



## Epidemiological study of civil servants on leave due to mental disorders in a public educational institution

### *Estudo epidemiológico dos servidores afastados por transtornos mentais em uma instituição pública de educação*

### *Estudio epidemiológico en funcionarios de baja por trastornos mentales de una institución pública de educación*

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#### ABSTRACT

**Objective:** To investigate the sociodemographic, occupational and morbidity characteristics of civil servants on leave due to mental and behavioral disorders (MBD) and the associations of these characteristics with early leave. **Methods:** Longitudinal (retrospective cohort) study carried out at the Ceará Federal Institute of Education (IFCE) with a view to identifying the epidemiological profile of civil servants who were on leave due to MBD (n=250) from 2010 to 2018 and the associations of epidemiological characteristics (sex, job category, workplace, length of service at the institution, marital status, age range and salary) with early leave through the Kaplan-Meier curves. **Results:** There were 684 leaves due to MBD among 250 civil servants (incidence of 4.9%), resulting in 22,409 days away from work (DAW) and financial effects of approximately R\$ 6,845,220. There was an increase in the number of leaves, days away from work, and rate of incidence of civil servants on leave during the study period. The group of mood disorders (F30-F39) in ICD-10 was the main cause of leaves due to MBD (n=367; 53.6%) and DAW (13,057). The survival analysis showed earlier leaves among civil servants in the countryside, single individuals, those aged 18-39 years, and those with up to 9 years of service at the institution and belonging to economic class C. **Conclusion:** There was an increase in leaves, DAW and incidence of civil servants on leave due to MBD at IFCE, with a predominance of mood disorders, which generated high financial effects for the institution. There was evidence of a positive association between some sociodemographic characteristics and early leave due to MBD.

**Descriptors:** Mental Disorders; Occupational Health; Government Employees; Education; Public Health.

#### RESUMO

**Objetivo:** Investigar as características sociodemográficas, ocupacionais e de morbidade dos servidores que tiveram licenças por transtorno mental e comportamental (TMC), bem como as associações dessas características com o afastamento precoce. **Métodos:** Estudo longitudinal (coorte retrospectiva), realizado no Instituto Federal de Educação do Ceará (IFCE), com vistas ao delineamento do perfil epidemiológico dos servidores afastados por TMC (n=250), no período de 2010 a 2018, e as associações das características epidemiológicas (sexo, grupo do cargo, local de trabalho, tempo na instituição, estado civil, faixa etária e remuneração) com o afastamento precoce, através das curvas de sobrevivência de Kaplan-Meier. **Resultados:** Ocorreram 684 afastamentos por TMC em 250 servidores (incidência de 4,9%), resultando em 22.409 dias perdidos de trabalho (DAW) e efeitos financeiros de aproximadamente R\$ 6.845.220. Houve um aumento na quantidade de afastamentos, de DAW e da taxa de incidência de servidores afastados ao longo do período do estudo. O grupo dos transtornos do humor (F30-F39) da CID-10 apresentou-se como a principal causa de afastamento por TMC (n=367; 53,6%) e DAW (13.057). A análise de sobrevivência mostrou afastamento precoce nos servidores do interior, solteiros, com faixa etária de 18 a 39 anos, tempo de serviço na instituição de até 9 anos e classe econômica C. **Conclusão:** Houve crescimento no IFCE, entre 2010 e 2018, dos afastamentos, dos DAW e da incidência de servidores afastados por TMC, com predominância dos transtornos do humor, os quais geraram efeitos financeiros elevados para a instituição. Evidenciou-se associação positiva entre algumas características sociodemográficas e o afastamento precoce por TMC.

**Descritores:** Transtornos Mentais; Saúde do Trabalhador; Empregados do Governo; Educação; Saúde Pública.



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## RESUMEN

**Objetivo:** Investigar las características sociodemográficas, ocupacionales y de morbilidad de los funcionarios que estuvieron de baja por trastorno mental y de conducta (TMC) así como las asociaciones de esas características con el alejamiento precoz. **Métodos:** Estudio longitudinal (cohorte retrospectivo), realizado en el Instituto Federal de Educación de Ceará (IFCE) para la delineación del perfil epidemiológico de los funcionarios de baja por TMC (n=250), en el periodo entre 2010 y 2018 y las asociaciones de las características epidemiológicas (sexo, equipo de cargo, sitio del trabajo, tiempo en la institución, estado civil, franja de edad y remuneración) con el alejamiento precoz, a través de las curvas de supervivencia de Kaplan-Meier. **Resultados:** Se dieron 684 bajas por TMC en 250 funcionarios (incidencia del 4,9%), lo que resulta en 22.409 días perdidos de trabajo (DAW) y efectos financieros de aproximadamente R\$ 6.845.220. Hubo un aumento de la cantidad de bajas, de DAW y de la tasa de incidencia de funcionarios de baja a lo largo del periodo del estudio. El grupo de los trastornos de humor (F30-F39) de la CID-10 se presentó como la principal causa de baja por TMC (n=367; 53,6%) y DAW (13.057). El análisis de la sobrevida ha presentado el alejamiento precoz de los funcionarios del campo, solteros, en la franja de edad entre 18 y 39 años, tiempo de servicio en la institución de hasta 9 años y de la clase económica C. **Conclusión:** Hubo un crecimiento en el IFCE, entre 2010 y 2018, de las bajas, de los DAW y de la incidencia de los funcionarios de baja por TMC, con predominio de los trastornos de humor los cuales generaron efectos financieros elevados para la institución. Se ha evidenciado una asociación positiva entre algunas características sociodemográficas y el alejamiento precoz por TMC.

**Descriptores:** Trastornos Mentales; Salud Laboral; Empleados de Gobierno; Educación; Salud Pública.

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## INTRODUCTION

Mental and behavioral disorders (MBD) are syndromes characterized by disturbances in an individual's cognition, emotion regulation or behavior, which reflect a dysfunction in the psychological, biological or developmental processes underlying mental and behavioral functioning<sup>(1)</sup> and can lead to a worker's withdrawal from labor activities.

The increase in the incidence of work-related MBD has shown worrying statistics. In Brazil, it has been the third cause of incapacity to work, totaling 668,927 cases, about 9% of total sickness benefits and disability pensions, in the period from 2012 to 2016<sup>(2)</sup>.

In addition to leading to its acknowledgement as a public health problem, this growth of work-related psychological problems has also become an object of government concern in countries that have identified high economic and social costs caused by such problem<sup>(3)</sup>.

Particularly in the public service, it affects the continuity of activities considered essential for citizens and burdens the public coffers, both because of non-productivity and the expenses necessary for the rehabilitation of the civil servant<sup>(4)</sup>.

Thus, it is important to know the epidemiological data and understand the factors involved in the illness processes among civil servants in order to plan health actions, promote better quality of life at work and, consequently, reduce the rates of illnesses and absences. In view of the above, this study aimed to assess the sociodemographic, occupational and morbidity characteristics of employees on MBD leave and the associations of these characteristics with early leave.

## METHODS

This is a longitudinal retrospective cohort study that was carried out at the Ceará Federal Institute of Education (*Instituto Federal de Educação do Ceará – IFCE*). The monitoring of civil servants who were absent from work due to MBD was carried out through registration in the electronic health record (*Subsistema Integrado de Atenção à Saúde do Servidor – SIASS*) (n=250) from admission to 2018 (resulting in the time frame from 2010 to 2018) with a view to outlining the epidemiological profile.

A retrospective cohort design was used to assess the association between exposure to potential risk factors (sociodemographic and occupational characteristics) and the occurrence of the outcome (early leave due to MBD) through the systematic analysis of records in physical and electronic medical records.

First, the epidemiological profile of workers on leave due to MBD was detailed. The variables analyzed were classified into sociodemographic (gender, race/color, age, age range, marital status, education, gross salary and salary range), occupational (campus where the person worked during MBD leave, length of service at the institution, position, position group, weekly workload, job history, MBD leave during the exercise of the function and financial

effects of MBD leave) and morbidity (ICD-10 group where the MBD falls into, number of MBD leaves and number of days off due to MBD).

Afterwards, Kaplan-Meier survival curves were built to compare groups of servants to assess the association of sociodemographic and occupational factors with the occurrence of early leave due to MBD, with initial time set as the date the worker was hired by the institution,

Survival analysis is used when time is the object of interest, whether this is interpreted as the time until the occurrence of an event or the risk of an event occurring per unit of time. In this study, the date of the first leave due to MBD registered on SIASS (early leave) was used to define outcome.

We tried to determine whether the time elapsed until the first time off due to MBD differs in relation to workplace (countryside campus or Fortaleza/Metropolitan Region campus), marital status (single, married, divorced or widowed), age range (18-39 years, 40-59 years or  $\geq 60$  years), length of service at the institution ( $\leq 9$  years or  $\geq 10$  years), salary range ( $\geq 18,740.01$ / Class A: R\$9,370.01 to R\$18,740.00/ Class B: R\$3,748.01 to R\$9,370.00/ Class C: R\$1,874.01 to R\$3,748.00/ Class D or  $\leq$ R\$1,874.00/ Class E), gender (female or male) and position group (administrative technician or teacher). The hazard ratio (HR) was calculated to demonstrate the speed of occurrence of the first MBD leave.

Data were collected from March to August 2019 from the physical and electronic health records present in the SIASS Unit of IFCE by the researchers who were employees of the institution and worked in the medical expertise sector with access to the SIASS system and subject matter expertise. Data were recorded in a specific form on the computer and through consultation of all health records ( $n=6,600$ ) and analysis of those that contained certificates with the ICD-10 code of group F registered on the SIASS ( $n=250$ ).

Data were tabulated using Microsoft Excel for MAC version 16.11.1. For categorization and statistical analysis, the Statistical Package for the Social Sciences (SPSS) version 24.0 (SPSS Inc, Chicago, Illinois) was used.

Categorical data were expressed as absolute counts with frequency and percentages and compared using the chi-square test. Quantitative variables (age, length of service at the institution, gross salary, financial effects, days absent from work) were tested for normal distribution using the Kolmogorov-Smirnov test. Variables with normal distribution were presented as means and standard deviations, and non-normal data were presented as medians and interquartile ranges. Student's t test or Mann-Whitney U test were used to compare means or medians of continuous variables, appropriately, with the distribution of data between groups. Correlations were assessed using Spearman's Rho. Survival curves between groups were compared using the Mantel-Cox logrank test for simple comparisons. In addition, the hazard ratio with respective 95% confidence intervals of the statistically significant variables observed in the Mantel-Cox logrank test was calculated to assess the power of association between a given factor and early leave due to MBD. The significance threshold was set at  $p < 0.05$  (2 sides).

All data collection and dissemination of results complied with ethical aspects and respect for the individual in the research in accordance with Resolution No. 466, of December 12, 2012, of the National Health Council (*Conselho Nacional de Saúde – CONEP*) and were approved by the research ethics committees of the University of Fortaleza (*Universidade de Fortaleza – Unifor*) and IFCE, under Approval No. 3170020/2019 and 3242886/2019.

## RESULTS

As for sociodemographic characteristics, during the study period (2010-2018), 250 civil servants had taken leave from work due to MBD, as registered on SIASS. There was a predominance of women ( $n=168$ ; 67.2%), with a mean age of 40.4 years (standard deviation=10.1; minimum age=23; maximum age=68), and the highest percentage was in the age range of 18-39 years ( $n=144$ ; 57.6%). Most participants considered themselves to be of mixed ethnicity ( $n=113$ ; 45.2%), and single participants accounted for the highest percentage ( $n=120$ ; 48%). With regard to education, 94.8% ( $n=237$ ) of the civil servants had a higher degree (undergraduate, specialization, masters, or doctorate).

As for occupational characteristics, most of the sample consisted of education administration technicians (*técnicos administrativos em educação – TAE*) ( $n=165$ ; 66%), and the others were teachers ( $n=85$ ; 34%). Among technicians, there was a predominance of positions of classes D (secondary level) ( $n=61$ ; 24.4%) and E (higher level) ( $n=71$ ; 28.4%). Most of the group had a maximum length of service at the institution of 9 years ( $n=183$ ; 73.2%).

As for the workload, most TAE ( $n=159$ ; 96.4%) worked 40 hours a week, while full-time work regime prevailed among teachers ( $n=81$ ; 95.3%).

With regard to their position in the institution, 50 employees in the study group were, at some point in their working life, either in a remunerated position, a commissioned position or a management position at the time they took leave due to MBD, which corresponds to a frequency of 20%. The average gross pay of the servants in the sample was R\$8,153.25, with 50% having a salary ranging between R\$3,748.01 and R\$9,370.00.

As for morbidity characteristics, from 2010 to 2018 there were 684 leaves due to MBD in 250 employees, which corresponds to a 4.9% incidence rate of employees on leave (considering the total of 5,062 employees at IFCE during the study period). Such leaves resulted in 22,409 days away from work and financial effects of approximately R\$6,845,220 (to estimate the financial effects, the following calculation was performed: the civil servant's gross pay was divided by 30 and multiplied by the number of days off work). Figure 1 shows the number of leaves, days away from work and the incidence coefficient for employees on leave due to MBD per year and in the period from 2010 to 2018.

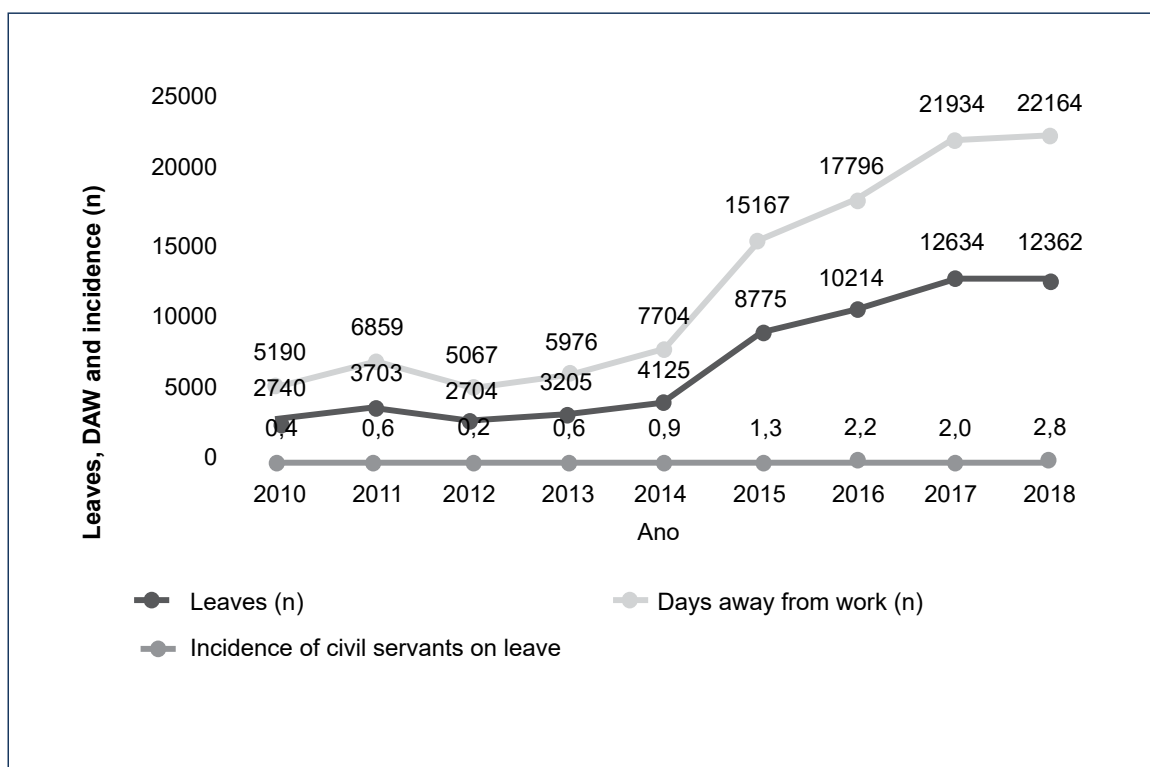


Figure 1 - Leaves (n), days away from work (DAW) and incidence of civil servants per ICD-10 (F00-F99) mental and behavioral disorders per year at IFCE (2010-2018). Fortaleza, Ceará, 2019.

Source: Authors' own elaboration (2019).

The highest incidence rates of civil servants on leave due to MBD were in cities in the countryside, mainly Baturité with a rate of 26.3%, followed by Acaraú (12.9%), Umirim (12.0%), Quixadá (11.5%) and Itapipoca (11.1%).

The group of people with mood disorders (F30-F39) listed in ICD-10 presented the main cause of sick leave due to MBD, accounting for 367 (53.6%) leaves and resulting in 13,057 days away from work. They were followed by neurotic disorders, stress-related disorders and somatoform disorders (F40-F48), with 259 leaves (37.8%) and 6,389 days away from work.

In the survival analysis, statistical significance was observed in the following subgroups: workplace ( $p < 0.001$ ), marital status ( $p < 0.001$ ), age range ( $p < 0.001$ ), length of service at the institution ( $p < 0.001$ ) and salary range ( $p < 0.001$ ). As for gender ( $p = 0.127$ ) and position group ( $p = 0.131$ ), there were no significant differences.

Civil servants from the countryside took earlier leave due to MBD in a statistically significant way compared to civil servants from Fortaleza and the Metropolitan Region (Figure 2). Those who worked in the countryside had a HR= 3.466 (CI: 2.612 – 4.599),  $p < 0.001$ .

Another variable that presented statistical significance was related to marital status: single people took earlier leave due to MBD than married and divorced people (Figure 3).

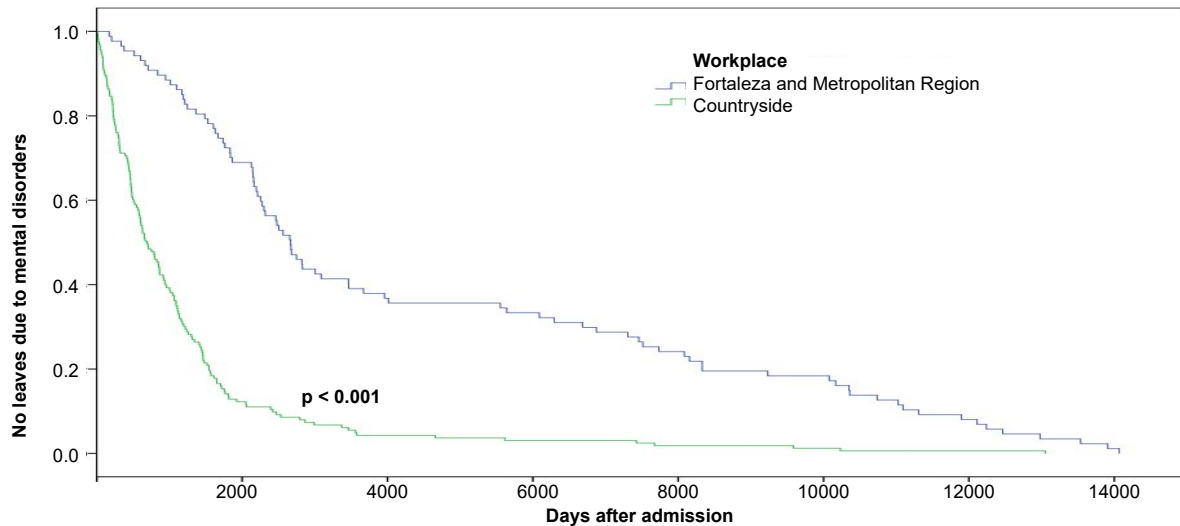


Figure 2 - Comparison of time of occurrence of first leave due to mental and behavioral disorders according to workplace. Fortaleza, Ceará, 2019.

Source: Authors' own elaboration (2019).

Kaplan-Meier curve comparing civil servants according to workplace using the Mantel-Cox logrank test. The Hazard ratio with the respective 95% confidence interval was calculated for the variables with statistical significance observed in the Mantel-Cox logrank test to assess the power of association between workplace and early leave due to MBD

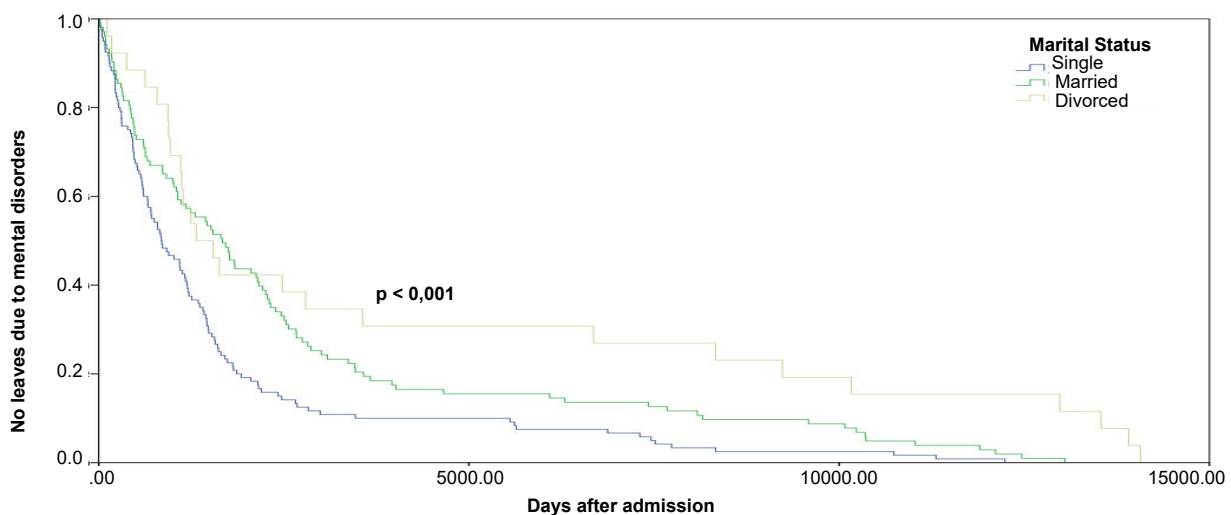


Figure 3 - Comparison of time of occurrence of first leave due to mental and behavioral disorders according to marital status. Fortaleza, Ceará, 2019.

Source: Authors' own elaboration (2019).

Kaplan-Meier curve comparing civil servants according to marital status using the Mantel-Cox logrank test. The Hazard ratio with the respective 95% confidence interval was calculated for the variables with statistical significance observed in the Mantel-Cox logrank test to assess the power of association between marital status and early leave due to MBD

The age range most associated with early leave due to MBD was that between 18 and 39 years old (HR=12.88 (CI: 6.332 – 26.222),  $p < 0.001$ ).

Another important finding revealed that the group with the shortest length of service at the institution (up to 9 years) was more associated with early leave due to MBD, with HR= 8.962 (CI: 6.065 - 13.243) and  $p < 0.001$ , compared to the group of people who had worked for 10 years or more at the institution (Figure 4).

Finally, the economic class A took the first leave due to MBD later on, with class D being the most associated with early leave. Thus, the lower the salary range, the earlier the leave due to MBD (Figure 5).

Source: Authors' own elaboration (2019).



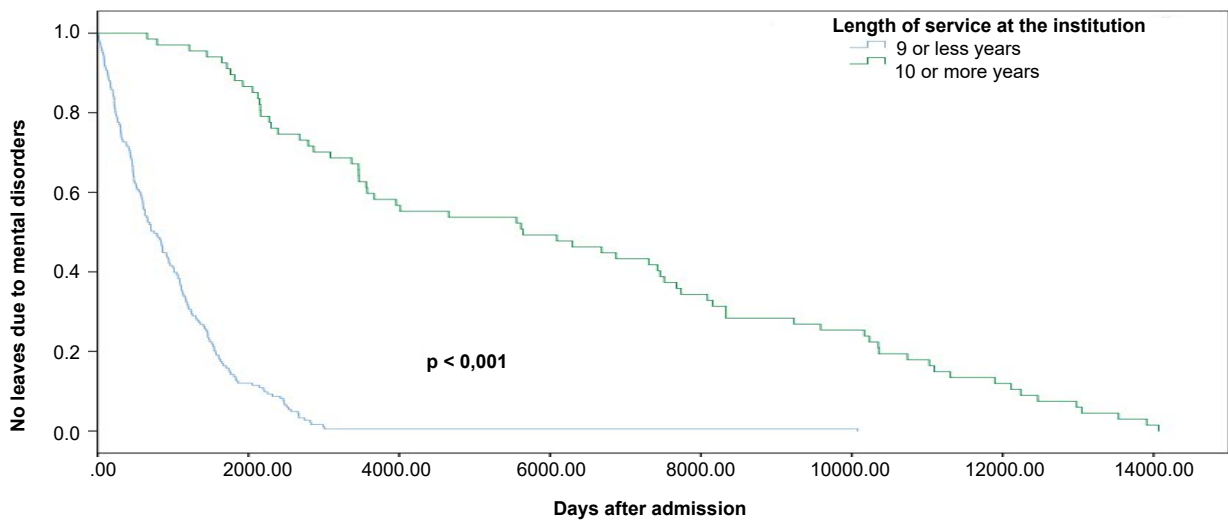


Figure 4 - Comparison of time of occurrence of first leave due to mental and behavioral disorders according to length of service at the institution. Fortaleza, Ceará, 2019.

Kaplan-Meier curve comparing civil servants according to length of service at the institution using the Mantel-Cox logrank test. The Hazard ratio with the respective 95% confidence interval was calculated for the variables with statistical significance observed in the Mantel-Cox logrank test to assess the power of association between length of service at the institution and early leave due to MBD

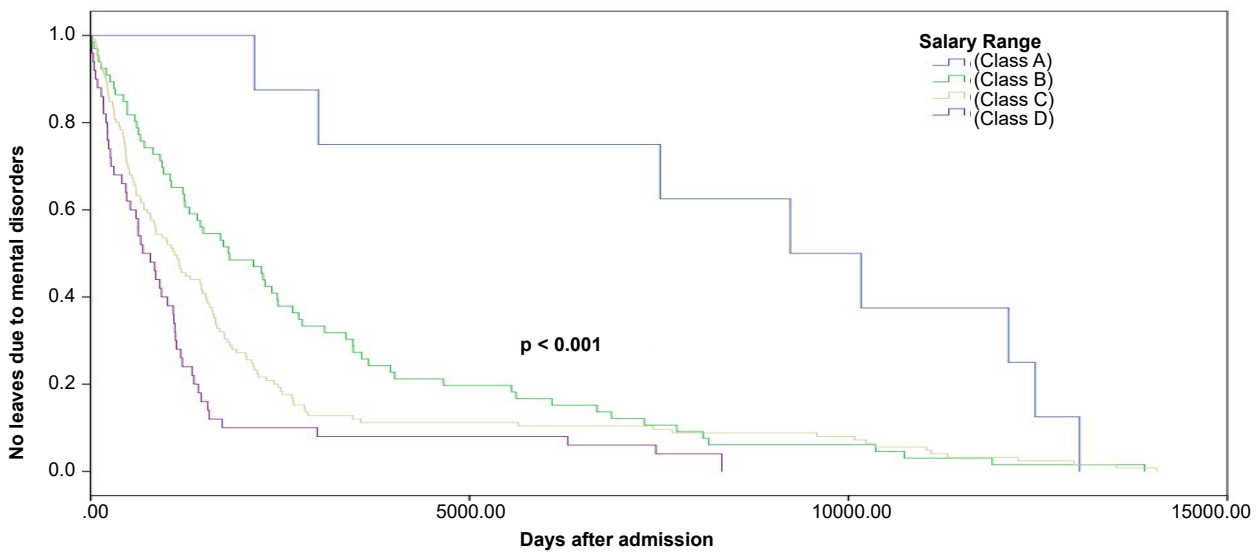


Figure 5 - Comparison of time of occurrence of first leave due to mental and behavioral disorders according to the civil servant's economic class. Fortaleza, Ceará, 2019.

Source: Authors' own elaboration (2019).

Kaplan-Meier curve comparing civil servants according to the civil servant's economic class using the Mantel-Cox logrank test. The Hazard ratio with the respective 95% confidence interval was calculated for the variables with statistical significance observed in the Mantel-Cox logrank test to assess the power of association between the civil servant's economic class and early leave due to MBD

## DISCUSSION

The results of the present study show an expressive growth in leaves due to MBD at IFCE, which possibly reflects the reality in the country and worldwide. According to the World Health Organization (WHO), the burden of mental disorders continues to grow, with a significant impact on health, in addition to social, human rights and economic consequences in all countries<sup>(1)</sup>.

Women (67.2%) represented the majority of civil servants on leave due to MBD in the present study, although women accounted for only 40% of the institution's workforce. In Brazil, between 2012 and 2016, the highest percentage (56.98%) of benefits (sick pay and disability retirement) related to MBD was also found among women<sup>(2)</sup>. Some factors may be associated with women's illness, such as the dual role women play at work and at home, the risk of sexual and moral harassment at work, domestic violence, and gender-based discrimination, which is reflected in lower wages and greater demand for professional requirements<sup>(5)</sup>.

In this research, the predominant age range most associated with early leave due to MBD was that between 18 and 39 years (57.6%). According to data from the Notifiable Diseases Information System (*Sistema de Informação de Agravos de Notificação – SINAN*)<sup>(2)</sup>, referring to cases of work-related mental disorders in Brazil (8,474 cases), there was a predominance of records in the 30-49 age range in the period from 2006 to 2017. Young adults are more vulnerable to mental health problems than older age groups. It is an intense phase of life given the great responsibility that the adult takes at work, in relationships and in the family, thus leading to tension and conflicts and triggering various mental illnesses<sup>(6,7)</sup>.

The highest occurrences of leaves due to MBD in this study were found among single workers (48%), who took their first leave earlier than married and divorced workers. This finding is similar to that reported in another similar study, which showed an association of protection with the condition of being married and of vulnerability with being single. Social and family support is associated with behaviors of adherence to health treatments, coping strategies, perception of control and psychological well-being<sup>(8)</sup>.

In this research we found that despite TAE corresponding to only 45% of the institution's civil servants, they constituted the majority of the sample (66%) and had their first leave earlier when compared to teachers. Some factors can explain that, including the management model, based on tasks and performance, which can generate demotivation and increased pressure on TAE. In addition, in the expectation of achieving the stability offered by a public job, some civil servants do not consider the possible inconsistencies between what they want to do and what they will actually do, which can lead to suffering<sup>(9)</sup>. At IFCE, 68% of TAE are in positions that require only primary or secondary education, but 84% have a higher degree.

The study group in the present study was characterized by a short length of service at the institution, which differs from the panorama observed in another similar study that found a higher prevalence of absenteeism-illness among workers with more than 11 years of service<sup>(10)</sup>. It should be noted that the differences in relation to the present study and the explanatory hypotheses for the results found here are imprecise and may involve factors resulting from the change of place of residence, precarious living conditions in cities, factors related to poor adaptation of workers to routines and functions in the public service, or even starting a job at the institution with pre-existing illness.

In the present study, economic class C was the predominant one, with an association between first leave and income being observed. The lower the salary range, the earlier the leave due to MBD, which is in line with a finding of a similar study<sup>(10)</sup>. Mental illness is characterized by a complex determination and is expressed differently across social classes. Income may (or may not) allow access to certain behaviors that impact the health of individuals, such as physical activity and food choices. In addition, financial difficulties can lead to stress and insecurity, thus constituting psychological mechanisms that cause MBD<sup>(11)</sup>.

The current study found an expressive amount of leaves and days away from work resulting from MBD at IFCE. The high frequency of MBD observed in this research was also found among civil servants<sup>(11)</sup> and different job categories in Brazil<sup>(12)</sup> and worldwide<sup>(13,14)</sup>, constituting one of the main causes of work leave and affecting individuals and society.

As for the trend over the years, this research showed an increase in leaves, days away from work, and the incidence of employees on leave due to MBD between 2010 and 2018. Similarly, there was an exponential increase in the number of notifications of work-related mental disorders in Brazil over the period from 2006 to 2017 according to SINAN<sup>(2)</sup>.

This increase in leaves at IFCE may reflect the implementation of SIASS as of 2010, with the registration of licenses, and may be related to potential increases in the risk of mental illness. Other hypotheses should be considered, such as the lack of organizational flexibility in the public system, difficulty in implementing actions to promote health and safety at work, stability in the public service, which provides the employee with more freedom to seek medical care and take time off work when necessary<sup>(15)</sup>.

As previously shown, in this study, the highest incidence of workers on leave occurred in cities in the countryside. Thus, these workers also took earlier leave (3.4 times higher) compared to workers in the capital, which may be related to changes in place of residence, poor working conditions and frustrated expectations of new professionals.

The days away from work, resulting from all leaves due to MBD analyzed in this study, generated financial costs for the institution (State) of approximately R\$ 6,845,220 (underestimated amount due to the difficulty in calculating direct and indirect costs), which fall on the public sector, companies and society. Such financial effects impact work relationships, productivity and motivation<sup>(3)</sup>, raising the need for interventions to reduce economic, social and personal costs resulting from incapacity to work<sup>(15)</sup>.

The ICD-10 category of mood disorders (F30-F39) was the main cause of MBD-related leave, followed by neurotic, stress-related and somatoform disorders (F40-F48), which confirms data from other national<sup>(16)</sup> and international<sup>(17)</sup> research and research with public servants in Brazil<sup>(10)</sup>. It is a multi-causal trend worldwide, but it is related, above all, to the current way of life, culture, excess of stimuli and information, and also forms of work organization<sup>(18)</sup>.

As MBD are determined by multiple factors, both occupational and non-occupational, their relationship with work requires an investigative care<sup>(19)</sup>. Thus, it is understood that MBD-related leaves observed in this research are associated with stressful factors present at work, such as intense demand for services, precariousness of physical structures and public management, and government policy changes in addition to IFCE employing people from different locations, thus leading to difficulties in integration, feeling of not belonging, adaptation problems, and disruption of social relations. Such factors, therefore, can influence the mental health of subjects and act as triggers for MBD.

But, regardless of whether it is a cause of illness or not, the institution can act as an enhancer of or a protective factor for mental health. It is necessary to draw greater attention to work relations, prepare managers to manage people, recognize skills, motivate and create synergy, develop clear and effective rules to guide people management policies, removals and redistributions, create channels for reporting and investigating moral and sexual harassment, and disclose a firm and clear position against harassment and prejudice<sup>(18)</sup>.

Thus, sociodemographic and occupational factors must be recognized as contributors to leaves from work due to MBD at IFCE. Nevertheless, considering the multiple causes of MBD, it is recommended to investigate other factors potentially associated with illness and absenteeism, such as lifestyles, work organization, and organizational and psychosocial factors at work.

Thus, some strategies for coping with absenteeism due to MBD in the institution should include: the promotion of healthy work environments, workplace inspections, greater interaction between the medical expert and the multidisciplinary team with the aim of reallocating the civil servant at work, participation of workers associations in the dissemination of information and awareness campaigns, and the development of occupational health promotion programs.

As this is an innovative study that investigates workers' leaves due to MBD in a federal educational institution in the state of Ceará, this research is relevant to public health insofar as it encourages the discussion about the mental health of this specific population group, thereby unveiling the profile of workers on leave and the associated epidemiological factors, which may encourage further studies in the sense of analyzing in more detail the association between epidemiological factors and leaves due to MBD, as well as exploring the work-disease causal nexus<sup>(20)</sup>. Moreover, it is believed that the dissemination of these data, in addition to improving the understanding of the subject, may encourage the institution to invest in aspects related to the mental health of its workers with a view to promoting health and avoiding sick leave.

The limitations of this study are: the use of secondary data from an information system that still faces underreporting; the finding of two servants in the sample with leaves due to diagnoses in the group of behavioral disorders and emotional disorders (which usually appeared during childhood or adolescence (F90-F98) and which may have influenced the appearance of MBD in adulthood); important factors related to mental illness and absenteeism, such as habits and lifestyle, exposure to occupational factors and prior health conditions not investigated; the survival analysis, as the Kaplan-Meier method does not allow data to be covaried by other independent variables of interest; the possibility of a bias in relation to the date of the first leave of absence, since records in SIASS started only in 2010 and possible leaves of civil servants admitted before that date were not considered.

## CONCLUSION

The findings of the present study showed an increase between 2010 and 2018 in leaves, days away from work and the incidence of civil servants on leave due to MBD, with a predominance of mood disorders and neurotic, stress-related and somatoform disorders, which generated high financial effects for the institution (State).

Among the workers on leave, the following predominated: administration technicians, women, people aged between 18 and 39 years, single individuals, and workers with shorter length of service at the institution (9 years or less), belonging to economic class C and who worked in the countryside of the state of Ceará.



Finally, the survival analysis showed a positive association between some sociodemographic characteristics and early leave due to MBD, such as: workplace (countryside), marital status (single), age range (18 to 39 years old), length of service at the institution (9 years or less) and salary range (economic class C).

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

## CONTRIBUTIONS

All the authors contributed equally, approved the final version for publication and are responsible for its content, integrity and accuracy.

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## REFERENCES

1. Organização Mundial da Saúde; Organização Pan-Americana de Saúde. Folha informativa - Transtornos mentais. Genebra: OMS; 2018.
2. Ministério da Fazenda (BR). 1º Boletim Quadrimestral sobre Benefícios por Incapacidade de 2017. Adoecimento Mental e Trabalho: a concessão de benefícios por incapacidade relacionados a transtornos mentais e comportamentais entre 2012 e 2016 [Internet]. Brasília: Ministério da Fazenda; 2017 [accessed on 2020 Mar 16]. Available from: <http://sa.previdencia.gov.br/site/2017/04/1%C2%BA-boletim-quadrimestral.pdf>
3. Mendes R. Patologia do Trabalho. 3ª ed. São Paulo: Atheneu; 2013.
4. Santi DB, Barbieri AR, Cheade MFM. Absenteísmo-doença no serviço público brasileiro: uma revisão integrativa da literatura. Rev Bras Med Trab [Internet]. 2018 [accessed on 2020 Nov 18];16(1):71-81. Available from: <http://www.rbmt.org.br/details/296/pt-BR>
5. Organization International Labour. Workplace Stress: a collective challenge. Geneva: ILO; 2016.
6. Eizirik CL, Bassols MAS. O Ciclo da Vida Humana: uma perspectiva psicodinâmica. 2ª ed. Porto Alegre: Artmed; 2013.
7. Orellana JDY, Ribeiro MRC, Barbieri MA, Saraiva MC, Cardoso VC, Bettiol H, et al. Transtornos mentais em adolescentes, jovens e adultos do Consórcio de Coortes de Nascimento brasileiras RPS (Ribeirão Preto, Pelotas e São Luís). Cad Saúde Pública [Internet]. 2020 [accessed on 2021 Oct 17];36(2):e00154319. Available from: <https://www.scielo.br/j/csp/a/vwb4zLk6LpJ5RrKzRmgBvbh/?format=pdf&lang=pt>
8. Souza LS, Barbosa B, Silva CO, Souza A, Ferreira T, Siqueira L. Prevalência de transtornos mentais comuns em adultos no contexto da Atenção Primária à Saúde. Rev Port Enferm Saúde Mental [Internet]. 2017 [accessed on 2020 Dec 18];18:59-66. Available from: [https://www.researchgate.net/publication/322289781\\_Prevalencia\\_de\\_transtornos\\_mentais\\_comuns\\_em\\_adultos\\_no\\_contexto\\_da\\_Atencao\\_Primaria\\_a\\_Saude](https://www.researchgate.net/publication/322289781_Prevalencia_de_transtornos_mentais_comuns_em_adultos_no_contexto_da_Atencao_Primaria_a_Saude)
9. Loureiro T, Mendes GHS, Silva EP. Modelos de gestão e o sofrimento de servidores assistentes em administração. Rev Psicol Organ Trab [Internet]. 2017 [accessed on 2020 Nov 18];17(2):97-105. Available from: [http://pepsic.bvsalud.org/scielo.php?script=sci\\_arttext&pid=S1984-66572017000200004&lng=pt&nrm=i](http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1984-66572017000200004&lng=pt&nrm=i)

so

10. Leão ALM, Branco AB, Rassi ER Neto, Ribeiro CAN, Turchi MD. Absenteísmo-doença no serviço público municipal de Goiânia. *Rev Bras Epidemiol* [Internet]. 2015 [accessed on 2020 Mar 02];18(1):262-77. Available from: <https://www.scielo.br/j/rbepid/a/9MZmvBrkXnCW7xsxNxBYCMv/?lang=pt&format=pdf>
11. Carrapato P, Correia P, Garcia B. Determinante da saúde no Brasil: a procura da equidade na saúde. *Saúde Soc* [Internet]. 2017 [accessed on 2020 June 02];26(3):676-689. Available from: [https://www.scielosp.org/scielo.php?script=sci\\_arttext&pid=S0104-12902017000300676](https://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0104-12902017000300676)
12. Sousa MNAS. Doenças profissionais, categorias e fatores associados no Brasil. *J Med Health Promot* [Internet]. 2018 [accessed on 2020 Dec 17];3(4):1053-62. Available from: <http://jmhp.fiponline.edu.br/pdf/cliente=13-2a151bad0bf6ab405927c677b94ccee.pdf>
13. Arends I, Bültmann U, Rhenen WV, Groen H, Klink JJLVD. Economic evaluation of a problem solving intervention to prevent recurrent sickness absence in workers with common mental disorders. *PloS one* [Internet]. 2013 [accessed on 2020 Oct 17];8(8):71937. Available from: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0071937>
14. Pereira ACL, Souza HÁ, Lucca SR, Iguti AM. Fatores de riscos psicossociais no trabalho: limitações para uma abordagem integral da saúde mental relacionada ao trabalho. *Rev Bras Saúde Ocup* [Internet]. 2020 [accessed on 2021 Oct 18];45:e18. doi: 10.1590/2317-6369000035118
15. Silva JS Júnior. Afastamento do trabalho por transtornos mentais e fatores associados: um estudo caso-controle entre trabalhadores segurados da Previdência Social [thesis]. São Paulo: Universidade de São Paulo; 2012.
16. Carlotto MS, Câmara SG, Batista JV, Schneider GA. Prevalência de Afastamentos por Transtornos Mentais e do Comportamento Relacionados ao Trabalho em Professores. *PSI UNISC* [Internet]. 2019 [accessed on 18 Apr 2021];3(1):19-32. Available from: <https://online.unisc.br/seer/index.php/psi/article/view/12464>
17. Hendriks SM, Spijker J, Licht CM, Hardeveld F, Graaf R, Batelaan NM, et al. Long-term work disability and absenteeism in anxiety and depressive disorders. *J Affect Disord* [Internet]. 2015 [accessed on 18 Aug 2021];178:121-30. Available from: <https://pubmed.ncbi.nlm.nih.gov/25805404/>
18. Oliveira TC. Perfis de Adoecimento mental dos servidores públicos federais assistidos pelo SIASS IFGoiano/IFG. *Tecnia* [Internet]. 2019 [accessed on 20 Aug 2020];4(1):52-64. Available from: <http://revistas.ifg.edu.br/tecnica/article/view/219>
19. Ministério da Saúde (BR). Boletim Epidemiológico: Transtornos Mentais Relacionados ao Trabalho no Brasil, 2006–2017 [Internet]. Brasília: Ministério da Saúde; 2019 [accessed on 2020 Feb 16]. Available from: [http://renastonline.ensp.fiocruz.br/sites/default/files/arquivos/recursos/ccvisat\\_bol\\_transtmentais\\_final\\_0.pdf](http://renastonline.ensp.fiocruz.br/sites/default/files/arquivos/recursos/ccvisat_bol_transtmentais_final_0.pdf)
20. Fernandes MA, Santos JDM, Moraes LMV, Lima JSR, Feitosa CDA, Sousa LFC. Transtornos mentais e comportamentais em trabalhadores: estudo sobre os afastamentos laborais. *Rev Esc Enferm USP* [Internet]. 2018 [accessed on 17 Oct 2021];52:e03396. Available from: <https://www.scielo.br/j/reeusp/a/vxYwNTZwvpWTf6ZFM9RnY3k/?format=pdf&lang=pt>

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