

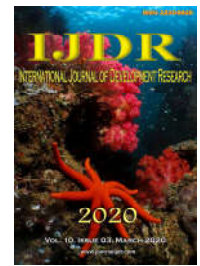


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## A SYSTEMATIC REVIEW OF THE WORK AND MENTAL HEALTH RELATIONSHIP: MAJOR APPROACHES ON THE BURNOUT SYNDROME

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### ABSTRACT

**Introduction:** In the context of mental health and its relationship to work, current working hours are longer and standardized. Shift work is prevalent worldwide. It is estimated that approximately 15-20% of employers use a work shift system in industrialized countries around the world. Shift work may be associated with mental health. In addition, authors have recently published a secondary analysis of data provided by the Burnout Project, Motivation and Job Satisfaction, examining the associations between unnecessary work tasks and a decrease in mental health. **Objective:** This paper aimed to present, through systematic review, the main considerations on the relationship between mental health and work. **Methods:** The present study followed a systematic review model. After criteria of literary search using MeSH Terms, a total of 54 clinical studies were collated and submitted to the eligibility analysis and, after that, 18 studies were selected, following the rules of PRISMA. The search strategy was performed in the PubMed, Embase, Ovid and Cochrane Library, Web Of Science, ScienceDirect Journals (Elsevier), Scopus (Elsevier), OneFile databases. Major **Findings and Conclusion:** Shift work is related to an increased risk of mental health problems in production workers, and shift work-related sleep disorders are a central mechanism for this relationship. Thus, proactive management of sleep problems can mitigate their detrimental effects on shift workers' mental health. Interventions aimed at reducing work relationship conflicts and promoting problem solving are likely to improve work-related well-being. Also, attention to improving labor resources can also be beneficial. In addition, clinical events found in the emergency room can affect a physician's psychological and physical well-being. Therefore, working long hours or irregular hours deteriorates the mental health of workers.

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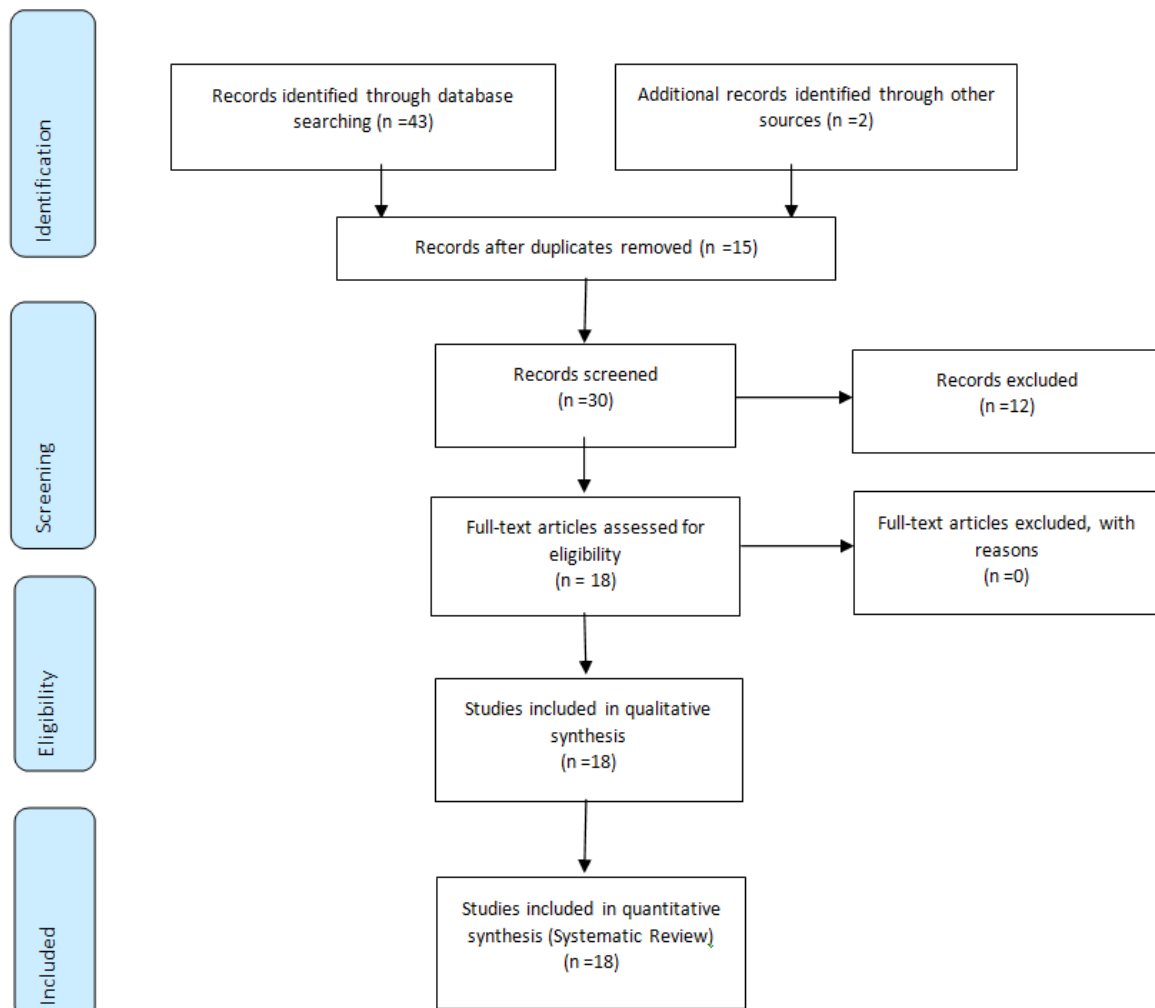
## INTRODUCTION

In the context of mental health and its relationship with work, current working hours are longer and standardized (Kang, 2017). Technological and organizational advances and high demands from employers have led to the introduction of shift work systems to ensure the continuous operation of various sectors. As such, workers in many professions have a schedule that includes work at times other than daytime hours (Kang, 2017). Shift work is prevalent worldwide. It is estimated that approximately 15 to 20% of employers use a work shift system in industrialized countries worldwide (Madsen, 2014).

According to data from the Occupational Health Survey, 29% of all US workers in 2010 worked alternate shifts and 15% of workers regularly worked the night shift. In Europe, approximately 1 in 5 workers are involved in any type of shift that involves night work, and 1 in 10 workers has more than 5-night shifts per month. The Korean Ministry of Employment and Labor examined the working hours of companies with 10 or more regular employees (n = 3414) in 2011 and found that about 15.2% of all industries and 22% of all companies of manufacturing had a shift system in place (Madsen, 2014). Shift work can be associated with mental health, however, there is comparatively less research on this issue than on physical effects, and the results remain inconclusive

(Alterman, 2010). Although the understanding of the impact of shift work on mental health is increasing, most research on this topic has used data from a single or a few groups such as health professionals, especially nurses, as well as hotel workers and oil industry workers (Diniz, 2012). In addition, few studies have addressed the possible gender differences in the effects of work shifts in mental health (Thun, 2014; Moon, 2015; Ljoså, 2011; Norder, 2015 and Durand-Moreau, 2015). Within this context, an important study analyzed the relationship between work shift and mental health, in particular insomnia, depression and suicidal ideation. We investigated this relationship separately for men and women after controlling for certain confounding factors, such as age, marital status, whether children are living at home, education, and workplace (Kang, 2017). In addition, Madsen et al. (Madsen, 2014) recently published a secondary analysis of the data provided by the Burnout, Motivation and Job Satisfaction Project, examining the associations between unnecessary work tasks and a decrease in the level of mental health. Thus, it was observed that there is an association between unnecessary work tasks and a decrease in the level of mental health, ditto (assessed by the Mental Health Inventory (MHI-5)), in the specific population included in this research. So, the big question is whether or not to eliminate unnecessary tasks, however, the most important thing would be to increase the focus on what makes sense to the worker, with a global view of their work. Therefore, this study aimed to present, by means of a systematic review, the main considerations about the relationship between mental health and work.

## Flowchart



## MATERIALS AND METHODS

### Study Model

The present study followed a systematic review model. After literary search criteria using the MeSH Terms that were cited in the item below on “Search strategies”, a total of 48 clinical studies were compared and submitted to the eligibility analysis and, after that, 18 studies were selected, following the systematic review rules – PRISMA (Transparent reporting of systematic reviews and meta-analyzes-http: //www.prisma-statement.org/).

### Search Strategy and Information Sources

The search strategy was carried out in the databases PubMed, Embase, Ovid and Cochrane Library, Web Of Science, ScienceDirect Journals (Elsevier), Scopus (Elsevier), OneFile (Gale) followed the following steps: - search by MeSH Terms: *Health mental. Job. Burnout syndrome. Clinical studies*, and use of Booleans “and” between mesh terms and “or” among historical findings.

### Risk of Bias

According to the Cochrane model for the risk of bias in the present study, the global assessment resulted in 4 studies with a high risk of bias and 3 studies with uncertain risk. In addition, there was an absence of the funding source in 2 studies and 3 studies did not disclose information about the declaration of conflict of interest.

## DEVELOPMENT AND DISCUSSION

Based on literary findings on the relationship between mental health and work, it is essential to identify levels of work demands and resources, including demands related to workload, work patterns and work environment, relationship conflicts, control, support, clarity role management and change management. Thus, a study determined the relationship between work shift and mental health, particularly insomnia, depression and suicidal ideation, among electronics production workers. A survey was conducted with 14,226 workers from an electronics manufacturer in South Korea. After excluding 112 individuals with incomplete answers, 14,114 respondents were analyzed. As part of a larger project, data was collected on the general characteristics of the interviewees, characteristics related to work and health status; however, in this study, we focused on data related to work shift and mental health. In relation to day workers, shift workers had 2.35, 1.23 and 1.17 greater chances of insomnia, depression and suicidal ideation, respectively. Within the group of shift workers, we found that the chances of depression and suicidal ideation increased dramatically when respondents had insomnia. Therefore, shift work is related to an increased risk of mental health problems in production workers, and shift-related sleep disorders are a central mechanism for this relationship. Thus, proactive management of sleep problems can mitigate its detrimental effects on the mental health of shift workers (Kang, 2017).

Thus, a study of 909 firefighters in seven fire and rescue services in the United Kingdom (85% male) used a labor demands and resources framework to examine their impacts on work-related well-being (Payne, 2000). The performance of recovery strategies in predicting work-related well-being was also considered. Work demands and resources were assessed by the Health and Safety Executive Management Standards Indicator Tool. The validated scales measured recovery strategies (detachment, affective rumination and reflection on problem solving) and work-related well-being (satisfaction of anxiety and enthusiasm for depression). The impact of job demands, resources and recovery strategies was tested by multiple linear regression. The main risk factors for work-related malaise were relationship conflicts and affective ruminations, but features such as clarity of roles and work control and the use of thoughtfulness and detachment in solving problems were beneficial. Interventions that aim to reduce relationship conflicts at work and promote problem solving are likely to improve work-related well-being. Furthermore, attention to improving work resources can also be beneficial (Payne, 2000). In addition, status inconsistency refers to a discrepancy between a person's position in one domain of their social environment and the position in another domain. Thus, a study evaluated the relationship between status inconsistency and mental health. Two approaches were used to measure status inconsistency: 1) over-education for their work (objective measure); and b) not using their skills in their work (subjective measure). Several methodological approaches have been implemented to assess the robustness of our findings, including analysis of instrumental variables, random effects and fixed effects. Mental health was assessed by the Mental Health Inventory-5 (MHI-5). The analysis of random effects indicates that only the subjective measure of status inconsistency was associated with a slight decrease in mental health ( $\beta$ -1.57, 95% -1.78 to -1.36,  $p < 0.001$ ). This size of these coefficients was maintained in the analysis of

instrumental variables. Therefore, the status inconsistency explained some of the relationships between social determinants (such as work and education) and mental health outcomes (Milner, 2017). In addition, a recent study investigated longitudinally to what extent the gender composition of occupation (for example, the extent to which occupation is composed of men versus women) has an impact on mental health. We used 14 annual vacancies from the Household Income Dynamics in Australia (HILDA) study to build a measure that represents the gender ratio of an occupation. The outcome measure was the Mental Health Inventory (MHI-5). A Mundlak model was used to compare effects within and between people, after controlling for possible confounding factors. The results suggest that men and women employed in occupations in which their own sex was dominant had better mental health than those in gender-neutral occupations (among personal effects). However, the intra-person results suggested that a move from an occupation dominated by gender to an occupation dominated by men or women was associated with a decline (women) and improvement (men) in mental health. These results highlighted the need for more research on specific gender selection within and outside different occupations, in order to make progress in understanding gender as a social determinant of health in the context of work (Milner, 2018). In this context, "Specialization by experience" is a highly valued element in the provision of recovery-oriented mental health care services, but it is not recognized in the mental health nursing literature. Thus, a study explored the extent and influence of the personal experience of mental health professionals in mental health problems in clinical practice. Twenty-seven mental health nurses with their own personal experience of mental illness were interviewed about how their personal experience informed their mental health nursing practice, as part of a sequential study of mixed methods. The influence of personal experience in nursing work was threefold, first, through open disclosure, second, through the "use of the self as a tool", and third, through the formation of professional nursing identity. The nurses' experience in nurses' mental health was contextualized by other life experiences and by certain therapeutic relationships and clinical contexts. In previous empirical studies, nurses cited the personal experience of mental illness as a motivator and an aspect of their identity. There was also an association between personal experience and the improvement of nursing specialization (Oates, 2017).

In addition, emergency medicine is a high-pressure specialty with exposure to disturbing events and risks. Therefore, a qualitative study was conducted to identify which clinical events resulted in emotional disturbances and the impact of these events on the well-being of doctors working in an emergency room. The principles of naturalistic research were used to conduct narrative interviews with doctors working in the Emergency Department at the University Hospital of Manchester, NHS Foundation Trust, between September and October 2016. Participants were asked how: "Could you tell me about a time when an event at work happened? continued to play in your mind after the shift in which it occurred?" 17 participants were interviewed. In the first, a priori theme ("clinical events"), factors associated with emotional disturbance included young or traumatic deaths, patients or situations with which doctors could relate, witness the impact of death on relatives, the burden of responsibility (including medical error) and conflict in the workplace. Under theme 2 (psychological and physical effects), participants reported

substantial disorders, leading to substance misuse, sleep disturbances and neglecting their own physical needs out of concern for care. In theme 3 (impact on relationships), many respondents described the abandonment of personal relationships after clinical events, while others described feeling isolated because friends and family were not doctors. Therefore, clinical events found in the emergency room can affect a physician's psychological and physical well-being. For many participants, these effects were negative and long-lasting (Howard, 2018). Another study examined the relationship between work-based cultural activities and the mental health of employees working in Sweden. A positive relationship was expected between the frequent cultural activity at work and the good health of employees. Swedish men and women working in three places were randomly sampled, 2006, 2008 and 2010, with an average participation rate of 60%. A postal questionnaire with questions about cultural activities organized for employees and about emotional exhaustion (Maslach) and depressive symptoms (short form of ECF). Employee assessments of "manager who doesn't listen" and work environment ("psychological demands" and "decision latitude"), as well as socioeconomic variables were covariates. As a result, there was less frequency of cultural activities at work during the period of high unemployment. The effects of relationships with emotional exhaustion were more significant than those with depressive symptoms. Associations were mitigated when adjustments were made to the manager's role (does your manager listen?) And to demand / control. Associations were more pronounced in the period with low unemployment and high cultural activity at work (2008). In a prospective analysis, cultural activity at work in 2008 had a statistically significant "protective" effect on emotional exhaustion in 2010. No similar association was found between 2006 and 2008. Therefore, cultural activities at work varied according to the cycle business and have a statistical association with employees' mental health, mainly with emotional exhaustion (Theorell, 2013). In this context, there is a growing recognition of the psychological impact on employees working in challenging healthcare environments. In forensic mental health services (SMF), powerful transference and countertransference reactions may arise in team-patient relationships and may even contribute to cases of negligence, but there is little empirical research. Thus, a paper explored the experiences of SMF employees in two contrasting services. Thirteen in-depth interviews were conducted with employees from various clinical disciplines in a secure unit of the National Health Service, and 12 interviews were conducted with these employees from a Personality Disorder Unit in a secure unit. Therefore, the clinical and organizational aspects of the work seemed separate in the minds of the team, with the latter being reported as more stressful; team support came in the form of close relationships with colleagues, who found themselves isolated in the context of a broader environment. The promotion of the well-being and effectiveness of SMF staff must therefore take into account the clinical, organizational and social aspects of their situation (Kurtz, 2011).

Although the previous literature has examined the relationship between the characteristics of working hours and the mental health of the worker, the establishment of the causal effect of the characteristics of working hours is challenging due to problems of endogeneity. Thus, a study investigated how various characteristics of the work schedule affect workers' mental health using employee surveys and actual hours of

work recorded over seventeen months in a Japanese-made company. The sample includes 1334 white-collar workers and 786 blue-collar workers observed from 2015 to 2016. Therefore, long hours of work cause the mental health of workers to deteriorate, even after controlling for individual fixed effects. In addition, working on weekends is associated with mental health problems (the negative effect of an hour's increase in weekend work is one and a half to two times greater than overtime work during the week). Thus, taking a relatively long rest period on weekends is more important for keeping workers healthy than ensuring a sufficient daily rest period. Thus, working for long hours or irregular hours deteriorates workers' mental health (Sato, 2019). In addition, a recent study surveyed 450 employees from various companies using questionnaires that involved the questions "how does emotional intelligence (IE) affect performance and exhaustion at work? Direct or indirect? What is the role of psychological capital? " As a result, employee IE has a positive predictive effect on psychological capital and job performance and is negatively correlated with job depletion. Psychological capital has a negative predictive effect on job depletion and a positive predictive effect on job performance, and psychological capital plays a mediating role in the relationship between EI and work wear/performance. Thus, the results can contribute to the development of IE theories in the field of organizational behavior. As for companies, improving employees' IE will help improve their psychological capital, and high psychological capital will lead to positive job performance and less workwear (Gong, 2019).

## Conclusion

Shift work is related to an increased risk of mental health problems in production workers, and shift-related sleep disorders are a central mechanism for this relationship. Thus, proactive management of sleep problems can mitigate their detrimental effects on shift workers' mental health. Interventions that aim to reduce relationship conflicts at work and promote problem-solving are likely to improve work-related well-being. Still, attention to improving labor resources can also be beneficial. In addition, clinical events found in the emergency room can affect a physician's psychological and physical well-being. Working long hours or irregular hours deteriorates workers' mental health.

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