

ORIGINAL ARTICLE

A REVIEW OF OCCUPATIONAL STRESS PREVALENCE AND ITS PREDICTORS AMONG SELECTED WORKING POPULATIONS IN MALAYSIA

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Abstract

Occupational stress is a modern epidemic. Prevalence and predictors of occupational stress in specific workforce are critical in management of occupational stress. The aim of this review is to explore the current prevalence of occupational stress and its predictors among selected Malaysian working population based on published articles between years 2008 to 2017. A systematic search of articles published between 2008 and 2017 was conducted in several databases (ISI Web of Knowledge, PubMed, Scopus, Google scholar). A total of eleven articles met the inclusion criteria, included in the review. The current prevalence of occupational stress was between 6.0% till 71.7%. Mean prevalence of stress was 29.9%. From eight job categories, most stressful job was primary teachers and least stressful job was academician in private university. Predictors of occupational stress were: 1) organizational factors: high job demand, poor workplace condition, lack of organization support, job insecurity, long working hours, burden of career development and interpersonal conflicts 2) individual (extra-organization) factors: gender, age, marital status, number of children, coping strategies. Although the predictors of occupational stress varies among different job categories, most job categories present similar risk factors such as high job demand, poor workplace condition, lack of organization support, job insecurity, long working hours, burden of career development and interpersonal conflicts. Dual approaches involving organization and individual level pertaining towards each stressor are recommended in alleviating occupational stress among those selected workforces.

Keywords: Occupational stress, prevalence, predictors, Malaysia.**INTRODUCTION**

Stress at work is a modern epidemic and a public health concern¹. Occupational stress is defined by US NIOSH (1999) as the harmful physical and emotional responses of the worker when the requirements of the job do not match his or her capabilities, resources, or needs². Although occupational stress is rather considered as non-communicable disease, its pathogenicity appears as if it were emerging infectious diseases. Occupational stress is “contiguous” with nearly half million employees already suffering from it in Great Britain³. Besides of its “infectivity”, work stress also happened to be “virulence” towards workers. For statistics, about 40% of work-related illness cases were due to work stress, which had impact organization, in terms of sickness absence, lost production and increased accidents³.

The prevalence of occupational stress in United Kingdom was 39.0%³. For local comparison, unfortunately Malaysia has not producing any empirical national data. But rigorously, occupational stress research has gaining popularity and attention for past 20 years in local setting, which would have been the precursors for better understanding regarding the magnitude of

occupational stress among our local population. Prevention and management of stress based on local research is an essential key factor in order to provide reliable risk communication and management pertaining to these issues.

It is high time to strategize macro and micro planning such as a policy level intervention, and other specific measures towards each mutually exclusive characteristic of occupational stress issues. The aim of this review to reveal up-to-date profile of prevalence of occupational stress and its predictors among Malaysian workers based on published articles between year 2008 to 2017.

MATERIAL & METHOD**Literature search**

We performed systematic search for relevant published articles in between year 2008 till 2017 from five major search engines namely ISI Web of Knowledge, PubMed, Scopus and Ovid Medline, and Google scholar. This study did not involve living subjects hence it did not require Research Ethics Board review. We restricted the retrieval to articles published from year 2008 until 2017 in order to yield the most current studies. We used the PRISMA checklist for the workflow of our

publications search (Figure 1). We included to the number of our initial search the references used by the retrieved articles. The keywords that we used were:

“Prevalence”
AND
“Work stress” OR “occupational stress” OR “job stress” OR “burnout”
AND
“Stressors” OR “predictors” OR “factors” OR “causes”
AND
“Malaysia”

In this review, occupational stress was defined as stress related to job due to unexpected responsibilities and pressures that do not align with a person's knowledge, skills, or expectations, inhibiting one's ability to cope. Burnout was defined as the subjective experience that results from chronic stressors from the workplace and is characterized by feelings of exhaustion, cynicism, detachment, ineffectiveness and a personal lack of accomplishment⁴.

The studies resulting from the database searches were screened on the basis of (a) diagnosis of stress or burnout using a validated measure, (b) description of the prevalence and stressors correlates for job stress or burnout (with or without a validated measure), (c) study sample of formal workers (d) the studies were done in Malaysia.

Studies were excluded on the basis of (a) lack of empirical data (i.e. no prevalence data, no correlation analysis of stressors-stress), (b) studies involving multi-profession without sub-population analysis. Article's titles were screened according to the eligibility criteria; relevant abstracts were retrieved and screened using the same criteria. Full-text articles subsequently retrieved and evaluated based via inclusion and exclusion

criteria. Total of five electronic database searches revealed a total number of 49 articles for examination, excluding duplicates. Results of this review were tabulated based on the five areas, which were 1) research method (study type), 2) research tools, 3) occupation, 4) outcomes measures, which must include prevalence of stress or burnout with predictors or associated factors as measurement variables. The analysis of the studies was examined from outcome of the studies in terms of prevalence ranking and also predictor's similarity.

RESULTS

Studies characteristics

A total of 42 publications had been identified via all electronic search engines. However, a total of 31 articles were excluded due to lack of empirical data on prevalence of stress and predictors analysis. It also worth to mention that excluded articles were also involving student as sample population in example; stress among medical student, postgraduate's students etc. At the end, eleven articles were appraised and the results were summarized in tables (Table 1).

The latest study was by Arma & Noor Hassim (2016)⁵ and the oldest study reviewed was on 2008⁶. It is worth noted here that all studies included were cross-sectional design as most of prevalence studies in Malaysia were taking a single point data. It is also surprise us that no longitudinal study design was retrieve although longitudinal data also can give rise to periodic (point) prevalence and providing its superior advantage in measuring trends and changes. It is also notice that all study stated clearly the study population as summarized in Table 2. Study populations in this review were mainly from education sectors (n=6) and other occupations (n=5) were correctional officer, police officer, automotive workers, lab technician and multi-national company's office worker.

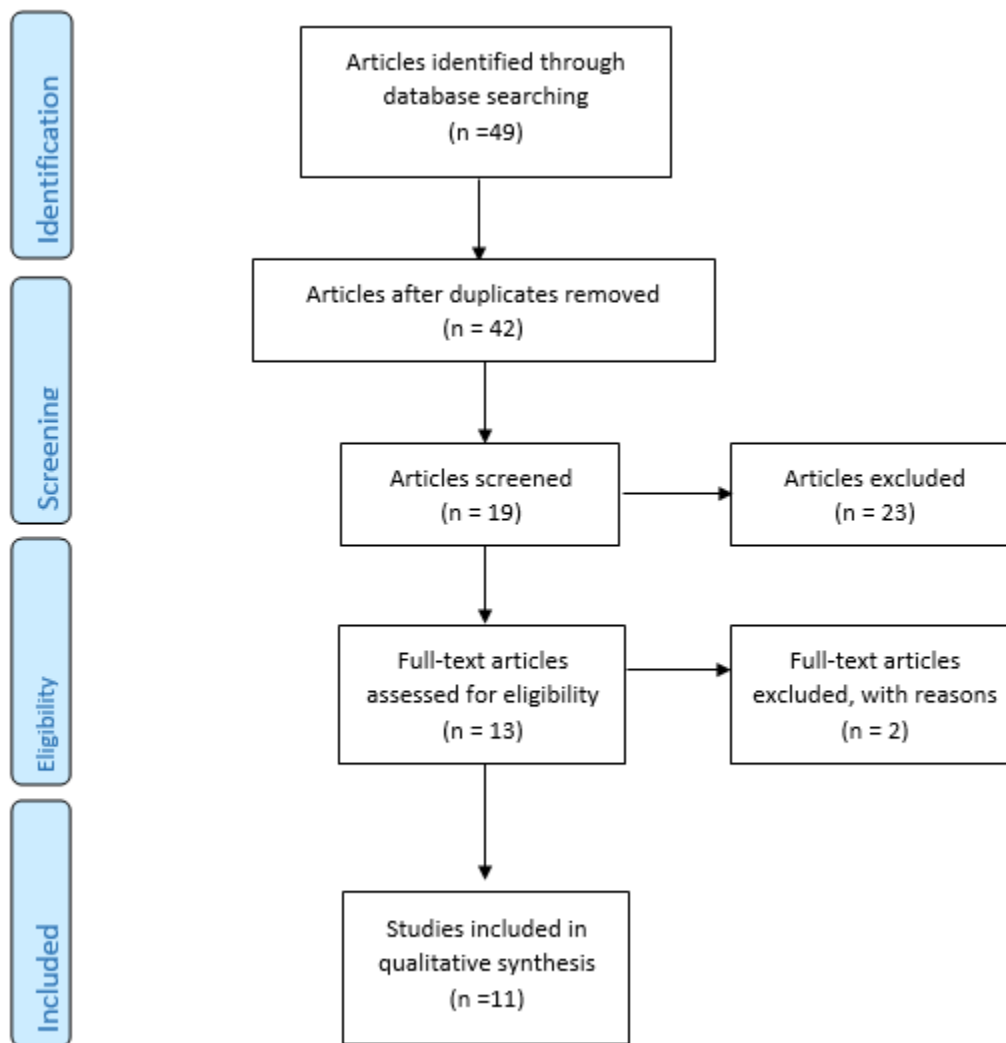


Figure 1: Process of articles selection

Prevalence and predictors of occupational stress

Current review revealed variation of prevalence of occupational stress from as low as 6.0%⁷ until up to 71.7%⁸. The least prevalence study by Chen et al. need cautious interpretation as it measured burnout as outcome variable. Most stressful (top five) job in term of prevalence was primary school teacher 71.7%⁸, correctional officer 45.8%⁹, police officer 38.8%¹⁰, and secondary school teacher 34.0%¹¹ and followed by university academician 22.1%⁵. The mean prevalence of stress in this review is 29.9% across all the occupations.

Predictors of occupational stress were also varied for each job categories. But they also share

common predictors such as 1.) Organization factors: high job demand, poor workplace condition, lack of organization support, job insecurity, long working hours, burden of career development and interpersonal conflicts 2.) Individual (extra-organization) factors: gender, age, marital status, number of children, coping strategies. In the most prevalence occupational stress study by Samad et al. (2010)⁸, workload (job demand), school environment (workplace condition) and student misbehavior (interpersonal conflicts) were the organization predictors together with gender as female teachers sustained higher stress compared to men.

Table 1: Characteristic of included studies

Author	Title	Study type	Tools	Sample size & Occupation	Prevalence	Predictors/ Findings
Arma& Nor Hassim 2016 ⁵	Occupational stress and its associated factors among academicians in a research university, Malaysia	Cross-sectional	Stress Source Questionnaire (Archibong et al. 2010) DASS 21	n=380 University academician (Public university Klang Valley)	22.1%	Research, career development, teaching
Okonkwo Mukosolu et al. 2015 ¹⁷	Prevalence of Job stress and its Associated Factors among Universiti Putra Malaysia Staff	Cross-sectional	Job content questionnaire by Karasek (JCQ)	n=511 Academic and non-academic staff (UPM)	21.7%	High job demand, lack of support from co-worker and supervisor, depression, anxiety and use of avoidance focused coping.
Chen et al. 2014 ⁷	Burnout in Academics: An Empirical Study in Private Universities in Malaysia	Cross-sectional	Maslach Burnout Inventory - Educators Survey Work Related Quality of Life (WRQoL)	n=229, Academician from private university in Klang Valley	6.0%	Poor working condition, leads to burnout and reduce job satisfaction and QOL
Masilamani et al. 2013 ¹⁰	Prevalence and associated factors of stress in the Malaysian Police Force.	Cross-sectional	Depression, Anxiety and Stress Scale (DASS 21)	n=597 Police officer in Kuala Lumpur	38.8%	Inspector rank, not commensurate with their salaries, high job demand
Masilamani et al. 2010 ¹⁶	Salivary Biomarkers of Stress Among Teachers in an Urban Setting	Cross-Sectional	-Job Content Questionnaire -Salivary cortisol, IgA level	n=302 Secondary school(Klang Valley)	20.2%	Malay, teaching experience of 5 to 10 years, and those without a supervisor's support. Teachers in the 31 to 40 years age, educating handicapped children with the absence of supervisor support
Maizura et al. 2010 ¹⁶	Job strain among Malaysian office workers of a multinational company	Cross-sectional	Job Content Questionnaire (JCQ)	Malaysian office workers of a multinational company	21.0%	Long working hours and job insecurity

Aniza et al. 2010¹⁵	A Study on Organizational Factors That Influence Job Stress Among Medical Laboratory Technologists in KlangValley Hospitals	Cross-sectional	Health and Safety Tool for Work Related Stress	Lab Technician UKM	16.1%	Interpersonal factor, poor job condition, and burden of career development
Samad et al. 2010⁸	Assessment of Stress and Its Risk Factors among Primary School Teachers in the Klang Valley, Malaysia	Cross-sectional	Teacher Stress Inventory by Boyle et. al 1995 General Health Questionnaire (GHQ) by Golberg&Hilier 1979	n=272, primary school teacher in klang Valley	71.7%	Student misbehavior, gender and high workload showed a significant contributing factors towards mental health status
Zukri et al. 2010⁹	A study of occupational stress and coping strategy among correctional officer in Kedah	Cross-sectional	Personal Stress Inventory by O'Donnel Job Stress Survey by Speilberger Brief COPE by Carver	n=418, correctional officer in Kedah	45.8%	Marital status, promotion factor, age, monthly salary, duration of service and number of children, family and marriage factor which have significant relation with stress status among married officer were pressure from relatives, cleanup house, sexual frustration, conflict with spouse, conflict with children, conflict due to household work and no babysitter
Hadi et al. 2009¹¹	Prevalence and factors associated with stress among secondary school teachers in Kota Bharu, Kelantan, Malaysia	Cross-sectional	Depression, Anxiety and Stress Scale (DASS 21) Job Content Questionnaire (JCQ)	n=580, secondary school teachers in Kota Bharu	34.0%	Age, duration of work and psychological job demands
Edimansyah et al. 2008⁶	Self-perceived depression, anxiety, stress and their relationships with psychosocial job factors in male automotive assembly workers		Depression Anxiety Stress Scales (DASS) Job Content Questionnaire (JCQ)	n=728, male automotive assembly workers	31.1%	Psychological job demand, job insecurity and hazardous condition

DISCUSSION

This is one of its kinds of review to address the prevalence and predictors of occupational stress in Malaysian workforce population, which focus towards the latest and up-to-date studies and findings available via electronic search. These eleven studies were considered potent data as evidence-based public health, which can potentially add the knowledge of magnitude of occupational stress and its predictors. The result has answered the main research question; what is the overall prevalence of occupational stress in Malaysia?

The overall prevalence of occupational stress level in Malaysia was 29.9%. It ranged from 6.0% to 71.7%. It is a surprise to see a huge range of prevalence in those studies. Authors conspire that prevalence of occupational stress varies due to the different study methodology in measuring occupational stress. The magnitude of stress seems to be high among teachers compared to the other job categories. Again, this findings have to be cautiously interpreted as the difference in the study methodology such research tools (questionnaire & biomarkers) were prominent in this review. Nevertheless, the facts that nearly one third of the workforce population in Malaysia was struggling with occupational stress need to be noted. High prevalence of occupational stress has been associated with poor performance, intention to quit and occupational accidents ³.

With regards to the high prevalence of occupational stress in this review, the magnitude of occupational stress among Malaysian workers is clearly a concern. This opens discussion on, how to deal with this “epidemic”? Therefore, the advance knowledge regarding the predictors of occupational stress in this country will become valuable inputs in order to strategies the prevention measures to cater this issue.

In this review, we find that predictors of occupational stress among Malaysian are rather varied. It has to be related to the difference of study methodology. Although the predictors were not been discussing in detail during this review, it has been spotted that several job stressors has been consistently associated with stress status. This includes job demand, job control and support, which had been theoretically and operationally proven to be most prevalence job stressors in Malaysia. It also congruent with Job Demand Control Model by Karasek¹³, which is the most widely, applied occupational stress model globally. The former theoretical framework emphasized on the balanced between job demand and job control. From this review, high job demand has

consistently associated with high level of occupational stress among various working populations.

Quality of evidence and recommendations

The studies included in this review had two main strengths. First, they all used validated instruments to measure job stress and burnout as well as the job stressors. The use of validated measures for occupational stress increases the quality of the studies. Validated measures, where used, increase the reliability of the results obtained from the eleven included studies. In addition, all of the included studies used an adequate samples size with good response rate.

Thus, we notice that job stress research’s trend in Malaysia is rather varied in purposes and also might be adopting various job stress framework. It was noted that majority of the included studies were cross-sectional in study design. Thus, we highlight the issues of lacking of longitudinal research produced in Malaysia setting. Longitudinal research is such an important research design to explore and determine causal relationship of stressor-stress relationship. The other issues need to be highlights in job stress research in Malaysia are the “scattered” sample population of workers in various organizations, which hinder a clear generalization of target work force populations (occupations).

Therefore, we recommending for future research could aim to examine the relationship between stressors, occupational stress status in longitudinal design with multi-population representations and standardized measurement and variables in order to establish conclusive relationship of occupational stress and its stressors. We also suggesting future occupational stress research to go in-depth towards “stress moderators” such as “coping strategies” for better conclusion pertaining towards stressors-stress relationship among workers in Malaysia.

Implications for practice

There are at least four groups that are able to benefit from healthy workforce: workers, the organization manager, and their families and public ¹³. Within the organization, the employer and workers will benefit from a healthy workforce. Reducing worker stress and burnout has the ability to increase motivation, productivity, efficiency, effectiveness and general well being. Organization manager will benefits from increase commitment and motivation by academicians to pursue institutions goals. Public will benefits from quality of services & productions by the mentally healthy workers.

The current review recommends that workers should know about work stressors and their impacts. This will enable them to take appropriate measures to minimize those stressors and also to design and redesign their jobs. The other suggestion is to improve communication between managers and employees in order to revise the stressors or predictors related to occupational stress. Subsequently, further research should examine the effectiveness of those interventions for reducing occupational stress among Malaysian work force populations.

CONCLUSION

The reviews revealed prevalence of occupational stress among Malaysian workers was between 6.0% until 71.7%. The prevalence varies due to the different study methodology in measuring occupational stress. The magnitude of stress seems to be high among teachers compared to the other job categories. Although it varies at different job categories, most job categories present similar risk factors such as job demand, work place condition, lack of organization support, job insecurity, long working hours, career development and interpersonal conflicts. The knowledge regarding predictors of occupational stress opens specific intervention opportunities for managers. The dual approaches involving organization and individual level pertaining towards each stressor are recommended in alleviating occupational stress among those selected workforces.

CONFLICTING INTERESTS

The authors declare that they have no conflicting interests pertaining to this study.

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AUTHORS' CONTRIBUTIONS

Mohd Shaiful Azlan had the primary responsibility of analysis and interpretation of the data, and paper drafting. All authors read and approved the final manuscript.

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