

Prevalence of minor psychic disorders in intensivist physiotherapists from a large city in the state of Bahia

Prevalência de distúrbios psíquicos menores em fisioterapeutas intensivistas de uma grande cidade do estado da Bahia

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ABSTRACT | INTRODUCTION: Studies on Minor Psychological Disorders (MPD) in intensive care physiotherapists are rare, and many of these professionals are still unaware of the relationship between work and mental health. **OBJECTIVE:** To estimate the prevalence of Minor Psychiatric Disorders (MPD) in intensive care physiotherapists in a large city in the state of Bahia. **METHODS:** Population, a descriptive study covering 60 intensive care physiotherapists who worked in the city in 2016. The inclusion criterion was working in the ICU for at least six months, to avoid the bias of a healthy worker. The exclusion criteria were: acting in administrative activity, being on vacation, on sick leave, or maternity leave. A self-administered questionnaire assessed sociodemographic data, job characteristics, and DPM through the Self Report Questionnaire (SRQ-20). **RESULTS:** Of the workers studied, 51.7% worked in an adult ICU, 20.0% in a pediatric ICU, and 28.3% in a neonatal ICU, 38.4% of the professionals studied worked in two or more units. The female gender predominated, with 80.0% of the workers studied, the average age was 32.2 ± 4.9 years, 45.0% had a partner, 58.3% had no children. The prevalence of MPD was 41.7%. **CONCLUSION:** There was a high prevalence of MPD among the intensive care physiotherapists studied. The results point to the need for further studies to investigate the relationship between work and mental health in intensive care physiotherapists.

KEYWORDS: Mental Suffering. Prevalence. Physiotherapists. Intensive Care Unit.

RESUMO | INTRODUÇÃO: Os estudos sobre Distúrbios Psíquicos Menores (DPM) em fisioterapeutas intensivistas são raros, e muitos desses profissionais ainda desconhecem a relação entre o trabalho e saúde mental. **OBJETIVO:** Estimar a prevalência de Distúrbios Psíquicos Menores (DPM) em Fisioterapeutas intensivistas de uma grande cidade do Estado da Bahia. **MÉTODOS:** Estudo populacional, descritivo abrangendo 60 fisioterapeutas intensivistas que atuavam na cidade em 2016. O critério de inclusão foi trabalhar em UTI há pelo menos seis meses, para evitar o viés de trabalhador saudável. Os critérios de exclusão foram: atuar em atividade administrativa, estar em gozo de férias, em licença médica ou licença maternidade. Um questionário autoaplicável avaliou dados sociodemográficos, características do trabalho e DPM por meio do *Self Report Questionnaire* (SRQ-20). **RESULTADOS:** Dos trabalhadores estudados, 51,7% trabalhavam em UTI adulto, 20,0% em UTI pediátrica e 28,3% em UTI neonatal, 38,4% dos profissionais estudados trabalhavam em duas ou mais unidades. O sexo feminino predominou, com 80,0% dos trabalhadores estudados, a média de idade foi de $32,2 \pm 4,9$ anos, 45,0% tinham companheiro, 58,3% não tinham filhos. A prevalência de DPM foi de 41,7%. **CONCLUSÃO:** Observou-se elevada prevalência de DPM entre os fisioterapeutas intensivistas estudados. Os resultados apontam a necessidade de novos estudos que investiguem a relação entre trabalho e saúde mental em fisioterapeutas intensivistas.

PALAVRAS-CHAVE: Sofrimento Mental. Prevalência. Fisioterapeutas. Unidade de Terapia Intensiva.

Introduction

In Brazil, investigations of the relationships between work and health among health workers have occurred at a slower rate than with other professional categories. Studies suggest an increase in the frequency of illness, occupational stress and mental suffering among these workers, specifically among intensive care unit (ICU) physiotherapists^{1,2}. Further, these suggest important contributions, arising from workplace environment characteristics, the general conditions of provision and the management of health services, for the psychological suffering of people working in these services^{3,8}.

ICU physiotherapists experience significant tensions because of long working days and the psychological and emotional stress of tasks undertaken within the ICU environment. 1,2 Researchers in Brazil have conducted epidemiological studies with health workers and observed an association between the conditions and characteristics of health work and Minor Psychiatric Disorders (MPDs)^{3,4,6-11}.

Minor Psychiatric Disorders are clinical conditions characterized by alterations to thoughts and emotions, or behavior related to distress and/or functional deterioration, with deleterious effects, which affect not only the individual but also their family and community⁵. Symptoms of MPDs include forgetfulness, difficulty in concentrating and making decisions, insomnia, irritability and fatigue, as well as somatic complaints (headache, lack of appetite, tremors, poor digestion and others), which may compromise work performance¹².

Intensive Care Units (ICU) are historically understood to cause significant stress in patients and their families. It has recently been noted that this environment is also stressful for professional teams. This ICU work-related stress principally occurs because of its closed environment, with strenuous work in terms of conditions and rhythms, demanding routines, ethical issues related to frequent and difficult decisions, living with suffering and death, unpredictability and excessive workload^{2,7,13-15}.

Professional physiotherapists were incorporated into multidisciplinary ICU teams through Ministry of Health Decree 3432/98, which also determined the number of beds per professional, which should not surpass 01 (one) physiotherapist for every 10 (ten) beds, as part of the basic health team, alongside doctors and nurses¹⁶.

The literature records that MPDs constitute an important factor associated with illness in health workers^{3-8,10,11}, although few studies address ICU physiotherapists and many professionals are unaware of this disorder as a factor for work-related illness.

Given the above, this study aims to estimate the prevalence of Minor Psychiatric Disorders by applying the Self Report Questionnaire (SRQ-20) to ICU physiotherapists in a large city in the state of Bahia.

Methodology

This is a descriptive population study, including all the ICU physiotherapists working in the city in 2016. The study is a part of the wider project "Mental Health of ICU Workers in a Large City in Bahia" developed and conducted by researchers from the Epidemiological and Statistics Situation and Analysis Room (Sala de Situação e Análise Epidemiológica e Estatística: SSAEE). The Research Ethics Committee of the State University of Feira de Santana (Universidade Estadual de Feira de Santana: UEFS) approved the study, certificate number 49119315.4.0000.005, in fulfillment of the determinations laid down in Resolution 466/2012¹².

In the year of the study, the population of ICU therapists totaled 60 workers. These physiotherapists worked in seven (07) of the eight (08) hospitals that had Intensive Care Units and were included in the study following authorization by their hospital management. We note that in one hospital, the management did not authorize the research, however, the ICU physiotherapists who worked in that unit did participate in the study, since they also worked in other city hospitals. The units included in the study were: one (01) general emergency referral hospital for Bahia's Central-East macro-region, one

(01) state referral hospital for pediatric care, one (01) municipal hospital and four (04) private hospitals, of which one (01) was a maternity hospital, one (01) a cardiology referral hospital and two (02) were emergency hospitals (adult/pediatric).

All the physiotherapists (n=60) who worked in intensive care and were registered with the Human Resources sector of the seven hospitals were considered eligible. The inclusion criterion was to have worked for at least six months in ICU, in order to avoid the healthy worker effect. The exclusion criteria were: worked in administration and was on annual, medical, or maternity leave.

Data collection was conducted between July and September 2016, through the distribution of a self-administered questionnaire and an Informed Consent Agreement (ICA). The questionnaires were accompanied by a letter of presentation including the study justification and were sent to ICU workers; the professionals who returned the questionnaires were verified against their respective identification numbers (each questionnaire number corresponded to a professional participant in the research).

We applied an anonymous self-administered questionnaire composed of nine blocks of questions: general identification; general work information; work psychosocial characteristics; occupational burnout syndrome; quality of life; work capacity; health-related aspects (SRQ-20)⁵; lifestyle habits and sleeping patterns; and ICU stress factors.

The questionnaire and the ICA were delivered in an envelope to each worker in the unit by the researchers, and they arranged the place and time for their return. The researchers clarified the study aims and general instructions for completing the questionnaire. Professionals who did not return the questionnaire on the arranged date were contacted by telephone to minimize losses and/or refusals. The questionnaires were returned in sealed envelopes to ensure privacy and confidentiality.

The SRQ was developed by Harding et al.¹⁷ coordinated by the World Health Organization (WHO) and validated for use in Brazil by Mari and Willians¹⁸ to assess psychiatric morbidity in primary healthcare (non-hospital) facilities. The Brazilian version of the SRQ contains 20 questions, 04 about physical and 16 about psychomotor symptoms, with dichotomous yes/no answers, attributed a value of 1 and 0, respectively. The SRQ 20 validation adopted a score of 07 or more positive answers (≥ 7) for suspected psychiatric morbidity (MPDs), with 83% sensitivity and 80% specificity^{17,18}.

The degree of suspected psychiatric disorder was based on each physiotherapist's SRQ-20 score. The cut-off point was equal to or greater than seven positive responses, as adopted in another research into worker health^{3,4,9}.

Double data entry was performed using the EpiData version 3.1, to minimize possible errors. For statistical analysis, we used the Statistical Package for Social Science (SPSS®) software. The descriptive data analysis was performed by calculating the absolute and relative frequencies of the qualitative variables and the average and standard deviation of the quantitative ones. The results were presented in tables.

Results

Sixty physiotherapists participated in the study, of whom 80% (48) were female. The average age was 32.2 ± 4.9 years. In terms of skin color, 53.3% (32) described themselves as 'brown', 30.0% (18) as 'white', 8.3% (05) as 'black', 6.7% (04) of 'Asian origin', and 1.7% (01) did not respond. In relation to marital status, 55% (33) were single, 36.7% (22) married, 5.0% (03) in a civil partnership, 3.3% (02) were divorced, while 58.3% of the physiotherapists did not have children.

In terms of their academic background, 76.7% (46) were specialists, 15.0% (09) did not have any specialization, 6.7% (04) had master's degrees and 1.7% (01) had completed a residency. In relation to their income, 63.3% (38) stated that their monthly income was between BRL 3,001.00 – 6,000.00, 18.3% (11) had a monthly income below BRL 3,000.00, 11.7% (07) had an income between BRL 6,000.00 – 10,000.00, while the income of 6.7% (04) was between BRL 10,001 – 20,000.00. In terms of where they worked, 51.7% (31) worked in adult ICU, 20.0% (12) in pediatric ICU while 28.3% (17) worked in neonatal ICU (see Table 1).

When we looked at work-related aspects, most of the physiotherapists – 63.3% (38) - had worked in ICU for less than five years, while 36.7% (22) had worked for more than six; 56.7% (22) worked in 24-hour ICU duty shifts and 40% (24) on 12-hour shifts. In relation to weekly workload, 65% (39) worked from 24 to 30 hours, 30% (18) worked between 36 and 78 hours and 5% (3) worked 12 hours per week. About their total weekly workloads, including duty shifts and other income-generating work activities, 50.8% (30) of the professionals worked less than 56 hours a week, while 45.8% (27) worked more than 56 hours, with an average of 57.26 total weekly working hours and a median of 55 hours.

Regarding activities outside the ICU, most – 63.3% (38) - of the physiotherapists worked in another specialism, 13.3% (08) were teachers, 18.3% (11) did not work in any other activity, while 5% (03) reported that they worked in an activity outside health. In relation to ICU night shifts, 90% (54) worked between 12 and 24 hours a week and 10% (06) worked between

36 and 96 hours, with an average of 19.3 hours and a median of 12 hours weekly night shifts. Concerning the number of hospitals, we found that 61.7% (37) worked in one hospital, 30% (18) in two, 6.7% (04) in three and 1.7% (01) in up to four hospitals.

We noted a difference in relation to the number of patients per shift, most professionals – 75% - attended 10 patients per shift, 16.7% (10) attended eight, 3.3% (02) 14 patients, 3.3% (02) five patients and 1.7% (01) attended up to 15 patients per shift. The most common employment contract was private-sector salaried, representing 26.7% (16), 23.3% (14) were public sector salaried, 21.7% (13) worked for cooperatives, 13.3% (08) were service providers, 8.3% (05) were on temporary contracts, while 3.3% (02) were self-employed and another 3.3% (02) were associates; 36.7% of the physiotherapists came in from another job before their ICU shift (see Table 2).

In relation to lifestyle habits, 58.3% (35) did not drink alcohol, while 41.7% (25) did. In relation to smoking, 88.3% (53) had never smoked, 6.7% (04) were former smokers, and 1.7% (01) smoked up to four cigarettes a day. Physical activities figured in the lifestyle habits of 56.7% (34), while 43.3% (26) did not practice any physical activity. However, of those who practiced physical activities, 73.5% (25) did so twice a week, 20.6% (07) three times a week, and 5.9% (02) once a week. In terms of weight, 45% (27) stated that they were a little above their ideal weight, 35% (21) agreed that they were at their ideal weight, 11.7% (07) thought they were very overweight, and 8.3% (05) said they were below their ideal weight (see Table 3).

As measured by the SRQ-20, the prevalence of Minor Psychiatric Disorders in these ICU physiotherapists was 41.7% (25) (see Table 4).

Table 1. Socio-demographic characteristics of the population of ICU physiotherapists, Bahia 2016

Socio-demographic characteristics of ICU physiotherapists	N*	%
Sex (N=60)		
Female	48	80.0
Male	12	20.0
Age (N=60)		
≤ 33 years	36	60.0
34 years or above	24	40.0
Skin colour (N= 60)		
White	18	30.0
Asian origin	4	6.7
Brown	32	53.3
Black	5	8.3
Unknown	1	1.7
Marital status (N=60)		
Single	33	55.0
Married	22	36.7
Civil partnership	3	5.0
Divorced	2	3.3
Children (N=60)		
No	35	58.3
Yes	25	41.7
Academic training (N=60)		
Specialist	46	76.7
No specialization	9	15.0
Master's	4	6.7
Residence	1	1.7
Type of ICU (N=60)		
Adult	31	51.7
Neonatal	17	28.3
Pediatric	12	20.0
Monthly Income (N=60)		
≤ 3,000.00	11	18.3
3,000.00 – 6,000.00	38	63.3
6,000.00 – 10,000.00	7	11.7
10,000.00 – 20,000.00	4	6.7

Table 2. Work characteristics of the population of ICU physiotherapists, Bahia, 2016

Work characteristics of the ICU physiotherapists	N*	%
Time Worked in ICU (years) (N= 60)		
≤ 5 years	38	63.3
≥ 6 years	22	36.7
ICU WL** (N= 60)		
24 hours	34	56.7
12 hours	24	40.0
Others	2	3.3
Weekly WL** ICU Duty (N=60)		
12 hours	3	5.0
24 – 30 hours	39	65.0
36 – 78 hours	18	30.0
Weekly WL** ICU Night shifts (N= 60)		
12 – 24 hours	54	90.0
36 – 96 hours	6	10.0
Total Weekly WL** (n=57)*		
≤ 56 hours	30	50.8
Over 56 hours	27	45.8
Employment Contract (N=60)		
Private salaried	16	26.7
Public salaried	14	23.3
Member of Cooperative	13	21.7
Service provider	8	13.3
Temporary contract	5	8.3
Self-employed	2	3.3
Associate	2	3.3
Work activity outside ICU (N= 60)		
Physiotherapy in other specialism	38	63.3
None	11	18.3
Teaching	8	13.3
Not related to health	3	5.0
Work in ICU (N= 60)		
1 hospital	37	61.7
2 hospitals	18	30.0
3 hospitals	4	6.7
4 hospitals	1	1.7
Patients per shift (N= 60)		
05 patients	2	3.3
08 patients	10	16.7
10 patients	45	75.0
14 patients	2	3.3
15 patients	1	1.7
Comes in from another job (n=60)		
Yes	22	36.7
No	38	63.3

* Valid responses, excluding blanks; **WL = Workload.

Table 3. Lifestyle habits of the population of ICU physiotherapists, Bahia, 2016

Lifestyle habits of ICU physiotherapists	N*	%
Alcohol consumption (N=60)		
Drinks alcohol	25	41.7
Doesn't drink alcohol	35	58.3
Smokes (N= 60)		
Has never smoked	53	88.3
Former smoker	4	6.7
Smokes up to 4 cigarettes/day	1	1.7
Other	2	3.3
Practices physical activity (N=60)		
Yes	34	56.7
No	26	43.3
Weekly frequency (N=34)		
1 x week	2	5.9
2 x week	25	73.5
3 x week	7	20.6
Body weight (N=60)		
Ideal weight	21	35.0
Below ideal weight	5	8.3
A little overweight	27	45.0
Very overweight	7	11.7

* Valid responses, excluding blanks

Table 4. Prevalence of Minor Psychiatric Disorders (MPDs) measured by the SRQ-20 in the population of ICU physiotherapists, Bahia, 2016

Mental Suffering (identified by SRQ 20)	N	%
Positive	25	41.7
Negative	35	58.3
Total	60	100.0

Discussion

Most ICU physiotherapists we studied were young, female adults (aged < 34 years), single, had no children, had been working in ICU for up to six years, had a monthly income between BRL 3,001.00 and 6,000.00, a weekly workload of between 24 and 30 hours, habitually worked duty shifts of up to 24 hours, and night shifts of between 12 and 24 hours. Most of them worked in only one hospital, attended at least 10 patients per shift, were salaried workers (private/public), did not drink alcohol, did not smoke, and practiced physical activities twice a week.

This physiotherapist profile was similar to that found in other studies of ICU workers - predominantly female, single^{1,2}, with or from other professional categories, with an average age under 40^{4,7,8,11,19} and had worked in the ICU for less than five years^{1,7}.

The prevalence of MPD found in this study was 41.7%, a similar result with the study by Pinhatti et al.⁶, which showed a global prevalence of MPD among nursing workers of 32.6%, with that of Marcelino Filho and Araújo¹¹, who studied health professionals at an Assistance Center specialized in Aracaju and who estimated a prevalence of 57.1% among physiotherapists and that of Carvalho et al.²⁰, which obtained a prevalence of 51.1% in residents of the city of Recife.)

We observed a greater prevalence than those found in the work of Pinhatti et al.⁶ which presented a global MPD prevalence of 32.6% in nursing staff; that of Nascimento et al.⁷ which obtained 24.6% prevalence for ICU nurses in Feira de Santana in Bahia; that of Rodrigues et al.⁴, which estimated a prevalence of 35.0% in nurses in a general hospital, also in Feira de Santana, Bahia; that of Alves et al.¹⁰, which obtained 27.9% positive results for MPDs in health professionals in the Hospital de Clínicas at the Federal University of Triângulo Mineiro; that of Nascimento Sobrinho et al.³ of 26.0% in a random sample of doctors in Salvador; that of Araújo et al.⁹, which obtained 33.3% in nursing professionals in a public hospital in Salvador, Bahia; and, finally, that of Carvalho, Araújo e Bernardes⁵ which found a prevalence of 22.9% in Primary Healthcare workers.

In relation to the greater numbers of women, for decades we have known that working in health is historically female, something that might be related to the very essence of the health professions, that is, the act of caring, which is seen as an activity requiring dedication and involving multiple functions, factors historically connected with the female sex²¹⁻²³.

The results suggest that Minor Psychiatric Disorders may be related to the job itself, which could therefore be considered a public health problem, because of its high prevalence in health workers and its consequences, such as absenteeism, work incapacity and early retirement.

Working night shifts was cited in Monteiro's²⁴ study as a cause of stress and health complications, since disruptions to circadian rhythms may lead to problems with the quantity and quality of sleep, confirming findings from the Nascimento et al.⁷ study, which found a greater prevalence of MPDs among ICU nurses who worked at night.

These disorders are commonly not yet recognized in clinical care and in sectors that present elevated psychosocial demands, such as ICUs, because of the job's stressful characteristics, making these workers more vulnerable to mental suffering and illness⁵.

Concerning alcohol consumption, we noted that 41.7% of these ICU physiotherapists drank alcohol. In a study of nursing staff in a General Hospital in Bahia, which used the CAGE screening instrument for alcohol abuse, 27.7% of those who reported alcohol consumption were considered problem drinkers⁴ while in the Nascimento et al.⁷ study of ICU nurses, a positive association was found between alcohol consumption and MPDs, which could compromise the professional's health and performance, putting patient safety at risk.

About lifestyle habits, most of the physiotherapists (56.7%) said they practiced physical activities, and 73.5% of them reported that they did so twice a week. The literature describes the numerous benefits of physical activities for day-to-day and professional life, such as cognitive improvements, combatting stress, anxiety depression, improved interpersonal relationships, and improved work performance²⁵.

We note that the study's methodological characteristics should be taken into consideration - descriptive studies do not allow for the causal nexus to be established; they merely describe the magnitude of a specific health problem: in this case, the prevalence of Minor Psychiatric Disorders and the frequency and incidence of certain characteristics, such as sex, age, work characteristics and lifestyle habits.

Since this is a population study, the results observed only refer to ICU physiotherapists and cannot be extrapolated to other situations; while the use of a self-administered questionnaire, because of its subjective nature, may influence the results, depending on the degree of comprehension and the fact that incomplete questionnaires may be returned. Finally, there is a shortage of studies that address MPDs in physiotherapists working in intensive care in the literature, thus hindering comparison and discussion of the results observed.

Conclusion

The results demonstrated a high prevalence of MPDs among the physiotherapists in the study, indicating the benefit of adopting measures to prevent and/or modify them. Finally, the results suggest the need for further studies that examine the relationship between ICU physiotherapists' work and mental health.

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Author contributions

Lisboa LPC, Santos CLC, Barbosa GB, Martins Júnior DF, Nascimento, MA, and Nascimento Sobrinho CL participated in the conception and design, the search for and statistical analysis of research data, the interpretation of results, and the drafting of this scientific article.

Conflicts of interest

We declare that there are no financial, legal, or political conflicts involving third parties (government, companies or private foundations, etc.) related to any aspect of the submitted work (including, but not limited to, grants or funding, participation in consultative councils, study design, manuscript preparation, statistical analysis, etc.).

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