vitality domains, with predominance of psychological symptoms[23].

Regarding the age group, there was little statistical difference between the extremes and/or range, reflecting a profile of newly graduated nurses, graduates from undergraduate courses and without professional experience. As the study was carried out with first-year (R1) and second-year (R2) residents, when analyzing the risk of Burnout Syndrome in the group, the differences in terms of experiences and/or coping skills in coping with the stressors present in the training environment should be considered.

In this study, most of the residents were called upon to work during the pandemic in the COVID-19 units. In this situation, R2 can feel overwhelmed by the sense of responsibility and by being responsible, in some situations, for service management, supervision of undergraduates and first-year residents. Such factors can partially explain the risk of Burnout Syndrome given the high EE and DP scores and the low sense of PF when compared to R1. Contrary to these data, a study that evaluated Burnout Syndrome in residents of a multidisciplinary residency program evidenced a significant percentage of first-year residents (R1) at risk of developing Burnout Syndrome, considering high scores in EE and low PF. Lack of experience, insecurity and the patients', family members' and team's demands were the main factors associated with the outcome[11].

EE is considered the initial feature of Burnout Syndrome, with the need to pay attention to individual susceptibility and to the adaptive mechanisms in the face of the psychosocial stressors[17,18]. On the other hand, some organizational aspects can favor psychosocial stress in residents since, with the pandemic, hospitals underwent structural and protocol changes that affected the health institutions, the work process and the supply of services, both in numbers and in quality. There was a need to open new treatment units, expand the number of intensive care beds and urgent training of the new work teams[2,4,5].

Although the knowledge and skills acquired during undergraduation and residency are indispensable for the residents' performance in the fields of practice, caring for patients affected by COVID-19 is a major challenge for resident nurses in the face of problems such as: lack of effective therapies in terms of treatment, complications and death of patients, handling of state-of-the-art technologies and infection[16]. This work context is conducive to the intensification of mental health problems in residents, such as depression, Burnout Syndrome and common mental disorders, which were already discussed in studies prior to the pandemic[12-14]. Added to this are the stressors inherent to training involving dedication to the course, complying with an extensive workload and wear out due to the need to accumulate employment contracts as a way of supplementing income[15].

Although residents resort to individual and collective coping strategies in order to adapt to the stressors present in the training environment, such strategies, depending on the individual's characteristics and organizational demands, they may not be effective in preventing EE and DP[22,23]. In turn, the pandemic contributes to increased physical, cognitive and affective efforts as a result of psychosocial stressors related to the complexity of activities and less control over the work process. Professionals who work on the front lines face all kinds of pressure, including work overload, lack of breaks and care for anxious and depressed patients at risk of complications and death, which provides varied situations of distress with lasting effects on the person's health[7-9].

In this study, it was observed that a percentage of the residents presented a low sense of PF. A study carried out with 60 multiprofessional residents identified a significant association between the sense of PF and the following variables: changes in the sectors of activity, interruption of the theoretical activities, decrease in care in their specialties and inadequate supervision. In addition to affecting PF, these factors also contribute to distancing from the course and to depression[11]. On the other hand, high PF scores can have a protective role against the risk of Burnout Syndrome and common mental disorders, being related to the rewards perceived by the resident regarding respect, fair treatment, support from the preceptorship and coworkers at difficult moments reducing the effects of psychosocial stressors[15,22-24].

In the study (Table 1), it was identified that the residents were distanced from the course due to COVID-19 infection and other health problems, and a part of the group confirmed monitoring by mental health. It is noted that psychosocial support is relevant in coping with stressors, with the institution, managers and preceptors having a relevant role with regard to structuring of the course and supervision of the practices and welcoming since, by placing themselves in the role of a psychosocial support network with specialists, they have a lot to contribute to the minimization of fears and/or insecurities in the face of a new and lethal disease with a strong psychosocial impact[10-12].

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Thus, occupational stress control measures are crucial to protect the residents' mental health during the pandemic with the following standing out: offering psychological support, reduced working hours, professional development, improvement in working conditions and social support[25]. Therefore, institutional support is unquestionable in the adoption of protective measures for the residents' health and in the adoption of healthy coping strategies, especially when observing that a significant percentage of the residents stated consumption of alcoholic beverages.

Regarding alcohol consumption by the general population, a multicenter study (n=12,328) conducted in 33 Latin American countries evidenced a more frequent online social drinking behavior and heavy drinking as a defensive strategy in response to social isolation and anxiety symptoms[26].

CONCLUSION

The sample consisted mostly of female residents, married and aged over 25 years old. A percentage of the residents met the criteria for Burnout at risk of developing the syndrome, due to high scores on the emotional exhaustion and depersonalization subscales, and low sense of professional fulfillment. Although statistical tests were not performed, in order to establish the association between the variables and Burnout Syndrome, it was observed that some characteristics such as female gender, being in the second year of the residency, not having professional experience, having been away for medical treatment and including due to COVID-19, may have contributed to high scores on the emotional exhaustion and depersonalization subscales accompanied by low professional fulfillment.

The methodological option, the number of participants and the few studies on Burnout Syndrome in residents during the pandemic are limiting factors in terms of discussion of results and generalization to other training contexts. The data presented are relevant for confirming the role of the training institutions, managers and tutors in the prevention of psychosocial stress through social and technical support of the group, provision of personnel and material inputs that ensure that safe practices are carried out in the COVID-19 treatment units and with lower risk of exposure and illness.

The risk of Burnout Syndrome also requires recognition by the residents of the predictive symptoms that can serve as a warning for its development, as failure to identify the symptoms and the search for mental health support can lead the residents to adopt ineffective coping mechanisms such as consumption of alcoholic beverages, absences and even dropping out of the course. As these are individual adaptive mechanisms, it is up to the Residency Course to provide preventive actions of a collective nature in order to strengthen professional training and promote group health.

REFERENCES

1. World Health Organization [site da internet]. WHO Coronavirus (COVID-19) Dashboard. 2021 [cited 2021 Jun 11]. Available from: https://covid19.who.int.
2. World Health Organization. Coronavirus disease (COVID-19) outbreak: rights, roles and responsibilities of health workers, including key considerations for occupational safety and health: interim guidance. 2020. World Health Organization. [cited 2021 Jun 11]. Available from: https://apps.who.int/iris/handle/10665/331510.
3. Sant'Ana G, Imoto AM, Amorim FF, Taminato M, Peccin MS, Santana LA, et al. Infection and death in healthcare workers due to COVID-19: a systematic review. Acta Paul. Enferm. [Internet]. 2020 [cited 2021 Jun 16]; 33(eAPE20200107):1-9. DOI: https://doi.org/10.37689/acta-ape/2020AO0107.
4. Barbosa DJ, Gomes MP, Souza FBA, Gomes AMT. Stress factors in nursing professionals in combating the COVID-19 pandemic: synthesis of evidence. Comun. Ciênc. Saúde [Internet]. 2020 [cited 2021 Apr 19]; 31(Suppl 1):31-47. Available from: http://www.escs.edu.br/revistaccs/index.php/comunicacaoemcienciasdasaude/article/view/651.
5. Souza NVDO, Carvalho EC, Soares SSS, Varella TCMML, Pereira SRM, Andrade KBS. Nursing work in the COVID-19 pandemic and repercussions for workers' mental health. Rev. Gaúch. Enferm. [Internet]. 2021 [cited 2021 Jul 05]; 42(e20200225):1-6. DOI: https://doi.org/10.1590/1983-1447.2021.20200225.
6. Yang Y, Li W, Zhang Q, Zhang L, Cheung T, Xiang YT. Mental health services for older adults in China during the COVID-19 outbreak. Lancet Psychiatry [Internet]. 2020 [cited 2021 Apr 19]; 7(4):e19. DOI: https://doi.org/10.1016/S2215-0366(20)30079-1.
7. Spoorthy MS, Pratapa SK, Mahant S. Mental health problems faced by healthcare workers due to the COVID-19 pandemic-a review. Asian J. Psychiatr. [Internet]. 2020 [cited 2021 Apr 19]; 51:102119. DOI: https://doi.org/10.1016/j.ajp.2020.102119.
8. Cai H, Tu B, Ma J, Chen L, Fu L, Jiang Y, et al. Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan Between January and March 2020 During the Outbreak of Coronavirus Disease 2019 (COVID-19) in Hubei, China. Med. Sci. Monit. [Internet]. 2020 [cited 2021 Apr 18]; 26:e924171. DOI: https://doi.org/10.12659/MSM.924171.
9. Li S, Wang Y, Xue J, Zhao N, Zhu T. The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users. Int. J. Environ. Res. Public Health [Internet]. 2020 [cited 2021 Apr 18]; 17(6):2032. DOI: https://doi.org/10.3390/ijerph17062032.

Research Article
Artigo de Pesquisa
Artículo de Investigación

DOI: http://dx.doi.org/10.12957/reuerj.2021.61245

10. Borges FES, Aragão DFB, Borges FES, Borges FES, Sousa ASJ, Machado ALG. Risk factors for burnout syndrome in health professionals during the covid-19 pandemic. Enferm. Atual. [Internet]. 2021 [cited 2021 Jun 16]; 95(33):e-21006. DOI: https://doi.org/10.31011/reaid-2020-v.94-n.32-art.835.
11. Moreira APF, Patrizzi LJ, Accioly MF, Shimano SGN, Walsh IAP. Quality of life evaluation, sleep and Burnout Syndrome the residents of the multidisciplinary residency program in health. Medicina [Internet]. 2016 [cited 2021 Jul 13]; 49(5):393-402. DOI: https://doi.org/10.11606/issn.2176-7262.v49i5p393-402.
12. Cavalcanti IL, Lima FLT, Souza TA, Silva MJS. Burnout and depression in residents of a Multi-professional Program in Oncology: a longitudinal prospective study. Rev. Bras. Educ. Méd. [Internet]. 2018 [cited 2021 Apr 18]; 42(1):190-8. DOI: https://doi.org/10.1590/1981-52712018v42n1RB20170078.
13. Valério RL, Oliveira EB, Kestenberg CCF, Paula VG, Dias LBS, Oliveira TS. Emotional exhaustion in resident nurses of specialized units in a university hospital. Res. Soc. Dev. [Internet]. 2020 [cited 2021 May 05]; 9(2):e198922240. DOI: http://dx.doi.org/10.33448/rsd-v9i2.2240.
14. Bond MMK, Oliveira MS, Bressan BJ, Bond MMK, Silva ALFA, Merlo ARC. Prevalence of Burnout among Medical Residents of a University Hospital. Rev. Bras. Educ. Méd. [Internet]. 2018 [cited 2021 Apr 18]; 42(3): 97-107. DOI: https://doi.org/10.1590/1981-52712015v42n3RB20170034.r3.
15. Oliveira EB, Carvalho RAC, Teixeira E, Zeitoune RCG, Sabóia VM, Gallasch CH. Factors involved in the training of resident nurses: view of alumni from a residency program. Rev. Min. Enferm. [Internet]. 2017 [cited 2021 May 05]; 21:e-1064. DOI: https://doi.org/10.5935/1415-2762.20170074.
16. Silva DFO, Cobucci RN, Soares-Rachetti VP, Lima SCVC, Andrade FB. Prevalence of anxiety among health professionals in times of COVID-19: a systematic review with meta-analysis. Ciênc. Saúde Colet. [Internet]. 2021 [cited 2021 Jun 26]; 26(02):693-710. DOI: https://doi.org/10.1590/1413-81232021262.38732020.
17. Maslach C, Leiter MP, Jackson SE. Making a significant difference with burnout interventions: researcher and practitioner collaboration. J. Organ. Behav. [Internet]. 2012 [cited 2021 Jun 15]; 33:296-300. DOI: https://doi.org/10.1002/job.784.
18. Benevides-Pereira AMT. Burnout: quando o trabalho ameaça o bem-estar do trabalhador. São Paulo: Casa do Psicólogo, 2014.
19. Lautert L. The profesional fatigue: empirical study with hospital nurses. Rev. Gaúch. Enferm. [Internet]. 1977 [cited 2021 May 05]; 18(2):133-44. Available from: https://seer.ufrgs.br/RevistaGauchadeEnfermagem/article/view/4140.
20. Conselho Federal de Enfermagem. Resolução Cofen nº 657/2020. Estabelece os requisitos mínimos para o registro de enfermeiro especialista, na Modalidade de Residência em Enfermagem. Brasília (DF): Diário Oficial da União. 2014. [cited 2021 Apr 15]. Available from: http://www.cofen.gov.br/resolucao-cofen-no-04592014_26170.html.
21. Ministério da Saúde (Br). Conselho Nacional de Saúde. Resolução nº 466, de 12 de dezembro de 2012. Dispõe sobre diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. Brasília (DF): Diário Oficial da República Federativa do Brasil, 2013. [cited 2021 Oct 18]. Available from: https://bvsms.saude.gov.br/bvs/saudelegis/cns/2013/res0466_12_12_2012.html.
22. Menegatti MS, Rossaneis MA, Schneider P, Silva LGC, Costa RG, Haddad MCFL. Stress and coping strategies used by nursing interns. Rev Min Enferm [Internet]. 2020 [cited 2021 Jun 16]; 24:e1329. DOI: https://doi.org/10.5935/1415-2762.20200066.
23. Freitas MA, Silva Junior OC, Machado DA. Stress level and quality of life of resident nurses. Rev. Enferm. UFPE on line [Internet]. 2016 [cited 2021 Jun 16]; 10(2):623-30. Available from: https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/10998.
24. Falco CB, Fabri JMG, Oliveira EB, Silva AV, Faria MGA, Kestenberg CCF. Mental disorders common among nursing residents: an analysis based on the Self-Reporting Questionnaire. Rev. enferm. UERJ [Internet]. 2019 [cited 2021 Jun 16]; 27:e39165. DOI: https://doi.org/10.12957/reuerj.2019.39165.
25. Helioterio MC, Lopes FQRS, Sousa CC, Souza FO, Pinho PS, Sousa FNF, et al. COVID-19: why the protection of health workers is a priority in the fight against the pandemic? Trab. educ. saúde [Internet]. 2020 [cited 2021 Jun 10]; 18(3):e00289121. DOI: https://doi.org/10.1590/1981-7746-sol00289.
26. Garcia-Cerde R, Valente JY, Sohi I, Falade R, Sanchez ZM, Monteiro MG. Alcohol use during the COVID-19 pandemic in Latin America and the Caribbean. Rev. Panam. Salud Publica [Internet]. 2021 [cited 2021 Jun 25]; 45:e52. DOI: https://doi.org/10.26633/RPSP.2021.52.