Asia Pacific Environmental and Occupational Health Journal (ISSN 2462 -2214), Vol 7 (1): 7- 18, 2021

OVERVIEW OF WORKPLACE DEPRESSION: STRESSORS, CONSEQUENCES AND ASSESSMENT

Sushree Sahu[1], Ram Pratap Beniwal[2], Mina Chandra[2], Triptish Bhatia[3], Atreyi Ganguli[4], Fikru Tesfaye Tullu[4], Manish Kandpal[2], Lokesh Shekhawat[2], Gyan Deepak Shah[3], Smita N. Deshpande[4]

[1]The Neurobiology of Dyslexia; integrating brain with behaviour, DST project, Department of Psychiatry and De-addiction, Centre of Excellence in Mental Health, Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, New Delhi, India.

[2]Centre of Excellence in Mental Health, Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, New Delhi, India.

[3]Indo-US Projects and NCU-ICMR, Department of Psychiatry and De-addiction, Centre of Excellence in Mental Health, Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, New Delhi, India.

[4]World Health Organization Country Office for India, New Delhi, India

Corresponding author: Smita N. Deshpande, MD smitadeshp@gmail.com. Department of Psychiatry & Drug De-addiction, Centre of Excellence in Mental Health, ABVIMS-Ram Manohar Lohia Hospital, New Delhi, India.

ABSTRACT

Objective: Depression, an increasingly common disorder in the population, results in poor productivity among employees. As part of the World Health Organisation (WHO) theme "Depression- Let's Talk', in 2017, a narrative review of workplace depression was undertaken. **Methods:** Key words were selected after discussion with experts and from major articles. An extensive search was conducted on the WHO website, Wiley, Google Scholar, PubMed, online journals using key terms like 'depression in India', 'workplace depression', 'workplace stress', 'occupational stress', 'occupational health hazard', 'risk factors for employee depression', 'psychosocial factors for employee depression', 'assessment of workplace depression', 'measurement of workplace depression', 'tools for workplace depression'. Articles published from November 2017 till November 2019 were reviewed, and cross references were checked. Articles were reviewed and discussed among authors and relevant factors were identified. **Results:** 101 out of 219 shortlisted articles were included based on relevance and focus on risk factors, consequences and assessment of workplace depression. Four basic risk factors were identified: 'social climate', 'work characteristics', 'at risk population' and 'type of work'. Articles on suicide and interventions for workplace depression were excluded. **Conclusion:** Type of work, work characteristics, and employee behaviour are risk factors for workplace depression. Women and employees with chronic physical illnesses are at greater risk for workplace depression. Depression in employees contributes to declined productivity and additional economic costs for organisations due to 'absenteeism' and 'presenteeism'.

Keywords: *Depression, occupational stress, absenteeism, presenteeism, burnout.*

1. Introduction

Globally, depression is estimated to affect over 300 million people and is a leading cause of morbidity and mortality across all age groups (WHO, 2013). Depression is ranked by the WHO as the single largest contributor to global disability (7.5% of all years lived with disability in 2015) (WHO, 2017). The National Mental Health Survey of India in 2016 puts the lifetime prevalence of depression at 5.2%, implying that 1 in 40, and 1 in 20 Indians suffer from past or current depression respectively (Murthy, 2017).

Depression is defined in the ICD-10 as a condition characterized by persistent sadness, loss of interest in activities that were once enjoyable, loss of energy, and fatigue (World Health Organization, 1992). It is associated with changes in appetite and sleep, feelings of worthlessness and guilt, low self-confidence with difficulties in thinking, decision-making and concentration, and suicidal thoughts or acts. The WHO has categorized depression as a common mental disorder along with anxiety WHO, 2017). Anxiety is a condition marked by excessive worry and feelings of fear, dread, and uneasiness that last six months or longer (WHO, 1992). Depression and anxiety affect individuals from all walks of life globally, and are serious concerns in low income nations like India owing to factors of growing population, ageing, and recognition across life span (Ferrari et al., 2013).

An estimated 5-20% of the general population suffer from subclinical depression which impairs worker productivity and satisfaction (Preisig et al., 2001). Subclinical depression is a potential risk factor for major depression leading to emotional suffering, functional impairment and reduced quality of life (Furukawa et al., 2012). The rates of major depression at workplace are estimated to be similar to those in the general population (Goldberg & Steury, 2001; Waraich et al., 2004). Approximately 39% of the total population (472 million people) account for the workforce in India, while a large proportion of Indians are employed in the unorganized sector (World Health Organization Country Office for India [WCO], 2017). 42.5% of the corporate employees in India were estimated to suffer from depression (ASSOCHAM, 2016), while the prevalence of occupational stress is said to be 93.3% (Mishra et al., 2011). Therefore, it is essential to study the workplace both as a source of psychiatric illnesses like depression (Dutta et al., 2007; Kumar et al., 2011), and as a site for illness management since the average Indian spends approximately one third of their day at work (WCO, 2017). Depression in employees is associated with high turnover rates resulting in high costs for the organization from orienting and training new employees (Boushey & Glynn, 2012). Employees harbor ill-will towards the organization thereby increasing attrition rates. This has further economic implications for the organization, adding to losses in terms skill, expertise and loyalty. Data from rural India also suggests an impairment in ability to work due to depression usual, and with care seeking costs being equivalent to 3 weeks of agricultural wages (Chisholm et al., 2000; Patel et al., 1998).

This article aims to provide a narrative review of (1) the risk factors, (2) consequences, and (3) assessment tools for workplace depression

2. Materials and Method

Articles focusing on depression and common mental illnesses (since we felt that mild depression may be included therein) at workplace were reviewed. Ethical clearance for this review was obtained from the RMLH-Ethics Committee.

2.2 Methods (framework) of review

All authors met to discuss the framework of the review. It was decided that an extensive narrative review would be conducted, as academic references focusing on but not limited to the Asian region, were somewhat scanty. Personal communications, case reports, reports in popular media were also included. The authors continued consultations personally and through electronic means throughout the study. We used the operational definition of the WHO ‘depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration’ (Marcus et al., 2012).

2.3 Literature search

We conducted an extensive search of the existing literature between November 2017 to November 2019 on Pubmed, the WHO website, Wiley, and Google Scholar using key terms such as ‘depression in India’, ‘workplace depression’, ‘workplace stress’, ‘occupational stress’, ‘workplace anxiety’, ‘occupational health hazards’, ‘mental health at work’, ‘risk factors for depression in employees’, ‘psychosocial factors of employee depression’, ‘assessment of workplace depression’, ‘tools for workplace depression’, ‘measuring workplace depression’ ‘burnout’, ‘sexual harassment’, ‘workplace bullying’, ‘job satisfaction’, ‘employee resilience’, ‘intervention for workplace depression’, ‘suicide in employees’, ‘happy at work’. To widen the search further, English language articles published in the last 10 years from the Indian subcontinent and Southeast Asia were also reviewed. Relevant articles from the bibliographies of retrieved articles and reports by

multinational companies like Deloitte and country reports where available, were included. Popular literature on the topic, like online journals and news reports were also reviewed. Key word selection was based on relevant articles, and further search conducted using the new key words. We tried to include as many articles as we could fully access. Articles were excluded if they focused only on suicide at workplace. Articles written in any other language except English were also excluded.

All authors contributed to searching and reviewing the relevant literature, and met regularly to prepare the structure of the manuscript. Articles were read in depth by two authors and relevant sections selected. SS synthesized all the data by summarizing the results and the findings to prepare the initial draft, which was reviewed by all authors and revised as required. The final review was approved by all authors.

3. Results

A total of 219 articles (after removing duplicates) were found suitable for this review. Out of them, 186 articles were included in the original review that included sub-topics of suicide and interventions. These included fact sheets from the WHO website indicating important figures about prevalence of depression. Of these, 101 articles were included in the current review focusing on risk factors, consequences and assessments. These were read in depth by two authors and relevant sections selected.

Our search generated literature that could be broadly divided into four sections: risk factors, consequences, assessments, suicide, and interventions for workplace depression. This paper focuses on the first three factors.

3.1 Risk factors

Risk factors comprise of psychosocial factors that combine with the social work environment to contribute to poor mental health (Stansfeld & Candy, 2006). We categorized risk factors into 4 domains: social climate, work characteristics, at risk populations, and type of work. They are not strictly categorical domains and overlaps between two or more domains was common.

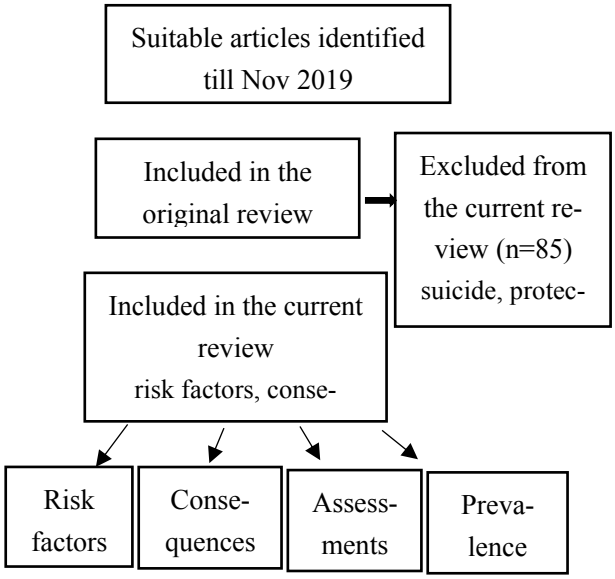

Fig1. Flow chart of inclusion and exclusion of articles for the narrative review

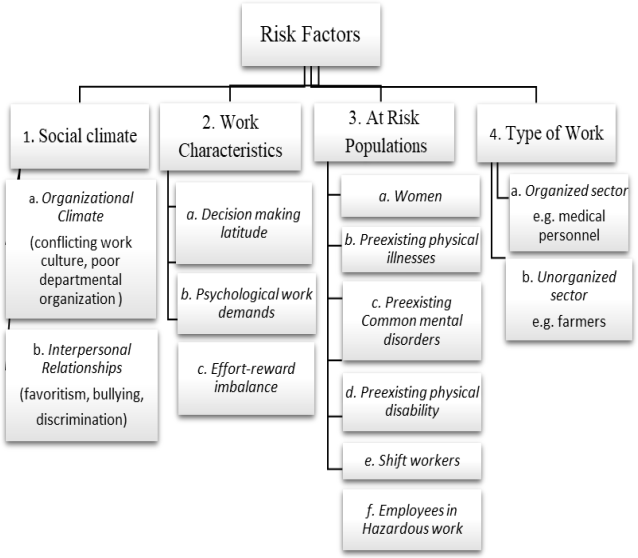

Fig2. List of identified risk factors for workplace depression

3.1.1 Social Climate

The social climate at workplace has been further divided into organizational climate (broadly referring to factors at the organizational level) and interpersonal factors (interpersonal exchange between employees),

both of which are significant risk factors (Corbière et al., 2016). An unhealthy organizational climate characterized by disorganization of work, several executive changes, conflicting work cultures, job transfers, reporting to several bosses increase mental health problems and decrease job satisfaction (Corbière et al., 2016). Other significant organizational stressors include work load (both excessive and inadequate work), lack of clarity in job roles, an erratic work schedule, lack of proper feedback on the job, poor departmental reorganization and lack of cohesiveness in departments (Mishra et al., 2011).

Unhealthy interpersonal exchanges such as workplace discrimination increases depressive symptomatology by perpetuating the perception of unfair treatment at work (Hammond et al., 2010). Both overt, and more frequently, covert discrimination contributes to perceived stress among employees (Dutta et al., 2007). Workplace bullying, used interchangeably with harassment, is another interpersonal phenomenon that leads to social exclusion in the victim (D'C Ruz, 2014). Bullying experiences result in low self-esteem, sleep disorders, poor self-confidence, self-hatred in victims (D'C Ruz, 2014), and can predict mental illness at work five years later (Einarsen & Nielsen, 2014). Other interpersonal stressors include difficulty with superiors (such as credit taken by seniors for the work done by the worker), favoritism, conflicts with other employees.

3.1.2 Work characteristics

Work characteristics refers to the nature of the work that increases psychological strain in employees. Two widely studied aspects are employees' decision latitude and psychological demands of the work (Karasek, & Theorell, 1992) . Decision latitude refers to employees' control over work and the freedom to use their skills at work. Having lower decision making authority and fewer opportunities to use one's skills at work causes fatigue, depression and anxiety. Psychological demands of the job are characterized by rapid workplace and conflicting work demands. Faster pace of work, conflicting roles and responsibilities create an unpleasant social environment at work that makes the worker susceptible to mental illness (Bromet et al., 1992; Kawakami et al., 1992).

Moreover, the effort-reward imbalance model suggests that an imbalance between efforts invested and rewards received contributes to depression in employees (Siegrist et al., 2009; Stansfeld & Candy, 2017). All the above factors increase psychological strain and along with work-family conflicts have addictive effects on the risk for major depression (Nigatu & Wang, 2017).

3.1.3 At risk populations

Certain populations have significant risk for workplace depression. For example, female employees are more likely than their male counterparts to develop depression owing to the dual roles of managing personal/household as well as organizational responsibilities. This increases with age as more experience endows greater organizational responsibilities, resulting in greater role conflicts for women (Vimala & Madhavi, 2009). Women in the general population are twice as likely than men to develop depression, and constitute a vulnerable population (Colvin et al., 2014; Poongothai et al., 2009).

Sexual harassment is another phenomenon contributing to depression in female employees as they suffer at the hands of colleagues, subordinates, supervisors as well as clients/customers (Gnanaselvam & Joseph, 2017; Friborg et al., 2017). Harassment can take various forms like sexual coercion through offers of bonuses, promotion and other perks in return of sexual favors, creating an adverse work environment (Mcdonald, 2012; Snyder et al., 2012). Furthermore, sexual harassment may be normalized as an inevitable part of professional practice. Interestingly, workplace depression is higher in professions incongruent with societal gender roles. Men employed in professions considered to be typically female domains, like social work and teaching, are vulnerable to depression arising from differential task assignment to men and women in these professions. A work culture that is more amenable to females increases depression in men employed in such professions (Wieclaw, 2006).

Employees with preexisting physical illnesses like cardio metabolic, musculoskeletal conditions, cardiovascular diseases and psychiatric illnesses are vulnerable to workplace depression. (Ervasti et al., 2014; Hare et al., 2014) as are workers working in hazardous jobs characterized by high occupational injury. Factors like increased disability, difficulty in returning to work, and withdrawal from the labor market after injury constitute significant risk factors (Brown et al., 2007; Mason et al., 2006). Such workers may develop depression after an episode of occupational injury due to reduced income, lack of healthcare and perceived poor physical and mental health (Mason et al., 2006). Injured workers, especially injured females from lower

socio-economic strata are more prone to depression (Kim, 2013). Thus, various risk factors of economic status, injury at work and gender interact to predispose workers towards poor mental health.

Employees with many years of night shift work are susceptible to depression (Angerer et al., 2017). Shift worker and erratic work hours interfere with the circadian rhythm, biological functioning and contribute to reduced attention and memory, which constitute the cognitive symptoms of depression (Özdemir et al., 2013). However, giving more work autonomy to employees during night shifts may protect against depression (Nabe-Nielsen et al., 2011).

3.1.4 Type of Work

Both the organized as well as the unorganized sectors can be risk factors for depression in employees. Unskilled workers engaged in unorganized sectors e.g. farmers are at high risk for depression, stress and fatigue (Behere & Bhise, 2009). Low income groups have higher depression rates than high income groups in rural India, and illiterate individuals have the highest rate of depression (Safwi et al., 2016). Since unskilled workers are more likely to be illiterate belonging to low income groups, they represent a particularly vulnerable group. Women in the unskilled labor force (e.g. women farmers) are particularly susceptible to stress, fatigue and depression due to job stressors like excessive work load and role conflicts that impact their physical, social and financial well-being, as well as that of their family (Behere & Bhise, 2009; Shidhaye et al., 2016).

In the organized sector, medical professionals irrespective of age and sex, carry a significant risk for depression (Kim et al., 2015). Such professionals are vulnerable due to excessive workload, decision-making responsibilities, on-call duty, medical errors, medico-legal problems, and relationships with their patients (Kinnunen-Amoroso & Liira, 2013; McCue, 1982). In the organized sectors, employees from low socioeconomic strata (workers like cleaning staff, security guards, peons) with low family income and less education also constitute a vulnerable population (Chakor et al., 2014; Enara et al., 2019). These employees work long hours in erratic shifts which compromise their mental health (Virtanen et al., 2011).

3.2 Consequences

Depression in employees impacts both the individual and the organization. The annual economic costs to business from mental illness are estimated at $50.7 billion in the United States (Kessler et al., 2006), $14.4 billion in Canada (Stephens & Joubert, 2001), and $14.8 billion in Australia (Medibank, 2008). Globally, the cumulative loss of economic output due to mental disorders is estimated to reach $16 trillion in the next 20 years (Bloom et al., 2011).The employment rate of mentally ill employees is 15–30 % lower as compared to mentally healthy employees, and their unemployment compensation rate is twice as high (Dorner et al., 2016).

Lost productive time of depression vs. without depression among workers represents 5.6 hours/week vs. 1.5 hours/week (Sanderson & Andrews, 2006).
The economic costs stem from worker disability and impairment due to absenteeism (sickness absence) and presenteeism (continuing to work when ill) (Sanderson et al., 2007; Stewart, Ricci, Chee, Hahn, et al., 2003). Presenteeism can be costlier than absenteeism as it reduces worker productivity through reduced attention, concentration, motivation, and decision-making capacity (Sanderson & Andrews, 2006; Stewart et al., 2003). Average number of hours lost due to absenteeism and presenteeism per month is about 43 and 51 respectively (Uribe et al., 2017). Occupational stress reduces job satisfaction and contributes to high turnover rates (Nabirye et al., 2011). Organizations incur high costs due to replacement, as well as recruiting, orienting and training new employees (Boushey & Glynn, 2012).

In fact, presenteeism can be costlier than absenteeism since it impairs worker productivity through reduced attention, concentration, motivation, and decision-making capacity (Stewart et al., 2003) and it creates the least productive workforce that retires early from work (Gilbody et al., 2012). A recent cross cultural study found absenteeism and presenteeism to affect the country's GDP irrespective of culture and economic development (Evans-Lacko & Knapp, 2016). An acceptable and supportive work environment where employees feel comfortable disclosing their diagnosis contributes to higher work attendance. However, the fear of losing one's job from disclosing depression to employer was associated with lower levels of presenteeism.

Depression affects individual employees in different ways: 38.5% of employees reported sleeping less than 6 hours a day due to high stress levels, 48% of employees felt fatigued on a regular basis from general anxiety, approximately 27% of workers suffered from

regular headaches, and 57% of employees did not exercise. (ASSOCHAM, 2016). This further caused diseases like depression, hypertension and high blood sugar.

Workplace stress and depression is associated with coronary heart disease, psychosomatic symptoms, and premature aging and other chronic physical conditions such as asthma, diabetes and hypertension (Vimala & Madhavi, 2009). Some employees suffer from chronic neck and back pain from sitting for long hours at work (Prasad et al., 2016). Long hours and stress cause loss of work life balance, irregular eating habits, consumption of junk food, and cigarette smoking leading to gastrointestinal problems (Paper, 2018). Such workers have triple the risk of disability associated with mental health illness, anxiety, substance use, injuries and infections (Srivastava, 2009).

Workplace stress contributes to unhealthy practices such as alcohol and substance abuse (Darshan M., 2013). Professionally stressed individuals who are susceptible to depression have approximately 4 times higher prevalence of harmful alcohol use compared to their colleagues (Darshan M., 2013). Drinking on the job might be characteristic of certain jobs like investment analysts. Drinking problems and comorbid substance use hamper work productivity by causing forgetfulness (Grunberg et al., 1999).

An emotional consequence of workplace stress is burnout. It results in chronic fatigue leading to poor work performance and reduced resilience among workers (Kumar, 2016). Burnout increases risk for insomnia, and employees with pre-existing sleep disturbances are at higher risk for depression (Magnusson Hanson et al., 2017; Melamed et al., 2006). Thus, burnout is both a risk factor and a consequence of depression, resulting in a cause and effect relationship. In India, burnout has been found to be high among human service professionals (Brown et al., 2003), catholic priests (Raj & Dean, 2005), medical professionals (Ratnakaran et al., 2016), and teachers (Shukla & Trivedi, 2008).

3.3 Assessments

Screening instruments with a high degree of validity and reliability have been designed that can be easily administered to and by lay workers, or self-reported by employees for assessing depression. These include the Patient Health Questionnaire (PHQ-9) (Kroenke et al., 2001), Beck Depression Inventory (BDI II) (Beck & Beamesderfer, 1974), Two-question depression-screening tool (TQI) (Whooley et al., 1997), Professional Life Stress Scale (PLSS) (Fontana, 1989), WHO Health and Work Performance Questionnaire (HPQ) (Kessler et al., 2003).

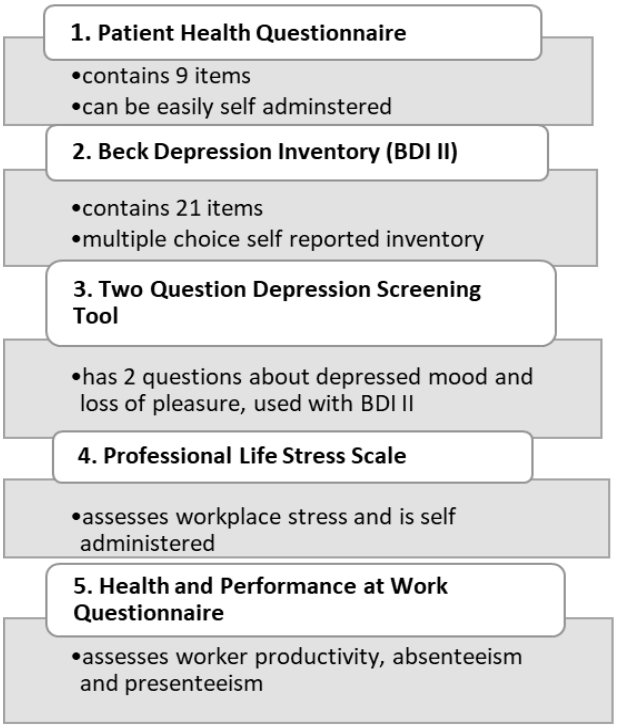

Fig3. Flow chart of workplace assessment tools

4. Discussion

Workplace related factors contribute to the onset of depression as well as aggravate preexisting symptoms. There is a high correlation between occupational stress and mental health problems (Nigatu & Wang, 2017). The workplace is often recognized as an ideal place to raise awareness about mental health, screen vulnerable individuals, initiate and promote effective interventions that would benefit the individual and the organization (Harnois & Gabriel, 2000). Since most of the general population is employed in some kind of work, there is greater potential to reach out to a substantial and productive part of the population through effective interventions at work. This includes those individuals who are at risk but have not yet started manifesting symptoms of depression, within a framework of preventive care and management (Tan et al., 2014).

The purpose of this narrative review was to identify the risk factors, consequences and assessment of workplace depression. Out of 219 articles identified, 101 were found suitable for inclusion in this review. The

length and the breadth of the topic prevented us from detailing all factors, and most factors were found to be the cause as well as the consequence of workplace depression. We excluded 85 articles focusing on workplace suicide and interventions for depression as the authors decided to write a subsequent paper on the topic.

Various factors both, at the organization and the personal level, singly or in combination become risk factors for depression in employees. These include the social climate at work as well as certain characteristics pertinent to the nature of work. Moreover, certain populations with preexisting vulnerabilities carry higher risk for developing depression. These include employees with preexisting physical and psychiatric comorbidities who are more susceptible to unhealthy work climates and experience greater psychological distress. (Ervasti et al., 2014; Hare et al., 2014). Certain populations due to their ascribed lower socioeconomic statuses and lower income groups are at significant risk (Safwi et al., 2016). Women are at greater risk for depression than men, and combined with low income and socioeconmic factors represent a particularly vulnerbale population (Behere & Bhise, 2009; Shidhaye et al., 2016).

Depression strains interpersonal relations among colleagues (Taap Manshor et al., 2003). Occupational stress creates an environment of reduced sensitivity, warmth and tolerance towards each other (Motowidlo et al., 1986). Sexual harassment and bullying are negative interpersonal experiences that create an unhealthy workplace impairing the occupational functioning of healthy employees (Beswick et al., 2006).

Depression has the highest impact on worker productivity and time management (Burton et al., 2004; Henderson et al., 2012). It is the leading cause of workplace absenteeism and presenteesim (Safwi et al., 2016). In fact, the impact of workplace depression is said to be greater than that of other chronic ailments like backache, hypertension, arthritis and diabetes (Kessler et al., 2001). The prevalence of depressive disorders is highest in the age group of 15-64 years, which corresponds to the working population.

Thus regular screening of employees for depression is necessary and is a crucial part of collaborative care (Jiao et al., 2017). Cost effective screening tools for easy administration are available and can be used to monitor progress from time to time (Reynolds & Patel, 2017). PHQ-9, BDI II, TQI, PLSS and HPQ are self-reported tools that can be easily used by employees. This saves administration time and eliminates the need for specialized training, making them appropriate for use in workplaces.

Limitations

Although we tried to be inclusive in our search terms, articles may have been missed or overlooked for various reasons thus limiting our findings to the English language articles only. Owing to the dearth of available literature on depression in the unorganized sector, most of our findings are focused on the corporate or organized sector employees. This excludes a large group of daily wage workers and seasonal workers from the lower socio-economic strata of society. Depression in Indian farmers has not been included since the extent and the intensity of the issue was outside the purview of this review. Likewise, our review did not focus on any single occupation and its specific mental health challenges. This overview is intended to highlight the generic concerns of workplace depression and stress that have immense cost to both the individual and the organization.

5. Conclusion

Depression rates at workplaces may be broadly similar to those in the general population but their socio-economic impact is greater. Most people work, but are exposed to differing stressors and risk factors which make them susceptible to depression. Certain individuals, because of their sex and age, may be more susceptible to depression. The nature of the work, interpersonal dynamics, as well as the amount of support received in the workplace contribute to increased stress and consequent depression. Workplace depression has consequences of reduced employee satisfaction, poor overall physical and mental health, absenteeism and presenteeism, all of which move in a viscous cycle of cause and effect. For example, burnout is both a cause and effect of workplace depression. Worker productivity is grossly impaired that may in turn cause huge losses to the organization and the economy. In order to make workplaces healthier, regular assessment of common mental health issues is imperative. Assessment tools can be used, singularly or in combination, to screen regularly for depression and

stress in employees as the first step in collaborative care management.

Funding

This work was supported by the WHO Country Office of India under WHO Registration 2017/756346-0. The content of this manuscript is solely the responsibility of the authors and does not necessarily represent the official views of WHO, and it has no role in the design and the preparation of the review, or approval of the manuscript; and decision to submit the manuscript for publication.

Acknowledgment

We thank the Research team and the Department of Psychiatry, ABVIMS-Dr. RML Hospital, New Delhi for their continuous support. The salary of SS was supported by the Neurobiology of Dyslexia; integrating brain with behavior, DST project SR/CSRI/80/2016(C). The salary of TB and GDS was supported by the NIH project Fogarty International Center, NIH project 'Cross Fertilized Research Training for New Investigators in India and Egypt (D43 TW009114).

Conflicts of Interest

The author declares no conflict of interest.

References

Angeline Gnanaselvam, N., & Joseph, B. (2017). Nutritional status of young women from a textile industrial area of Tamil Nadu, India. Current Nutrition & Food Science. https://doi.org/10.2174/1573401313666170928143518

Angerer, P., Schmook, R., Elfantel, I., & Li, J. (2017). Night Work and the Risk of Depression. Deutsches Arzteblatt International. https://doi.org/10.3238/arztebl.2017.0404

ASSOCHAM. (2016). Assocham India.

Beck, A. T., & Beamesderfer, A. (1974). Assessment of depression: the depression inventory. Modern Problems of Pharmacopsychiatry, 7, 151–169.

Behere, P. B., & Bhise, M. C. (2009). Guest Editorial: Farmers' suicide: Across culture. In Indian Journal of Psychiatry (Vol. 51, Issue 4, pp. 242–243). https://doi.org/10.4103/0019-5545.58286

Beswick, J., Gore, J., & Palferman, D. (2006). Bullying at work: a review of the literature. Plastic and Reconstructive Surgery, 121, 102e-108e. https://doi.org/10.1097/01.prs.0000299452.24743.65

Bloom, D. E., Cafiero, E. T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L. R., Fathima, S., Feigl, A. B., Gaziano, T., Mowafi, M., Pandya, A., Prettner, K., Rosenberg, L., Seligman, B., Stein, A., & Weinstein, C. (2011). The Global Economic Burden of Noncommunicable Diseases. In World Economic Forum (Issue September). https://doi.org/10.1192/bjp.184.5.393

Boushey, H., & Glynn, S. J. (2012). There Are Significant Business Costs to Replacing Employees. In Center for American Progress (pp. 1–8). https://doi.org/10.1017/CBO9781107415324.004

Bromet, E. J., Dew, M. A., Parkinson, D. K., Cohen, S., & Schwartz, J. E. (1992). Effects of occupational stress on the physical and psychological health of women in a microelectronics plant. Social Science & Medicine, 34(12), 1377–1383. https://doi.org/10.1016/0277-9536(92)90146-H

Brown, J. A., Shannon, H. S., Mustard, C. A., & McDonough, P. (2007). Social and economic consequences of workplace injury: A population-based study of workers in British Columbia, Canada. American Journal of Industrial Medicine, 50(9), 633–645. https://doi.org/10.1002/ajim.20503

Brown, N. C., Prashantham, B. J., & Abbott, M. (2003). Personality, Social Support and Burnout among Human Service Professionals in India. Journal of Community and Applied Social Psychology. https://doi.org/10.1002/casp.734

Burton, W. N., Pransky, G., Conti, D. J., Chen, C. Y., & Edington, D. W. (2004). The association of medical conditions and presenteeism. Journal of Occupational and Environmental Medicine. https://doi.org/10.1097/01.jom.0000126687.49652.44.

Chakor, P. V, Dehmubed, A. S., Giri, P. A., & Palwe, N. S. (2014). Study of socio-demographic determinants of class IV employees in a tertiary care teaching hospital in Mumbai. Indian Journal of Basic and Applied Medical Research.

Chisholm, D., Sekar, K., Kumar, K. K., Saeed, K., James, S., Mubbashar, M., & Murthy, R. S. (2000). Integration of mental health care into primary care. Demonstration cost- outcome study in India and Pakistan. British Journal of Psychiatry. https://doi.org/10.1192/bjp.176.6.581

Colvin, A., Richardson, G. A., Cyranowski, J. M., Youk, A., & Bromberger, J. T. (2014). Does family history of depression predict major depression in midlife women? Study of Women's Health Across the Nation Mental Health Study (SWAN MHS). Archives of Women's Mental Health, 17(4), 269–278. https://doi.org/10.1007/s00737-014-0433-8

Corbière, M., Samson, E., Negrini, A., St-Arnaud, L., Durand, M.-J., Coutu, M.-F., Sauvé, G., & Lecomte, T. (2016). Factors perceived by employees regarding their sick leave due to depression. Disability and Rehabilitation, 38(6), 511–519. https://doi.org/10.3109/09638288.2015.1046564

D'C Ruz, P. R. (2014). Workplace bullying in India. In Workplace Bullying in India. https://doi.org/10.4324/9781315815947

Darshan M., R. R. . S. R. T. . R. D. . A. B. (2013). A study on professional stress, depression and alcohol use among Indian IT professionals. In Indian Journal of Psychiatry.

Dorner, T. E., Alexanderson, K., Svedberg, P., Tinghög, P., Ropponen, A., & Mittendorfer-Rutz, E. (2016). Synergistic effect between back pain and common mental disorders and the risk of future disability pension: a nationwide study from Sweden. Psychological Medicine, 46(2), 425–436. https://doi.org/10.1017/S003329171500197X

Dutta, S., Kar, N., Thirthalli, J., & Nair, S. (2007). Prevalence and risk factors of psychiatric disorders in an industrial population in India. Indian Journal of Psychiatry, 49(2), 103–108. https://doi.org/10.4103/0019-5545.33256

Einarsen, S., & Nielsen, M. B. (2014). Workplace bullying as an antecedent of mental health problems: a five-year prospective and representative study. International Archives of Occupational and Environmental Health, 88(2), 131–142. https://doi.org/10.1007/s00420-014-0944-7

Enara, A., Santhosh, K., Suchandra, H., Basavaraju, V., & Gowda, G. (2019). Comments on "Study of depression, anxiety and stress among Class IV workers in a medical college in Delhi." Indian Journal of Social Psychiatry. https://doi.org/10.4103/ijsp.ijsp_58_19

Ervasti, J., Vahtera, J., Pentti, J., Oksanen, T., Ahola, K., Kivekäs, T., Kivimäki, M., & Virtanen, M. (2014). The role of psychiatric, cardiometabolic, and musculoskeletal comorbidity in the recurrence of depression-related work disability. Depression and Anxiety, 31(9), 796–803. https://doi.org/10.1002/da.22286

Evans-Lacko, S., & Knapp, M. (2016). Global patterns of workplace productivity for people with depression: absenteeism and presenteeism costs across eight diverse countries. Social Psychiatry and Psychiatric Epidemiology, 51(11), 1525–1537. https://doi.org/10.1007/s00127-016-1278-4

fact_sheet_preventing_depression_workplace.pdf. (n.d.).

Ferrari, A., Charlson, F., Norman, R., Patten, S., Freedman, G., Murray, C., Vos, T., & Whiteford, H. (2013). Burden of Depressive Disorders by Country, Sex, Age, and Year: Findings from the Global Burden of Disease Study 2010. PLoS Medicine, 10(11), e1001547. https://doi.org/10.1371/journal.pmed.1001547

Fontana, D. (1989). Professional life stress scale. In The British Psychological Society and Routledge Ltd.

Friborg, M. K., Hansen, J. V., Aldrich, P. T., Folker, A. P., Kjær, S., Nielsen, M. B. D., Rugulies, R., & Madsen, I. E. H. (2017). Workplace sexual harassment and depressive symptoms: a cross-sectional multilevel analysis comparing harassment from clients or customers to harassment from other employees amongst 7603 Danish employees from 1041 organizations. BMC Public Health, 17(1), 675. https://doi.org/10.1186/s12889-017-4669-x

Furukawa, T. A., Horikoshi, M., Kawakami, N., Kadota, M., Sasaki, M., Sekiya, Y., Hosogoshi, H., Kashimura, M., Asano, K., Terashima, H., Iwasa, K., Nagasaku, M., & Grothaus, L. C. (2012). Telephone cognitive-behavioral therapy for subthreshold depression and presenteeism in workplace: A randomized controlled trial. PLoS ONE, 7(4). https://doi.org/10.1371/journal.pone.0035330

Gilbody, S., Bower, P., & Rick, J. (2012). Better care for depression in the workplace: Integrating occupational and mental health services. British Journal of Psychiatry, 200(6), 442–443. https://doi.org/10.1192/bjp.bp.111.103598

Goldberg, R. J., & Steury, S. (2001). Depression in the Workplace: Costs and Barriers to Treatment. Psychiatric Services. https://doi.org/10.1176/appi.ps.52.12.1639.

Grunberg, L., Moore, S., Anderson-Connolly, R., & Greenberg, E. (1999). Work stress and self-reported alcohol use: the moderating role of escapist reasons for drinking. Journal of Occupational Health Psychology, 4(1), 29–36. https://doi.org/10.1037/1076-8998.4.1.29

Hammond, W. P., Gillen, M., & Yen, I. H. (2010). Workplace Discrimination and Depressive Symptoms: A Study of Multi-Ethnic Hospital Employees. Race and Social Problems, 2(1), 19–30. https://doi.org/10.1007/s12552-010-9024-0

Hare, D. L., Toukhsati, S. R., Johansson, P., & Jaarsma, T. (2014). Depression and cardiovascular disease: A clinical review. In European Heart Journal (Vol.

35, Issue 21, pp. 1365–1372). https://doi.org/10.1093/eurheartj/eht462

Harnois, G., & Gabriel, P. (2000). Mental health and work: Impact, issues and good practices. World Health Organization, 1–77. http://wwwlive.who.int/entity/mental_health/media/en/73.pdf

Henderson, M., Harvey, S. B., Øverland, S., Mykletun, A., & Hotopf, M. (2012). Work and common psychiatric disorders. In Journal of the Royal Society of Medicine. https://doi.org/10.1258/jrsm.2011.100231

Jiao, B., Rosen, Z., Bellanger, M., Belkin, G., & Muennig, P. (2017). The cost-effectiveness of PHQ screening and collaborative care for depression in New York City. PLoS ONE, 12(8), 1–13. https://doi.org/10.1371/journal.pone.0184210

Karasek, R., & Theorell, T. (1992). Healthy work: stress, productivity, and the reconstruction of working life. In Applied Ergonomics (Vol. 23, Issue 5, p. 352). https://doi.org/10.1016/0003-6870(92)90320-U

Kawakami, N., Haratani, T., & Araki, S. (1992). Effects of perceived job stress on depressive symptoms in blue collar workers of an electrical factory in Japan. Scandinavian Journal of Work, Environment and Health, 18(3), 195–200. https://doi.org/10.5271/sjweh.1588

Kessler, R C, Barber, C., Beck, a, Berglund, P., Cleary, P. D., McKenas, D., Pronk, N., Simon, G., Stang, P., Ustun, T. B., & Wang, P. (2003). The World Health Organization Health and Work Performance Questionnaire (HPQ). J Occup Environ Med, 45, 156–174. https://doi.org/10.1097/01.jom.0000052967.43131.51

Kessler, R C, Greenberg, P. E., Mickelson, K. D., Meneades, L. M., & Wang, P. S. (2001). The effects of chronic medical conditions on work loss and work cutback. Journal of Occupational and Environmental Medicine / American College of Occupational and Environmental Medicine, 43(3), 218–225. https://doi.org/10.1097/00043764-200103000-00009

Kessler, Ronald C, Akiskal, H. S., Ames, M., Birnbaum, H., Greenberg, P., Hirschfeld, R. M. a, Jin, R., Merikangas, K. R., Simon, G. E., & Wang, P. S. (2006). Prevalence and effects of mood disorders on work performance in a nationally representative sample of U.S. workers. The American Journal of Psychiatry, 163(9), 1561–1568. https://doi.org/10.1176/appi.ajp.163.9.1561

Kim, J. (2013). Depression as a psychosocial consequence of occupational injury in the US working population: findings from the medical expenditure panel survey. BMC Public Health, 13(1), 303. https://doi.org/10.1186/1471-2458-13-303

Kim, K., Lee, S., & Choi, Y. H. (2015). Relationship between occupational stress and depressive mood among interns and residents in a tertiary hospital, Seoul, Korea. Clinical and Experimental Emergency Medicine, 2(2), 117–122. https://doi.org/10.15441/ceem.15.002

Kinnunen-Amoroso, M., & Liira, J. (2013). Management of work-related stress by Finnish occupational physicians. Occupational Medicine, 63(5), 361–364. https://doi.org/10.1093/occmed/kqt046

Kiran Kumar, P. K., Jayaprakash, K., Monteiro, F. N. P., & Bhagavath, P. (2011). Psychiatric morbidity in industrial workers of South India. Journal of Clinical and Diagnostic Research, 5(5), 921–925. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=emed10&AN=2011580887%5Cnhttp://imprimo.hosted.exlibrisgroup.com/openurl/44IMP/44IMP_services_page?sid=OVID&isbn=&issn=0973-709X&volume=5&issue=5&date=2011&title=Journal+of+Clinical+and

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9. Journal of General Internal Medicine, 16(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kumar, S. (2016). Burnout and Doctors: Prevalence, Prevention and Intervention. Healthcare, 4(3), 37. https://doi.org/10.3390/healthcare4030037

Magnusson Hanson, L. L., Peristera, P., Chungkham, H. S., & Westerlund, H. (2017). Psychosocial work characteristics, sleep disturbances and risk of subsequent depressive symptoms: a study of time-varying effect modification. Journal of Sleep Research, 26(3), 266–276. https://doi.org/10.1111/jsr.12494

Marcus, M., Yasamy, M. T., van Ommeren, M., & Chisholm, D. (2012). Depression, a global public health concern. WHO Department of Mental Health and Substance Abuse. http://www.who.int/mental_health/management/depression/who_paper_depression_wfmh_2012.pdf

Mason, S., Turpin, G., Woods, D., Wardrope, J., & Rowlands, a. (2006). Risk factors for psychological distress following injury. The British Journal of Clinical Psychology / the British Psychological Society, 45(Pt 2), 217–230. https://doi.org/10.1348/014466505X50158

McCue, J. D. (1982). The effects of stress on physicians and their medical practice. The New England Journal of Medicine, 306(8), 458–463. https://doi.org/10.1056/NEJM198202253060805

Mcdonald, P. (2012). Workplace Sexual Harassment 30 Years on: A Review of the Literature. In International Journal of Management Reviews (Vol. 14, Issue 1, pp. 1–17). https://doi.org/10.1111/j.1468-2370.2011.00300.x

Medibank. (2008). The Cost of Workplace Stress in Australia Medibank Private and Workplace Health. Econtech, August, 1–7. http://www.medibank.com.au/

Melamed, S., Shirom, A., Toker, S., Berliner, S., & Shapira, I. (2006). Burnout and risk of cardiovascular disease: Evidence, possible causal paths, and promising research directions. Psychological Bulletin. https://doi.org/10.1037/0033-2909.132.3.327

Mishra, B., Mehta, S. C., Sinha, N. D., Shukla, S. K., Ahmed, N., & Kawatra, A. (2011). Evaluation of work place stress in health university workers: A study from rural India. Indian Journal of Community Medicine, 36(1), 39–44. https://doi.org/10.4103/0970-0218.80792

Motowidlo, S. J., Packard, J. S., & Manning, M. R. (1986). Occupational Stress: Its Causes and Consequences for Job Performance. Journal of Applied Psychology, 71(4), 618–629. https://doi.org/10.1037/0021-9010.71.4.618

Murthy, R. S. (2017). National mental health survey of India 2015-2016. In Indian Journal of Psychiatry. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_102_17

Nabe-Nielsen, K., Garde, A. H., Albertsen, K., & Diderichsen, F. (2011). The moderating effect of work-time influence on the effect of shift work: A prospective cohort study. International Archives of Occupational and Environmental Health. https://doi.org/10.1007/s00420-010-0592-5

Nabirye, R. C., Brown, K. C., Pryor, E. R., & Maples, E. H. (2011). Occupational stress, job satisfaction and job performance among hospital nurses in Kampala, Uganda. Journal of Nursing Management, 19(6), 760–768. https://doi.org/10.1111/j.1365-2834.2011.01240.x

Nigatu, Y. T., & Wang, J. (2017). The combined effects of job demand and control, effort-reward imbalance and work-family conflicts on the risk of major depressive episode: a 4-year longitudinal study. Occupational and Environmental Medicine, oemed-2016-104114. https://doi.org/10.1136/oemed-2016-104114

Özdemir, P. G., Selvi, Y., Özkol, H., Aydin, A., Tülüce, Y., Boysan, M., & Beşiroğlu, L. (2013). The influence of shift work on cognitive functions and oxidative stress. Psychiatry Research, 210(3), 1219–1225. https://doi.org/10.1016/j.psychres.2013.09.022

Paper, C. (2018). Work Stress in Advertising Professionals of India : A HRD Perspective. June 2014.

Patel, V., Pereira, J., Coutinho, L., Fernandes, R., Fernandes, J., & Mann, A. (1998). Poverty, psychological disorder and disability in primary care attenders in Goa, India. British Journal of Psychiatry. https://doi.org/10.1192/bjp.172.6.533

Poongothai, S., Pradeepa, R., Ganesan, A., & Mohan, V. (2009). Prevalence of depression in a large urban south Indian population - The Chennai urban rural epidemiology study (cures - 70). PLoS ONE, 4(9). https://doi.org/10.1371/journal.pone.0007185

Prasad, K., Vaidya, R., & Kumar, V. A. (2016). An empirical study on the causes of occupational stress and its effect on performance at the workplace of supermarkets in hyderabad. Innovative Journal of Business and Management, July, 89–93. https://doi.org/10.15520/ijbm.vol5.iss5.55.pp94-101

Preisig, M., Merikangas, K. R., & Angst, J. (2001). Clinical significance and comorbidity of subthreshold depression and anxiety in the community. Acta Psychiatrica Scandinavica, 104(2), 96–103. https://doi.org/10.1034/j.1600-0447.2001.00284.x

Raj, A., & Dean, K. E. (2005). Burnout and depression among catholic priests in India. Pastoral Psychology. https://doi.org/10.1007/s11089-005-6200-z

Ratnakaran, B., Prabhakaran, A., & Karunakaran, V. (2016). Prevalence of burnout and its correlates among residents in a tertiary medical center in Kerala, India: A cross-sectional study. Journal of Postgraduate Medicine. https://doi.org/10.4103/0022-3859.184274

Reynolds, C. F., & Patel, V. (2017). Screening for depression: the global mental health context. World Psychiatry, 16(3), 316–317. https://doi.org/10.1002/wps.20459

Safwi, S. R., Amir, A., Khalique, N., & Gaur, R. K. (2016). A cross-sectional study on depression from rural India. 3(7), 1769–1776.

Sanderson, K., & Andrews, G. (2006). Common mental disorders in the workforce: Recent findings from descriptive and social epidemiology. In Canadian Journal of Psychiatry (Vol. 51, Issue 2, pp. 63–75). https://doi.org/10.1177/070674370605100202

Sanderson, K., Tilse, E., Nicholson, J., Oldenburg, B., & Graves, N. (2007). Which presenteeism measures are more sensitive to depression and anxiety? Journal of Affective Disorders, 101(1–3), 65–74. https://doi.org/10.1016/j.jad.2006.10.024

Shidhaye, R., Gangale, S., & Patel, V. (2016). Prevalence and treatment coverage for depression: a population-based survey in Vidarbha, India. Social Psychiatry and Psychiatric Epidemiology. https://doi.org/10.1007/s00127-016-1220-9

Shukla, A., & Trivedi, T. (2008). Burnout in Indian teachers. Asia Pacific Education Review. https://doi.org/10.1007/BF03026720

Siegrist, J., Wege, N., Pühlhofer, F., & Wahrendorf, M. (2009). A short generic measure of work stress in the era of globalization: Effort-reward imbalance. International Archives of Occupational and

Environmental Health, 82(8), 1005–1013. https://doi.org/10.1007/s00420-008-0384-3

Snyder, J. A., Scherer, H. L., & Fisher, B. S. (2012). Social organization and social ties: Their effects on sexual harassment victimization in the workplace. Work, 42(1), 137–150. https://doi.org/10.3233/WOR-2012-1325

Srivastava, K. (2009). Mental health and industry: Dynamics and perspectives. In Industrial psychiatry journal (Vol. 18, Issue 1, pp. 1–2). https://doi.org/10.4103/0972-6748.57850

Stansfeld, S, & Candy, B. (2006). Psychosocial work environment and mental health - a meta-analytic review. Scandinavian Journal of Work, Environment & Health, 32(6), 443–462. http://www.jstor.org/stable/10.2307/40967597%5Cnpapers2://publication/uuid/388CD051-F786-4485-AC40-E71DCEA30F2A

Stansfeld, Stephen, & Candy, B. (2017). meta-analytic review Psychosocial work environment and mental health — a meta-analytic review. 32(6), 443–462. https://doi.org/10.5271/sjweh.1050

Stephens, T., & Joubert, N. (2001). The economic burden of mental health problems in Canada. Chronic Diseases in Canada, 22, 18–23. http://publications.gc.ca/collections/collection_2009/aspc-phac/H12-27-22-1E.pdf#page=20

Stewart, W. F., Ricci, J. A., Chee, E., Hahn, S. R., & Morganstein, D. (2003). Cost of Lost Productive Work Time among US Workers with Depression. Journal of the American Medical Association, 289(23), 3135–3144. https://doi.org/10.1001/jama.289.23.3135

Stewart, W. F., Ricci, J. A., Chee, E., & Morganstein, D. (2003). Lost productive work time costs from health conditions in the United States: results from the American Productivity Audit. Journal of Occupational and Environmental Medicine / American College of Occupational and Environmental Medicine, 45(12), 1234–1246. https://doi.org/10.1097/01.jom.0000099999.27348.78

Taap Manshor, A., Fontaine, R., & Siong Choy, C. (2003). Occupational stress among managers: a Malaysian survey. Journal of Managerial Psychology, 18(6), 622–628. https://doi.org/10.1108/02683940310494412

Tan, L., Wang, M.-J., Modini, M., Joyce, S., Mykletun, A., Christensen, H., & Harvey, S. B. (2014). Preventing the development of depression at work: a systematic review and meta-analysis of universal interventions in the workplace. BMC Medicine, 12(1), 74. https://doi.org/10.1186/1741-7015-12-74

Uribe, J. M., Pinto, D. M., Vecino-Ortiz, A. I., Gómez-Restrepo, C., & Rondón, M. (2017). Presenteeism, Absenteeism, and Lost Work Productivity among Depressive Patients from Five Cities of Colombia. Value in Health Regional Issues. https://doi.org/10.1016/j.vhri.2017.03.001

Vimala, B., & Madhavi, C. (2009). A study on stress and depression experienced by women IT professionals in Chennai, India. Psychology Research and Behavior Management, 2, 81–91. https://doi.org/10.2147/PRBM.S6049

Virtanen, M., Ferrie, J. E., Singh-Manoux, A., Shipley, M. J., Stansfeld, S. A., Marmot, M. G., Ahola, K., Vahtera, J., & Kivimäki, M. (2011). Long working hours and symptoms of anxiety and depression: A 5-year follow-up of the Whitehall II study. Psychological Medicine. https://doi.org/10.1017/S0033291711000171

Waraich, P., Goldner, E. M., Somers, J. M., & Hsu, L. (2004). Prevalence and Incidence