COVID-19 pandemic: Sleep and fatigue in mental health professionals

Pandemia de COVID-19: Sono e fadiga em profissionais da saúde mental

Pandemia de COVID-19: sueño y fatiga en profesionales de la salud mental

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Abstract

Objective: To analyze the relationship between fatigue and sleep quality in mental health professionals during the COVID-19 pandemic.

Method: This cross-sectional and correlational study was carried out between October 2021 and July 2022 with professionals from mental health services in Rio Grande do Sul, Brazil. Socio-occupational and health questionnaires, the Pittsburgh Sleep Quality Index and the Fatigue Assessment Scale were used. The analysis was descriptive and analytical, and chi-square, Fischer's exact, Spearman's correlation and logistic binary regression analysis (5% significance level) were used.

Results: A total of 141 professionals took part, with a prevalence of poor sleep quality and high fatigue. Poor sleep quality was associated with sick leave in the last six months (p=0.023), tiredness at the end of the working day (p=0.011), health treatment (p=0.012) and fatigue (p=0.006). High fatigue was associated with feeling tired at the end of the working day (p=0.017). Multivariate models showed that professionals with high fatigue and frequent and/or constant tiredness were twice as likely to have poor sleep quality.

Conclusion: Fatigue and sleep quality are significantly associated, with a greater chance of poor sleep quality among those with high levels of fatigue. Strategies to reduce work overload, improve sleep quality and promote a healthy environment are recommended.

Resumo

Objetivo: Analisar a relação entre fadiga e qualidade do sono em profissionais dos serviços de saúde mental durante a pandemia de COVID-19.

Métodos: Este estudo transversal e correlacional foi desenvolvido entre outubro de 2021 e julho de 2022 com profissionais dos serviços de saúde mental no Rio Grande do Sul, Brasil. Foram usados questionários sociolaboral e de saúde, Índice de Qualidade do Sono de Pittsburgh e Escala de Avaliação da Fadiga. A análise foi descritiva e analítica, e foram usados testes qui-quadrado, exato de Fischer, correlação de Spearman e análise de regressão binária logística (nível de significância de 5%).

Resultados: Participaram 141 profissionais, com prevalência de má qualidade do sono e alta fadiga. A má qualidade do sono mostrou associação ao afastamento do trabalho por doença nos últimos seis meses (p=0,023), cansaço ao final da jornada de trabalho (p=0,011), realização de tratamento de saúde (p=0,012) e fadiga (p=0,006). A fadiga alta foi associada a sentir-se cansado ao final da jornada de trabalho (p=0,017). Modelos multivariados evidenciaram que profissionais com fadiga alta e cansaço frequentemente e/ou sempre apresentaram duas vezes mais chances de ter má qualidade do sono.

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Conclusão: Fadiga e qualidade do sono estão significativamente associadas, com maior chance de má qualidade do sono entre os que apresentam níveis elevados de fadiga. Estratégias para reduzir a sobrecarga laboral, melhorar a qualidade do sono e promover um ambiente saudável são recomendadas.

Resumen

Objetivo: Analizar la relación entre fatiga y calidad del sueño en profesionales de los servicios de salud mental durante la pandemia de COVID-19.

Métodos: Este estudio transversal y correlacional se llevó a cabo entre octubre de 2021 y julio de 2022 con profesionales de los servicios de salud mental del estado de Rio Grande do Sul, Brasil. Se utilizó un cuestionario sociolaboral y otro de salud, el Índice de Calidad del Sueño de Pittsburgh y la Escala de Evaluación de la Fatiga. El análisis fue descriptivo y analítico y se utilizaron las pruebas ji cuadrado, exacto de Fischer, correlación de Spearman y análisis de regresión binaria logística (nivel de significación de 5 %).

Resultados: Participaron 141 profesionales, con una prevalencia de mala calidad del sueño y altos niveles de fatiga. La mala calidad del sueño demostró estar relacionada con la ausencia al trabajo por enfermedad en los últimos seis meses (p=0,023), cansancio al final de la jornada de trabajo (p=0,011), realización de tratamiento de salud (p=0,012) y fatiga (p=0,006). La fatiga elevada se relacionó con sentirse cansado al final de la jornada de trabajo (p=0,017). Modelos multivariados evidenciaron que los profesionales con elevada fatiga y cansancio presentan siempre o frecuentemente el doble de probabilidad de tener mala calidad del sueño.

Conclusión: La fatiga y la calidad del sueño están significativamente relacionadas con una mayor probabilidad de mala calidad del sueño entre las personas que presentan altos niveles de fatiga. Se recomiendan estrategias para reducir la sobrecarga laboral, mejorar la calidad del sueño y promover un ambiente saludable.

Introduction

Mental health has been marked by different models of care throughout its history. Changes in the epistemological and symbolic conceptions of madness and mental illness have led to economic, social and political changes, as well as changes in the organizational aspects of the health system, and have helped transform institutions and forms of care, especially in Brazil.[1]

Organizational changes have helped to focus mental health care on individuals, promoting their autonomy and social reintegration. However, challenges still permeate work in mental health services. Sometimes, professionals face situations that go against the recommendations of the Psychiatric Reform, such as the disaggregation of care with a focus on the medicalization of users. Some factors contribute to this, including the lack of public resources for care in the territory, which leads to disarticulation in the Psychosocial Care Network (RAPS),[2] and the physical and psychological burdens resulting from the need for constant attention and interventions for users with psychomotor agitation, flight risk, self-mutilation and other psychiatric emergencies that can have repercussions on workers' health.[3]

The Covid-19 pandemic has required teams made up of professionals such as psychiatrists, nurses, social workers, occupational therapists, psychologists and nursing technicians to reorganize the activities they offer. In the Psychosocial Care Centers (CAPS), it was necessary to reformulate the unique therapeutic projects, changing the frequency and length of stay of users in the service, reducing the number of group activities and monitoring them by telephone (calls and messaging apps). At the hospital level, the hospitalizations of users involving risks to themselves or third parties were preserved. In this sense, professionals had to look beyond routine care in the units, including control measures regarding the risk of coronavirus infection.[4] This has increased the number of tasks, leaving them more susceptible to changes in sleep and fatigue.

Fatigue can be understood as a feeling of exhaustion or tiredness, with a reduction in alertness that can compromise work activities.[5] Sleep is a physiological mechanism necessary for human survival, which acts multifactorially on the body: when it is of good quality, it helps maintain good wakefulness;[6] when it is impaired, it can cause physical and mental instability and contribute to fatigue.[7]

Some studies have pointed to the repercussions of the Covid-19 pandemic on sleep quality and fatigue in both frontline professionals and those who have worked indirectly in caring for infected patients,[8] showing a relationship between poor sleep quality and high fatigue.[9] Mental health professionals have not worked directly in the care of infected patients, but the repercussions in the work context and the advent of the Covid-19 pandemic suggest an impact on the health of these people.

Every day, mental health professionals are faced with the vulnerability of users and the need for continuous care; in the pandemic period, changes in the scenario of work, living with the fear of contamination and the higher incidence of users with suicidal ideation.[10,11] also causing damage to health. In addition, greater susceptibility to mental destabilization was observed in some patients, as well as weakened affective and family care networks and impaired self-care,[10] requiring mental health professionals to make a greater effort to meet the demands.

The problems presented justify the need to expand studies to identify situations that can compromise the health of mental health professionals. The question was therefore asked: What was the relationship between fatigue and sleep quality in mental health professionals during the pandemic period? Therefore, the aim of the study was to analyze the relationship between fatigue and sleep quality in mental health professionals during the Covid-19 pandemic.

It is believed that identifying levels of fatigue and classifying sleep quality and the factors that contributed to these problems in mental health professionals during the Covid-19 pandemic can contribute to the production of knowledge about the health of these professionals, reflecting on the need for strategies to promote health, subsidize interventions and prevent harm.

Methods

This cross-sectional, analytical study followed the recommendations of the STROBE tool (Strengthening the Reporting of Observational Studies in Epidemiology) and was carried out with professionals from public mental health services in a region in the state of Rio Grande do Sul, Brazil.

The research was carried out from October 2021 to July 2022 in municipalities belonging to the 4th Regional Health Coordination (CRS) of Rio Grande do Sul. This coordination is based in the city of Santa Maria and covers two health regions (Verdes Campos and Entre Rios), totaling 33 municipalities. Nine of them have public Specialized Psychosocial Care services. Data was collected from 18 public mental health services, including Psychosocial Care Centers and Hospitals with Mental Health beds.

Non-probabilistic sampling was used to select the participants. After identifying 200 health professionals, the sample size was estimated considering a 95% confidence level and a 5% sampling error, resulting in a minimum sample size of 132 professionals. We included professionals from the multi-professional team (nurses, social workers, doctors, psychologists, occupational therapists, physiotherapists, physical education professionals, pharmacists, nursing technicians and harm reduction agents) who had worked in the referral service for at least one month. Those who were on vacation (or leave of any kind) during data collection were excluded.

A socio-occupational and health questionnaire was used with categorical variables (sex assigned at birth, child(ren), marital status, professional category in the institution, work shift, institution, other job, training to work there, accident at work, choice of working hours, health treatment, use of medication, absence from work due to illness in the last six months, physical activity, use of free time for leisure activities with family and/or friends, and tiredness at the end of the working day) and quantitative variables (age, weekly working hours and years working in the unit). The types of medication and health treatment were not investigated.

In order to assess sleep quality and possible sleep disorders in a standardized and reliable way over the last month, the Pittsburgh Sleep Quality Index (PSQI-BR) was used in its validated version for Brazilian Portuguese. The validity of this scale has been attested to by experts (including its original author), showing adequate psychometric properties with the group of patients investigated. During the cross-cultural adaptation process, no structural changes were made to the questionnaire. The scores of the translated and original versions showed significant correlations, indicating good linguistic interchangeability between the translated and original questionnaires and attesting that the instrument measures what it sets out to measure.

The instrument has seven components, and the sum of the values generates an overall score that can vary in the range of 0-21 points. Considering that a global PSQI score>5 indicates difficulties in at least two components,[12] those who scored up to 5 points were classified as having good sleep quality; those who scored more than 5 points were classified as having poor sleep quality.

Fatigue was assessed using the Fatigue Assessment Scale, validated and adapted to the Brazilian context with health workers, which showed satisfactory psychometric properties. Validation was based on factor analysis using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity.[13] The scale (Likert type) is considered concise and accessible to apply and its psychometric qualities are adequate. In its analysis, the sum of the total score ranges from 10 to 50 points, with the value score being inverted in items four and ten. In this study, the midpoint (25.72±5.47) was considered the cut-off point; thus, scores < 26 indicated low fatigue and scores ≥ 26 indicated high fatigue.[14]

Before the questionnaire was collected, a pilot study was carried out with postgraduate students from the research group, coordinated by one of the authors, to correct possible inadequacies and improve the way the questionnaire was applied. After making the necessary adjustments to meet the objectives, the pilot study was subjected to a new evaluation and, in the absence of any suggestions, it was considered suitable for the research.

Data was collected online and in person according to the availability of the participants in the morning, afternoon and evening shifts. For face-to-face collection, the invitation was made individually at the workplace. After informing the participants of the purpose of the project, the voluntariness of their participation and other ethical issues related to the research, the Informed Consent Form (ICF) was made available for them to read and sign after agreeing to its terms; one copy was retained by the collector and the other was given to the participant. Subsequently, the questionnaires were handed in and a date was set for their return within five days. After the fifth return request, the questionnaire was considered lost.

Online collection was made available, as some sites and fields of study opted for the non-face-to-face mode due to the restrictions imposed by the Covid-19 pandemic. Once the institutions had accepted, the team coordinator received a link to access the questionnaire on Google Forms to share it with the invited professionals via email. When they accessed the link, they were directed to the ICF. After reading it, each participant was asked to check a dialog box where they could choose whether or not to continue taking part in the research. If so, the participant was directed to another page containing the data collection instruments. Participation ended when the participant clicked on the option to send the questionnaire. The invitation was sent to eligible professionals every 15 days (up to three attempts) to make them aware of participating in the study.

It should be noted that there was no bias in the online and face-to-face data collection, as in both modalities the questionnaires could be completed with flexibility in the time taken to respond. Thus, the participants' individual ability to understand the instruments characterized the process in both forms of collection and the ethical aspects of digital research were respected. Good adherence to the survey indicates that the methods used were appropriate. Although studies carried out in a virtual environment may limit the participation of individuals who are less accustomed to using digital tools, they are a strategy to be considered in contexts that restrict physical proximity.[15]

Data was analyzed using descriptive and inferential statistics with the aid of SPSS statistical software (v. 21.0). Categorical variables were described using absolute (N) and relative (%) frequencies. Quantitative variables with a normal distribution were presented as mean and standard deviation; those that did not meet the normality assumption were presented as median and interquartile range. Data normality was assessed using the Kolmogorov-Smirnov test (n>50).

Contingency tables were created to cross-reference sleep quality (dependent variable) with categorical variables. The chi-square and Fisher's exact statistical tests were used to analyze the association between variables.

In the logistic regression, an adjusted association was made between poor sleep quality (dependent variable) and the other variables using the Enter method. In adjusted model 1, the variables that showed p<0.25 in the bivariate analysis were entered; in adjusted model 2, the variables that showed p<0.15 with statistical significance (p<0.05) were entered. Odds ratios (OR) and their respective confidence intervals (95%CI) were used to measure association. Multicollinearity was checked using the variance inflation factor (VIF), considering VIF<5 (or VIF<10) as acceptable for each variable. The quality of the fit was checked using the Hosmer-Lemeshow test. The reliability of the data collection instruments was assessed by analyzing internal consistency using Cronbach's alpha coefficient (PSQI-BR=0.71; EAF=0.71).

The Spearman Correlation test was used to measure the strength of association between the continuous variables, in accordance with the normality of the data. In all analyses, the significance level was 5% (p<0.05).

The development of this study complied with Brazilian standards of ethics in research involving human beings. This study was approved by the Research Ethics Committee of the Federal University of Santa Maria (Opinion 4.814.205) Certificate of Submission for Ethical Appraisal 47485721.5.0000.5346.

Results

The final sample consisted of 141 health professionals working in public mental health services. This number was higher than the initial sample size, corresponding to 70.5% of the population, aged between 19 and 66 years (average 38 years; SD±10.7). There was a predominance of female professionals, 72.3% (n=102), and professionals with partners, 66.7% (n=94). With regard to work data, more than half of the professionals worked in CAPS (n=74; 52.5%) and often and/or always felt tired at the end of the working day (n=78; 55.3%). With regard to health, there was a predominance of professionals who underwent health treatment (n=75; 53.2%), used medication (n=78; 55.3%), practiced physical activity (n=82; 58.2%) and did leisure activities once a week or more (n=128; 90.8%). Among the professionals, there was a prevalence of poor sleep quality (n=90; 63.8%) and high fatigue (n=74; 52.5%). There was a significant association between poor sleep quality and high fatigue (p=0.006). When socio-occupational and health variables were associated with sleep quality and fatigue, a statistically significant difference was found between poor sleep quality and the variables sick leave in the last six months (p=0.023), tiredness at the end of the working day (p=0.011) and health treatment (p=0.012). High fatigue was associated with feeling tired at the end of the working day (p=0.017). (Table 1).

In the correlation analysis between the study variables, the following correlations were identified: direct and moderate between age and working time (r=0.580; p<0.01); weak and inverse between age and fatigue (r=-0.192; p<0.05); and weak and direct between sleep quality and fatigue (r=0.273; p<0.01). Table 2 shows a significant association between poor sleep quality and high fatigue (p=0.006).

Table 3 shows the crude and adjusted associations between fatigue, tiredness at the end of the working day, leisure time and sleep quality. Multivariate models showed that mental health professionals with high fatigue and tiredness frequently and/or always were more likely to have poor sleep quality (OR=2.33; CI=1.13-4.82; OR=2.15; CI=1.04-4.42, respectively).

Discussion

The results showed that mental health professionals working during the Covid-19 pandemic, who rated high fatigue and tiredness frequently and/or always at the end of the working day, had higher chances of poor sleep quality. In Thailand, a study of nurses found that those in the "short sleep duration" group experienced more excessive fatigue and daytime sleepiness when compared to those in the "adequate sleep duration" group".[16] In Brazil, a study carried out in Intensive Care Units during the Covid-19

Table 1. Association of work and health variables with sleep quality and fatigue in mental health professionals (n=141)

Work and health variables	Pittsburg Sleep Quality Index		p-value*	Fatigue Assessment Scale		p-value*
	‡ Good SQ n(%)	‡ Poor SQ n(%)		Low fatigue n(%)	High fatigue n(%)	
Shifts						
Daytime	44(86.3)	78(86.7)	0.948	66(83.6)	66(89.2)	0.330
Night	7(13.7)	12(13.3)		11(16.4)	8(10.8)	
Places of employment						
†CAPS	24(47.1)	50(55.6)	0.332	32(47.8)	42(56.8)	0.285
Hospital	27(52.9)	40(44.4)		35(52.2)	32(43.2)	
Other employment						
Yes	16(31.4)	28(31.1)	0.974	21(31.3)	23(31.1)	0.973
No	35(68.6)	62(68.9)		46(68.7)	51(68.9)	
Training						
Yes	23(45.1)	40(44.4)	0.940	31(46.3)	32(43.2)	0.718
No	28(54.9)	50(55.6)		26(53.7)	42(56.8)	
Accident at work						
Yes	10(19.6)	27(30.0)	0.178	20(29.9)	17(23.0)	0.354
No	41(80.4)	63(70.0)		47(70.1)	57(77.0)	
Choosing working hours						
Yes	20(39.2)	40(44.4)	0.546	30(44.8)	30(40.5)	0.611
No	31(60.8)	50(55.6)		47(55.2)	54(59.5)	
Absence from work due to illness in the last 6 months						
Yes	8(15.7)	30(33.3)	0.023	17(25.4)	21(28.4)	0.688
No	43(84.3)	60(66.7)		50(74.6)	53(71.6)	
Tiredness at the end of the working day						
Often/Always	21(41.2)	57(63.3)	0.011	30(44.8)	48(64.9)	0.017*
Never/Sometimes	30(58.8)	33(36.7)		37(55.2)	26(35.1)	
Health treatment						
Yes	20(39.2)	55(61.1)	0.012*	35(52.2)	40(54.1)	0.829
No	31(60.8)	35(38.9)		32(47.8)	34(45.9)	
Use of medication						
Yes	23(45.1)	55(61.1)	0.066	36(53.7)	42(56.8)	0.718
No	28(54.9)	35(38.9)		31(46.3)	32(43.2)	
Physical activity practice						
Yes	27(52.9)	55(61.1)	0.345	38(56.7)	44(59.5)	0.742
No	24(47.1)	35(38.9)		29(43.3)	30(40.5)	
Leisure time						
One or more times	49(96.1)	79(87.8)	0.087**	63(94.0)	65(87.8)	0.204
None	2(3.9)	11(12.2)		4(6.0)	9(12.2)	

‡SQ - sleep quality; †CAPS - Psychosocial Care Center; *Square test *p<0.05; **Fisher's Exact Test

Table 2. Association between sleep quality and fatigue among mental health professionals (n=141)

Variables	Pittsburg Sleep Quality Index		p-value*
	‡Good SQ n(%)	‡Poor SQ n(%)	
Fatigue			
Low	32(67.2)	35(38.9)	0.006
High	19(37.7)	55(61.1)	

‡SQ- sleep quality; *Chi-square test (p<0,05)

pandemic revealed that nursing professionals with high fatigue were four times more likely to have poor sleep quality (OR=4.86; CI=1.50-15.75).[9]

There has been a prevalence of poor sleep quality and high fatigue in mental health professionals during the Covid-19 pandemic. Other studies with

Table 3. Crude and adjusted associations between fatigue, tiredness at the end of the working day, leisure time and sleep quality (n=141)

	Sleep quality		
	Crude association OR (CI)	†RBAjus 1*	‡RBAjust 2**
Fatigue			
High	0.38(0.19-0.76)	2.23(1.07-4.64)	2.33(1.13-4.82)
Low	1	1	1
Tired			
Often/Always	2.47(1.22-7.99)	2.15(1.03-4.45)	2.15(1.04-4.42)
Never/Sometimes	1	1	
Leisure			
Yes	1	2.99(0.61-14.66)	-
No	3.41(0.72-16.05)		

†RBAjus 1 (p<0.25): Adjusted binary logistic regression1: fatigue+tired+leisure. *Hosmer and Lemeshow test = 0.935 ‡RBAjust 2 (p<0.15): Adjusted binary logistic regression2: fatigue+tired **Hosmer and Lemeshow test = 0.845

similar populations have shown poor sleep quality during the pandemic[17,18] and prevalence of high fatigue.[19]

In this study, 31.1% of professionals who had another job had poor sleep quality and high fatigue. Although no significant association was identified, this finding is worth highlighting because having more than one job has a greater chance of having sleep disorders.[20]

The majority of day shift workers had poor sleep quality and high fatigue. This may be the result of the number of activities carried out on this shift, especially those carried out in the hospital environment related to the admission and discharge of patients, which during the Covid-19 pandemic occurred at a faster pace. In addition, the professionals' attention had to be redoubled due to the suspension of visits and group activities, which may have favored the psychomotor agitation of some patients and had repercussions on excessive work. In the CAPS, this may be a reflection of the adaptations made to daytime face-to-face activities, which now take place in other formats, e.g. monitoring patients undergoing treatment by telephone to maintain the bond while maintaining social distancing.

A study of Brazilian nursing professionals showed statistical significance in the relationship between work shift and sleep duration, i.e. the day shift had higher average points, suggesting that professionals had fewer hours of rest[21] with repercussions in higher levels of fatigue.

Changes in sleep patterns affect the work performance of professionals, favoring daytime sleepiness, reducing alertness, impairing reasoning, generating cognitive overload and increasing the chances of errors in the provision of care.[21] Likewise, fatigue is a major problem in today's society, mainly due to high demands in the workplace, long working hours, circadian rhythm disruption, reduced sleep time and social demands.[22]

It should be noted that mental health professionals have to deal with a heavy workload, stress, emotional tension and physical and mental exhaustion, which can lead to their becoming ill.[23] In these services, there are various care needs for users, who generally have serious and persistent problems, requiring professionals to be more involved in their work. In addition, the scarcity of financial resources and the lack of human resources in these services contribute to overloading the professionals,[24] which can increase tiredness and thus impair sleep.

In this study, there was a predominance of female professionals, a common characteristic of health professionals who have represented the largest workforce in the Covid-19 pandemic.[25] During this period, work tasks and activities related to family care (usually associated with women) may have overloaded these professionals. In this sense, a study carried out during the Covid-19 pandemic with nursing professionals in Brazil found that being female increased the chances of sleep disorders.[20]

In this study, poor sleep quality was associated with absence from work due to illness in the last six months and having undergone health treatment, suggesting that sleep interferes with the health of professionals in mental health services. Some studies point to physical and psychological problems associated with sleep problems, such as anxiety, depression,[26] feeling of low self-esteem, irritability, mood lability, appetite disorders, feeling of poor digestion, flatulence, weight gain,[27] diabetes *mellitus*,[28] and cardiovascular diseases.[29]

Feeling tired at the end of the working day was also associated with poor sleep quality and high fatigue. Repetitive tasks, unsafe working conditions, inadequate physical environment and noise also affect workers' health.[23] The Covid-19 pandemic has seen high workloads, higher rates of anxiety, stress, burnout and patients at risk of suicide,[30] which may have had repercussions on these professionals, manifesting as fatigue.

In this sense, Norwegian research has shown that experiencing a high workload continuously results in almost twice the chance of developing sleep problems.[31] Fatigue, seen as a feeling of exhaustion and a decrease in the ability to perform physical and mental work,[16] can result from the characteristics of the work environment, although it is multi-causal in nature.[32]

Analyses of the correlation between fatigue and age have shown that the older the worker, the lower the fatigue. A Brazilian study identified an associa-

tion between higher levels of fatigue and younger nursing professionals.[5] Similarly, a Korean study found more severe fatigue in younger nurses.[33] This may be a reflection of self-belief about work performance and carrying out tasks beyond their duties in an attempt to meet expectations.[5] In addition, a constant search for updating and qualification is currently necessary to remain in the job market, which suggests greater fatigue.[25]

Age was also strongly correlated with working time, indicating that the older you are, the longer you work. Longer working hours indicate greater exposure of professionals to the mental health work context, although this is not always adequate for their physical and psychological health. On the other hand, older age and longer working hours during the pandemic have favored professionals' ability to adapt to changes in the work environment and to lead in critical and stressful conditions.[34]

Thus, health promotion actions such as sleep promotion practices, adopting a regular bedtime routine, reducing light and noise and encouraging physical and leisure activities are necessary, especially to improve sleep quality and minimize fatigue. It is known that leisure time contributes considerably to individual recovery after work activities. However, technological resources make it increasingly difficult to reduce work activities, reducing or abolishing leisure time and jeopardizing people's rest and recovery.[31]

An American study showed that individuals with less involvement in leisure activities during the Covid-19 pandemic had lower mental well-being, with significantly higher depressive symptoms when compared to those who remained involved in leisure during this period.[35] It can be considered that the care provided in mental health services requires the continuous involvement of professionals, and can be jeopardized when it is developed by sick individuals.

The study's limitations refer to: (1) cross-sectional design, which limits the possibility of concluding on the causal relationships between sleep quality and fatigue; (2) temporality of data collection, as the professionals who answered the questionnaires at the end of the collection period had experienced another pandemic scenario, with fewer restrictions in mental health services; and (3) difficulty in carrying out full data collection in person due to the restrictions imposed by the Covid-19 pandemic, although the online survey contributed to the results.

Discussing workers' health is essential, especially in mental health services where this population is susceptible to health problems. It is therefore suggested that further studies be carried out using different methodological approaches to expand the evidence on the subject. Actions to promote the health of these professionals should be planned, especially the development of a healthy working environment and encouraging good sleeping habits.

Conclusion

Fatigue in mental health professionals during the Covid-19 pandemic has been linked to sleep quality. High fatigue and poor sleep quality were associated with tiredness. High fatigue and tiredness increased the chances of poor sleep quality. The data revealed a risk to workers' health which could compromise the quality of care they provide. Strategies should be developed to reduce work overload and increase coping capacity. The role of health service managers in reorganizing the environment and work processes in order to promote a healthy environment for mental health professionals is reiterated.

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Collaborations

Lenz FCD, Silva RM, Siqueira DF, Pretto CR, Freitas EO, Greco PBT, Xavier MS and Beck CLC contributed to the design of the study, analysis and interpretation of the data, writing of the article, rel-

evant critical review of the intellectual content and approval of the final version to be published.

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