

Mental changes in intensive therapy unit workers

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Objective: to investigate the scientific evidences about mental changes in Intensive Care Units (ICU) workers. **Method:** integrative review who research took place in the EMBASE, MEDLINE and SCOPUS data bases and in the virtual libraries / collections BVS and SCIENCE DIRECT. Of 141 identified primary articles, 33 (23.4%) met the inclusion criteria and were published in 29 journals from various are knowledge. **Results:** the mental changes identified were: stress, suffering and tensional work, depression, asthenia, fatigue, mental overload and Burnout. At work, there are also conflicts, violence and abuse, and ICU workers are predisposed to use psychotropic drugs. **Conclusion:** the them is relevant and the list of mental changes of the ICU workers can lead them to absenteeism.

Descriptors: Occupational Health; Mental Health; Health Personnel; Intensive Care Units.

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Alterações mentais em trabalhadores de unidades de terapia intensiva

Objetivo: investigar as evidências científicas sobre alterações mentais em trabalhadores de Unidades de Terapia Intensiva (UTI). Método: revisão integrativa cuja busca aconteceu nas bases de dados EMBASE, MEDLINE e SCOPUS e nas bibliotecas virtuais/coleções BVS e SCIENCE DIRECT. De 141 artigos primários identificados, 33 (23,4%) atenderam aos critérios de inclusão e foram publicados em 29 periódicos de várias áreas de conhecimento. Resultados: as alterações mentais identificadas foram: estresse, sofrimento e tensão no trabalho, depressão, astenia, fadiga, sobrecarga mental e *Burnout*. No trabalho, também acontecem conflitos, violência e maus tratos e os trabalhadores das UTI apresentaram predisposição ao uso de psicotrópicos. Conclusão: o tema é relevante pois há um rol de alterações mentais dos trabalhadores de UTI que podem levá-los aos absenteísmos.

Descritores: Saúde do Trabalhador; Saúde Mental; Pessoal de Saúde; Unidade de Terapia Intensiva.

Cambios en unidades de cuidados intensivos mentales trabajadores

Objetivo: investigar la evidencia científica sobre los cambios mentales en unidades de cuidados intensivos de trabajadores (UCI). Método: revisión integradora cuya búsqueda se llevó a cabo en las bases de datos MEDLINE y EMBASE, Scopus y bibliotecas virtuales/BVS y la ciencia colecciones DIRECT. 141 artículos primarios identificados, 33 (23,4%) cumplieron los criterios de inclusión y fueron publicados en 29 revistas en diversos campos del conocimiento. Resultados: los cambios mentales identificados fueron: el estrés, el dolor y la tensión en el trabajo, depresión, astenia, fatiga, sobrecarga mental y agotamiento. En el trabajo, también tienen lugar los conflictos, la violencia y el abuso y los trabajadores de la UCI están predispuestos a la utilización de psicofármacos. Conclusion: el tema es relevante y la lista de trastornos mentales de los trabajadores de la UCI se puede conseguir que el absentismo.

Descriptorios: Salud Laboral; Salud Mental; Personal de Salud; Unidades de Cuidados Intensivos.

Introduction

Work is a source of fulfillment, satisfaction and pleasure for human, but it can be harmful to health, since some diseases result from the process of body wear and are strengthened by the aging process and by the type of work organization⁽¹⁾. Pathologies arising from work can affect both the professional and daily life activities⁽²⁾.

Studies aimed at the worker's health has been gaining momentum⁽³⁾, and actions for promotion, protection and rehabilitation of health and for prevention of diseases must be taken in the workplace⁽⁴⁾, including in those in which health professionals perform their functions and are exposed to several occupational risk factors⁽⁵⁾.

Intensive care units (ICU) are complex environments, with critical patients⁽⁶⁾, whose care is offered by intensivists, workers from multidisciplinary health teams who work there. A doctor, a nurse, a physical therapist, from the medical, nursing and physical therapy teams, respectively, and other health professionals must form this team⁽⁷⁾. These people must exchange knowledge to improve their patients' health status⁽⁸⁾. However, due to the characteristics of the ICUs, they experience episodes of suffering and death, which can cause mental changes⁽⁹⁾.

Having mental health means to be able to recover from the routine stress, deal with daily life demands, recognize your own limits, overcome difficulties, handle conflicts, traumas or major transitions of the vital cycles⁽¹⁰⁾, thus reducing the possibilities of mental changes.

Considering that and given the complexity of the workplace in which they work, the motivation for carrying out such study was to be able to identify the main mental changes affecting employees who work in the ICU.

This study aimed to investigate the scientific evidence about mental changes in workers of intensive care units.

Method

Integrative literature review study with data collected from secondary sources⁽¹¹⁾. The integrative review is a bibliographical research that has its own methodology, which is exhausted when the reviewers finished.

For this study, the following guiding question was formulated: what are the mental changes the ICU workers show?

To do this review, we used the PICO strategy (acronym for Patient/Problem, Intervention, Comparison/Control and Outcomes/Outcome)⁽¹¹⁾, considering P (ICU workers), I (knowledge of the mental changes in these people), C (absence of these changes) and O (presence of mental changes).

The study was conducted in April and May 2016, using the databases *Medical Literature Analysis and Retrieval System Online - MEDLINE*, through the

seeker PUBMED, *Excerpta Medica* (EMBASE) and *Sci Verse Scopus* (SCOPUS) as well as in libraries/collections: Virtual Health Library (Biblioteca Virtual de Saúde -BVS) and *Science Direct Elsevier* (SCIENCE DIRECT). For the search, the descriptors from Health Sciences Descriptors (DeCS) and from *Medical Subject Headings* (MESH) were used, being: *Intensive Care Unit/Intensive Care Units; Saúde do Trabalhador/Occupational Health; Saúde mental/Mental Health connected by the Boolean operator (delimiter) and*.

In MEDLINE, EMBASE, DIRECT SCIENCE and SCOPUS, the combinations of words were: Intensive Care Units and Occupational Health and Mental Health; in the BVS were: Unidade de Terapia Intensiva and Saúde do Trabalhador and Saúde Mental.

The inclusion criteria were: primary studies (originals)⁽¹²⁾, which had investigated mental changes of health workers who work in the ICU, with texts available in full, published between 2006-2016, in the form of scientific articles, in English, Portuguese, Spanish, French and/or Italian, which met the objectives of this study.

One hundred and forty-one studies were identified, being 36 in EMBASE, 12 in MEDLINE, 64 in the BVS, 7 in DIRECT SCIENCE and 22 in SCOPUS. After the reading of titles and abstracts, 72 were excluded; out of the other 69, 4 studies duplicated were not considered; for reading and analysis, 65 were considered, excluding those that did not address the study question directly and, at the end, only 33 remained. For characterization of these studies, a tool, previously validated, for creation of study question and search for evidences was used, indicating the data that should be subtracted from the articles selected⁽¹⁰⁾, to become the review consistent.

Results

The analysis of the 33 studies⁽¹³⁻⁴⁵⁾ allowed dividing them into titles of the articles and journals, authors, country, year of publication and main conclusions. The studies were diverse⁽¹³⁻⁴⁵⁾, and those developed by nursing prevailed; much of them were productions from authors linked to universities (76%).

Twenty-nine different journals were identified; the authorship was the same in more than one publication; Brazilian (12), Iranian (5), North American and French (four publications in each country) studies were prevalent, in 2016, 2015 and 2012 (18.33% of publications in each year).

Regarding the type of methodological design, about 20 studies were quantitative, 6 were qualitative, 1 had quantitative and qualitative approach, 6 were clinical trials and 1 used the focus group method. For a better understanding of the mental changes, the analysis of the articles was based on the Diagnostic and Statistical Manual of Mental Disorders⁽⁴⁶⁾.

Figure 1 shows the articles in alphabetical (E) and numerical form (from 1 to 33), and has some of these data.

Title	Journal	Author	Country/Year
E1. Estresse ocupacional: avaliação de enfermeiros intensivistas que atuam no período noturno ^{(13)*}	Rev Gaúcha Enferm	Versa GLGS, et al.	Brazil, 2012
E2. Prazer e sofrimento: avaliação de enfermeiros intensivistas à luz da psicodinâmica do trabalho ⁽¹⁴⁾	Esc Anna Nery	Campos JF, David HMSL, Souza NVDO	Brazil, 2014
E3. Qualidade de vida e nível de atividade física de profissionais de saúde de unidades de terapia intensiva ⁽¹⁵⁾	Rev Bras Atividade Física Saúde	Acioli NA, et al.	Brazil 2013
E4. <i>Reducing Hospital ICU Noise: A Behavior-Based Approach</i> ⁽¹⁶⁾	J Healthc Eng	Konkani A, Oakley B, Penprase B	USA, 2014
E5. Os significados do trabalho em Unidades de Terapia Intensiva de dois hospitais brasileiros ⁽¹⁷⁾	Cienc Saúde Coletiva	Baasch D, LanerAS	Brazil, 2011
E6. Exposição ao ruído tecnológico em CTI: estratégias coletivas de defesa dos trabalhadores de Enfermagem ⁽¹⁸⁾	Esc Anna Nery	Oliveira EB, Lisboa MTL	Brazil, 2009
E7. <i>Compassion fatigue and secondary traumatization: provider self care on Intensive Care Units for children</i> ⁽¹⁹⁾	J Pediatr Health Care	Meadors P, Lamson A	USA, 2008
E8. <i>Ansiedad, depresión y malestar emocional en los profesionales sanitarios de las Unidades de Cuidados Intensivos</i> ⁽²⁰⁾	Anales Psicol	Martínez SG, Arnal RB, Julia BG, Campos RA	Espanha, 2015
E9. Prevalência de depressão em trabalhadores de enfermagem de Unidade de Terapia Intensiva: estudo em hospitais de uma cidade do noroeste do Estado São Paulo ⁽²¹⁾	Rev. Latino-Am. Enfermagem	Vargas D, Dias APV	Brazil, 2011
E10. <i>Prevalence and factors of Intensive Care Unit conflicts. The Conflicus Study</i> ⁽²²⁾	Am J Respir Crit Care Med	Azoulay E, et al.	France, 2009
E11. Sofrimento psíquico de trabalhadores de Unidade de Terapia Intensiva ⁽²³⁾	Rev Psicol Organ Trab	Monteiro JK	Brazil, 2012
E12. Adoecimento psíquico de trabalhadores de Unidades de Terapia Intensiva ⁽²⁴⁾	Psicol Cienc Prof	Monteiro JK, et al.	Brazil 2013
E13. Fatores predisponentes ao uso próprio de psicotrópicos por profissionais de enfermagem ⁽²⁵⁾	Rev Enferm UERJ	Dias JRF, et al.	Brazil, 2011
E14. Estudo preliminar sobre a qualidade de vida de médicos e enfermeiros intensivistas pediátricos e neonatais ⁽²⁶⁾	Rev Esc Enferm USP	Fogaça MC, Carvalho WB, Martins LAN	Brazil, 2010
E15. <i>Teaching emotional intelligence to Intensive Care Unit nurses and their general health: a randomized clinical trial</i> ⁽²⁷⁾	Int J Occup Environ Med	Sharif F, Rezaie S, et al.	Iran, 2013
E16. <i>Organizational factors impacting job strain and mental quality of life in emergency and critical care units</i> ⁽²⁸⁾	Int J Occup Med Environ Health	Bellagamb G, et al.	France, 2015
E17. <i>Evaluation of mental workload among ICU ward's nurses</i> ⁽²⁹⁾	Health Promot Perspect	Mohammadi M, et al.	Iran, 2015
E18. <i>The effect of massage therapy on occupational stress of Intensive Care Unit nurses</i> ⁽³⁰⁾	Iran J Nurs Midwifery Res	Nazari F, Mirzamohamadi M, Hojatollah Y	Iran, 2015
E19. <i>Professional stress and health among critical care nurses in Serbia</i> ⁽³¹⁾	Arch Ind Hyg Toxicol	Milutinović D, Golubović B, Brkić N, Prokeš B	Serbia, 2012
E20. <i>Controlling anxiety in physicians and nurses working in Intensive Care Units using emotional intelligence items as an anxiety management tool in Iran</i> ⁽³²⁾	Int J Gen Med	Nooryan K, Gasparyan K, Sharif F, et al.	Iran, 2012
E21. <i>Age, job characteristics and coronary health</i> ⁽³³⁾	Occup Med	Mc Carthy VJC, Perry IJ, Greiner BA	Ireland, 2012
E22. <i>Demographic and occupational predictors of stress and fatigue in French intensive-care registered nurses and nurses' aides: a cross-sectional study</i> ⁽³⁴⁾	Int J Nurs Stud	Jones G, et al.	France, 2015
E23. Estresse de enfermeiros com atuação em unidade de terapia intensiva ⁽³⁵⁾	Rev. Latino-Am. Enfermagem	Cavalheiro AM, Moura DFJ, Lopes AC	Brazil, 2008
E24. O trabalho do enfermeiro em Unidade de Terapia Intensiva: sentimentos de sofrimento ⁽³⁶⁾	Rev. Latino-Am. Enfermagem	Martins JT, Robazzi MLCC	Brazil, 2009
E25. <i>Cost of disorders of the brain in Europe 2010</i> ⁽³⁷⁾	Eur Neuropsychopharmacol	Gustavsson A, et al.	Denmark, 2011
E26. <i>An exploration of the role of religion/spirituality in the promotion of physicians' wellbeing in Emergency Medicine</i> ⁽³⁸⁾	Prev Med Rep	Blotcher SE, et al.	USA, 2016
E27. <i>Association of job-related stress factors with psychological and somatic symptoms among Japanese hospital nurses: effect of departmental environment in acute care hospitals</i> ⁽³⁹⁾	J Occup Health	Kawano Y	Japan, 2008
E28. <i>Conflict narratives from the health care frontline: a conceptual model</i> ⁽⁴⁰⁾	Conflict Resol Q	Kim S, et al.	USA, 2016
E29. <i>How do doctors and nurses manage delirium in intensive care units? A qualitative study using focus groups</i> ⁽⁴¹⁾	BMJ Open	Ceña DP, et al.	Spain, 2016
E30. <i>Job stress and satisfaction among health care workers of endoscopy units in Korea</i> ⁽⁴²⁾	Clin Endosc	Nam SJ, et al.	Korea, 2016
E31. <i>Nurses' perspectives on workplace mistreatment: a qualitative study</i> ⁽⁴³⁾	Nurs Health Sciences	Vagharseyyedin Seyyed	Iran, 2016
E32. <i>Perceived occupational stress in nurses working in Ireland</i> ⁽⁴⁴⁾	Occup Med	Carthy VJC, Greiner SBA	Ireland, 2010
E33. <i>When the management of nurse absenteeism becomes a cause of absenteeism: a study based on a comparison of two health Care facilities</i> ⁽⁴⁵⁾	J Nurs Manag	Damart S, Kletz F	France, 2016

*Number of the article in the reference list

Figure 1 - Articles published about mental changes in intensive care unit workers, according to title and journal, author, country and year of publication of the article. 2016 (n=33)

Discussion

After the analysis of the articles included in the review, the results indicated that the mental changes were caused by work demands, patients' complexity, relationships between colleagues, organizational characteristics⁽⁴⁷⁾, among others. Such changes encumber health systems through work leaves/replacements of those absent and may diminish the quality of the care provided to the patient⁽⁴⁸⁾.

The main alterations identified were:

- Stress^(13,16,18-19,22-23,27,30,32): it may cause tension, biopsychosocial imbalance, overloads and uncomfortable situations; reduce the physical and mental capabilities⁽⁴⁹⁾ and lead to illness, in addition to negatively influencing the care provided⁽⁵⁰⁻⁵¹⁾ by workers of the ICU to critical patients. Stress, asthenia, and physical and emotional exhaustions may compromise the work, and the cycle of family and friendships, reducing the quality of life⁽⁵²⁾. The reactions of individuals faced with adversity must be improved, because they tend to influence the work dynamic⁽⁵³⁾.

- Suffering and tension in the workplace^(14,17,23-24,32-33,36): they may be experienced and influence the intensivists' illness process⁽⁵⁴⁾. Suffering manifests itself through experience of unfavorable circumstances, mostly⁽⁵⁵⁾; it provides physical/mental disharmony between the individuals and the work, influencing their health⁽⁵⁶⁾. Lack of autonomy, integration and support for professional development, difficulties in relationships and disrespect in the workplace can change the experiences of suffering and pleasure⁽⁵⁴⁾. Denial, retraction, resistance, conflict and organizational problems can cause it⁽⁵⁶⁾; however, work can be pleasurable when there is professional achievement, freedom of expression, trust, feelings of solidarity and recognition⁽⁵⁴⁾. Environments with work overload, excess shifts, low pay, and few resources to provide critical patients with an effective care can generate suffering⁽⁵⁷⁾. Places causing tension favor cardiac changes in workers.

- Depression, asthenia, fatigue and mental overload^(16,19-21,23,29,34,45): overload results in tension, irritability, stress, depression, fatigue and disagreements in the health team, which can lead to decrease in interest, income and productivity⁽⁵⁸⁾. It also favors the fatigue, *Burnout* and absenteeism⁽⁴⁵⁾. Intensivists can present anguish and suffering⁽⁵⁹⁾. Complaints of exhaustion and extreme tiredness means fatigue; depressed people tend to have it, as well as asthenia and sensation of heavy body, in addition to decreased interest and pleasure in activities, changes in sleep patterns, feelings of worthlessness and thoughts of death⁽⁶⁰⁾. Caring for critical patients requires scientific and technical expertise and appropriate psychological conditions⁽⁵⁸⁾.

- *Burnout*:^(23,38,45) process in which the state of professional exhaustion and high levels of stress are reached, and reports of disappointment, lack of interest⁽⁶¹⁾ and absenteeism⁽⁴⁵⁾. States of stress, suffering at work, *Burnout* and depression in ICU workers require the attention of scholars and of the managers of the services⁽⁶²⁾.

Conflicts, violence and mistreatment were also identified in the studies^(22,40-41,43), factors that can trigger mental changes among the intensivists, faced with excessive emotions; disagreements on which type of care management will be applied are included⁽⁴¹⁾. Divergencies between therapeutics, techniques and ways to develop the procedures can cause problems such as anxiety, fatigue, *Burnout* and conflicts. Understanding the mistreatment in the workplace and its impact on the intensivists is crucial to managers of hospitals⁽⁴³⁾. Although all team members should have the same objective, the way of doing and understanding may be different⁽⁴⁷⁾, causing divergencies. Mutual respect must ensure that spaces and work activities are considered⁽⁶³⁾; conflicts make workers vulnerable to stress, sleep disorders, depression and *Burnout*⁽⁶²⁾.

The predisposition of the intensivists to use psychotropics⁽²⁵⁾ can occur because stress, fatigue, mental and physical exhaustion, depression, anxiety and *Burnout* favor its use⁽⁶⁴⁾. The use of antidepressants, anti-anxiety drugs and benzodiazepines have increased; they help in controlling mental disorders, but can cause dependency⁽⁶⁵⁾.

Regarding financial costs⁽³⁷⁾, the mental changes can lead to absenteeism and increase the demand for health services, encumbering them, mainly in situations of precarious works.

Also, changes in the ICU workers' quality of life (QOL) occur^(15,26,28), since this perception that the individual has of their life changes according to their values and concerns^(52,67), showing it tends to be more pronounced in active individuals⁽⁶⁸⁾. Musculoskeletal pain are related to reports of the worst QOL indices in workers⁽⁶⁹⁾, including the intensivists, because they affect the performance of their activities.

The training using emotional intelligence improves the mental and general health of ICU nurses⁽²⁷⁾, reducing the anxiety of doctors and nurses who work in these environments⁽³²⁾.

One verified that the scientific literature about mental changes in intensivists of the ICU is a theme that has become robust, denoting concerns regarding the health of these people, who work in a complex sector, favoring mental wear. The search for solutions to minimize these problems is a challenge to be overcome.

Stress, *Burnout* and depressive disorders are considered mental changes; suffering is a symptom of

severe emotional disturbance; conflicts and violence are able to trigger such changes; in its turn, the predisposition to use medicines helps in controlling some of them⁽⁴⁸⁾. Faced with this scenario, the demand for health services can increase, with increase in financial costs and decrease in the QOL of the intensivists.

The limitations of this study refer to the use of three databases and the aspect of time, which was restricted to ten years of search. However, it was confirmed that mental changes that can lead to harmful situations may occur in these workers.

Conclusion

The mental changes in ICU workers were: stress, suffering and tension at work, depression, asthenia, fatigue, mental overload and *Burnout*. At work, these people, who are also subjected to conflicts, violence and mistreatment, showed a predisposition to the use of psychotropic substances and fall in the indices of quality of life, which can lead to absenteeism and financially encumber the health system. The contributions of this study to the development of knowledge in the health field was to highlight the need for monitoring the mental health of these workers, faced with the results found, to reduce the possible damage caused by labor activities.

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