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Organisational Intervention on Absenteeism among Workers: A Systematic Review

(Intervensi Organisasi Terhadap Ketidakhadiran Bekerja dalam Kalangan Pekerja: Dapatan Kajian Sistematik)

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ABSTRACT

Sickness absenteeism is increasing in trend mostly due to being overworked and fatigue that leads to increasing number of work-related injuries, which further disrupt the quality of care and the revenue of an organization. Absenteeism can be overcome by effective organisational intervention at the workplace. Therefore, this review was aimed to identify the important component in an organisational intervention to reduce absenteeism at work. Systematically, articles were searched from PubMed (PMC), Science Direct, Scopus (SciVerse) and Sociological Abstracts (ProQuest) from June 2013 to June 2018 using specific keywords. The input revealed 12 articles, including studies that measured absenteeism as the outcome regardless of working categories except for outdoor workers. Studies that involved all the domains in the intervention which were workplace environment, motivation and individual factors had given significant results in reducing absenteeism. Hence, the intervention at organisational level must use a comprehensive approach to ensure the target of reducing absenteeism at workplace is achieved and become sustainable.

Keywords: Organisational intervention; absenteeism intervention; workplace environment factor; motivation factor; individual factor.

ABSTRAK

Ketidakhadiran ke tempat kerja semakin meningkat disebabkan oleh beban kerja dan keletihan yang mengakibatkan peningkatan jumlah kemalangan di tempat kerja seterusnya menjejaskan kualiti perkhidmatan dan organisasi mengalami kerugian. Ketidakhadiran ke tempat kerja boleh diatasi melalui pengurusan organisasi yang berkesan. Oleh itu, kajian ini bertujuan untuk mengenal pasti intervensi organisasi untuk mengurangkan ketidakhadiran ke tempat kerja. Pencarian artikel dilakukan dari Jun 2013 hingga Jun 2018 di pangkalan data PubMed (PMC), Science Direct, Scopus (SciVerse) dan Sosiologi Abstrak (ProQuest) menggunakan kata kunci tertentu secara sistematik. Hasil dapatan pencarian, sebanyak 12 artikel yang melihat kepada kesan intervensi dalam mengurangkan hari cuti sakit semasa bekerja yang melibatkan semua jenis pekerjaan kecuali pekerja yang bekerja di luar. Kajian yang melibatkan semua domain iaitu faktor persekitaran tempat kerja, motivasi dan individu dalam intervensi memberikan hasil yang signifikan dalam mengurangkan ketidakhadiran bekerja. Oleh itu, intervensi di peringkat organisasi haruslah menggunakan pendekatan yang menyeluruh dalam memastikan sasaran mengurangkan ketidakhadiran ke tempat kerja tercapai dan konsisten.

Kata kunci: Intervensi organisasi; intervensi ketidakharian; faktor persekitaran tempat kerja; faktor motivasi; faktor individu.

INTRODUCTION

Absenteeism is defined as non-presence at work that has been scheduled (Steer & Rhodes 1978, 1990; Salehi, Lee & Robinson 2011). Others defined absenteeism as habitual of staying away from work without a good reason (Advisory, Conciliation and Arbitration Service, ACAS UK guideline, 2015). Whereas, sickness absenteeism is defined as not attending for work due to injury or illness (Whitaker 2001). At global level, data from WHO (2018) revealed that the average number of sick leave due to illness or injury per employee per year was 11.6 days in 2015 among members of the EU countries. According to Organisation for Economic Cooperation and Development, OECD (2018), Slovenia had recorded 10.0 to 10.8 days of lost per person per year, followed by

Canada with 7.4 to 8.0 days of lost per person per year and UK with 2.1 to 2.2 days of lost per person per year from 2014 to 2017. On the other hand, in Malaysia, sickness absenteeism was noted to be increasing in trend, whereby, the average workers absence in 2016 was doubled compared to 2015 from 2.35 days to 4.32 days (Malaysia Employer Federation (MEF) 2016).

Different working categories were exposed to different types of occupational hazard which contributes to the increasing number of absenteeism every year in Malaysia (MEF 2016; NIOSH 2008). However, data on which occupation that contributes the most to absenteeism is not available. According to the literature, majority of the absentees were among healthcare workers as they were exposed to various occupational hazard and injuries at work (Franche et al. 2010). The sickness absence rates were reported as the highest among healthcare workers in the UK (Office for National Statistics 2018). This was supported by various findings related to absenteeism among healthcare workers mentioning the issues of workload and shortage in the number of healthcare workers that contributes to occupational stress, which lead to absenteeism (Rugulies et al. 2007; Barnett, Namasivayam & Narudin 2010; Fiabane et al. 2013). Other than personal issues, the unclear policies on management of absenteeism in an organization and the roles of employer in minimising absenteeism was questioned as well (Gracio-Prado & Chawla 2006).

The impact of not attending for work was tremendous to the services offered by the organization. The effects create a vicious cycle, whereby those who were absent from work will increase the workload of others, creating tense environment that leads to increase in medication error (Rogers et al. 2004) and reduce the quality of care to customers (Halbesleben et al. 2008). Subsequently, those who were left with the work will decide to be absent due to the stress of abundance workload (NIOSH 2008). Furthermore, the inexperience of the replacement staff will interrupt the work process, subsequently, reduce customer satisfaction. Indirectly, this will interrupt the cost of the organization, which include payment of salaries to the absentees, overtime charges and cost for replacement of workers that will result in loss of income to the organization (Tenhiala et al. 2013; Kocakulah et al. 2016).

Zooming into the strategies to improve absenteeism, the aspect of organization working system ruled by the manager must be improvised. The managers played an important aspect in ensuring each of their workers understood their roles and be focused on their work to maintain the productivity of the organization (Chandrasekar 2011). A qualitative study done at a nursing department in the South-eastern United States showed that managerial commitment, workers responsibilities towards their own action, and positive organisational social behaviour were needed to combat absenteeism (Alexander 2016). Organisational interventions can be defined as making arrangements in advance, including the response and action taken aimed to improve the employee's health and well-being (Nielson & Abilgaard 2013). According to the hierarchy level of controls in occupational health, organisational level of intervention will give a sustainable effect compared to individual level (WHO 1994).

There were many intervention studies on absenteeism however there are limited studies to review all the interventions systematically. According to the intervention protocols of managing absenteeism which was built based on Rhodes and Steers theory of Attendance and Herzberg's motivation-hygiene theory three components should be looked upon which includes the ability to attend (individual) factors, hygiene (workplace environment) and motivation factors (Kiwanuka et al. 2014). However, literature does not mention which component is the most important in order to ensure that the study is able to reduce absenteeism at work. Therefore, this systematic review was conducted to identify the most important component to reduce absenteeism at work and the examples of organisational interventions existed on managing absenteeism among workers.

LITERATURE REVIEW

The increasing number of absenteeism among workers needs urgent attention from the employer. The effects of the increase in the workload and increase in the length of working time due to the absenteeism cause fatigue and exhaustion among the replacement staff, which will then further leads to absenteeism (Singh, Burke & Boekhorst 2016). High workload will increase the chances of needle stick injury and development of work related musculoskeletal disorder among nurses (He et al. 2010). This will lead to further increase in the number of sickness absenteeism, which further complicates the work process among their co-workers.

This study is needed to identify the organisational intervention for absenteeism available that can be adapted in situations and working environment in Malaysia. Conducive working condition is one of the aspects in ensuring the risk of occupational injury is minimised (Niu 2010). In addition, prevention of absenteeism can reduce the cost of lost working hour, statutory pay and cost of training new staff, otherwise it can be used to manage core business, such as training and development program and other necessary improvement (Almalki, Fitzgerald & Clark 2012). Therefore, this study is important to sustain the workers, especially in the resource constraint countries.

The theory that had been proposed was known as Rhodes and Steers Theory of Attendance, which clearly explained the important aspect for understanding the norms of attendance at the workplace (Steers & Rhodes 1978). These two aspects include the ability to attend and the motivation to attend. The ability to attend is the individual's capability, which comprises of the individual's health status, family matters, together with other

responsibility that they need to handle in order for them to go to work. On the other hand, motivation to attend is related with work satisfaction that influence the choice of the employee.

According to the protocol of intervention of absenteeism (Kiwanuka et al. 2014), based on Herzberg's motivation-hygiene theory, the component of satisfaction factors comprises of dissatisfiers and satisfiers (Herzberg, Mausner & Synderman 1959). Whereby, hygiene factors are the dissatisfiers, which is the workplace environment factors that includes organisational policies, working system, supervision, workers and managers relationship, facilities at workplace, personal wages and safety issues (Henderson & Tulloch 2008). Satisfiers component, which is known as the motivation factors, includes delegation of task, recognition by the organization, awards and clear job task (Henderson & Tulloch 2008). A previous study revealed that those with a good job satisfaction will significantly reduce job absenteeism (Jyoshna & Jyothsna 2018).

Reported evidence of increasing number of absenteeism showed that the majority was due to the working condition (Nyathi & Jooste 2008). A previous literature reported that a shortage in healthcare workers could be overcome by promoting retention of workers by providing clear work task and promoting healthy environment at the workplace (Barnett et al. 2010). This supported the importance of workplace environment and motivation as modifying factors to halt absenteeism. Furthermore, by improving the working condition and working system, it will eventually improve the output of the organization (Stone et al. 2007). Promoting physical activity at work, involving sitting and standing at work, would allow non-dominant muscle body movement to prevent muscle fatigue, thus, will improve work productivity (Arshadi 2011). In addition, promoting ideal working posture ergonomically would help in increasing workers' performance, which indirectly results in reducing withdrawal behaviour (Thorp 2014). In addition, work and family conflict are also one of the main reasons that predisposed workers to be absent (Demerouti, Bouwman & Sanz-Vergel 2011). Therefore, balancing the two crucial components in personal life, which are work and family, would be one of the ways to prevent absenteeism, as mentioned in Rhodes and Steers theory of attendance. Other than that, being and staying healthy is also one of the prerequisites for workers to perform well at work and reducing absenteeism (Wada et al. 2013).

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METHODOLOGY

SELECTION

Search Strategy Previous studies on the research topic were identified from databases, such as PubMed (PMC), Science Direct, Scopus (SciVerse) and Sociological Abstracts (ProQuest). The search strategies using PICO as guidelines was designed for PubMed and was applied for Science Direct, Scopus and ProQuest search engines as well. The following keywords and terms were used: (1) Person: Worker*, employee*, staff*, work staff*, member*, (2) Intervention: Organisational intervention, organisational intervention, manager intervention, managerial intervention, management intervention, leader intervention, leadership intervention, intervention*, (3) Outcome: Absenteeism, sickness absenteeism, sickness absent, sickness absence, absence, absent, medical leave*, sick leave*, sickness leave*.

Inclusion and Exclusion Criteria The articles selected were published within the past 5 years, from June 2013 to June 2018, due to the relevance of interventions. The articles were written in English language and were provided with full articles. We only selected the original articles. Abstract and unpublished articles were excluded.

Type of Studies The study design accepted can be randomized controlled trials and non-randomized controlled trials. We also included controlled before and after (CBA) studies if pre and post intervention period for the study was appropriate and the control groups were the same and properly stated. Interrupted time series studies (ITS) was accepted as well if the time were clearly defined.

Type of Interventions The review included all studies with organisational interventions aiming in reducing absenteeism. The intervention reviewed covering all types of occupations. We divided the interventions based on three main domains based on Rhodes and Steers Theory of Attendance and Herzberg's Motivation-Hygiene Theory that was carried out in the organization, which included: (1) Individual factors, including individual health status, family factors, other responsibilities; (2) Workplace environment factors, comprising of organisational policies, working system, supervision at work, relationship in between workers and managers, facilities at workplace, personal wages and safety issues; and (3) Motivation factors, which includes delegation of task, recognition by the organization, awards and clear job task.

Type of Participants This review accepted any type of workers from various workplace, including healthcare workers, telecommunication workers, office workers and managers. We excluded those generally working outside of the community or outdoor workers, villagers and construction workers.

Type of Outcome The main outcome that must be included as the main purpose of this study is the number of absenteeism or sick leave per month or per year which measuring the frequency of absent per month or per year or the duration of absents day per month or per year.

DATA COLLECTION

The initial screening of articles was based on the titles using keywords that were done among reviewers independently from the selected databases. Any article duplication was removed. Then, the abstracts were run through to select based on the eligible criteria. Subsequently, selection of articles was conducted between two reviewers. Two reviewers independently counterchecked each other on the criteria eligibility. Any inquiries were resolved by checking with the experts. The process of selection of articles was explained in the PRISMA flow diagram (Liberati et al. 2009) in FIGURE 1.

The identification of the articles from the databases mentioned above was done using the specific keywords. The criteria of articles selection must be fulfilled. The earlier screening yielded 661 articles after duplicates were removed. Subsequently, the following articles were selected based on the eligibility criteria set in this study and all review articles were excluded. Then, the articles were screened in more details and the exclusion was made due to the outcome of studies not measuring on absenteeism and no specific study design mentioned. Next, full article retrieval was done for 19 articles. Finally, only 12 articles were included in this review. The reasons for excluding the articles were because the studies described the protocol or guidelines on intervention for managing absenteeism, but no intervention study was involved.

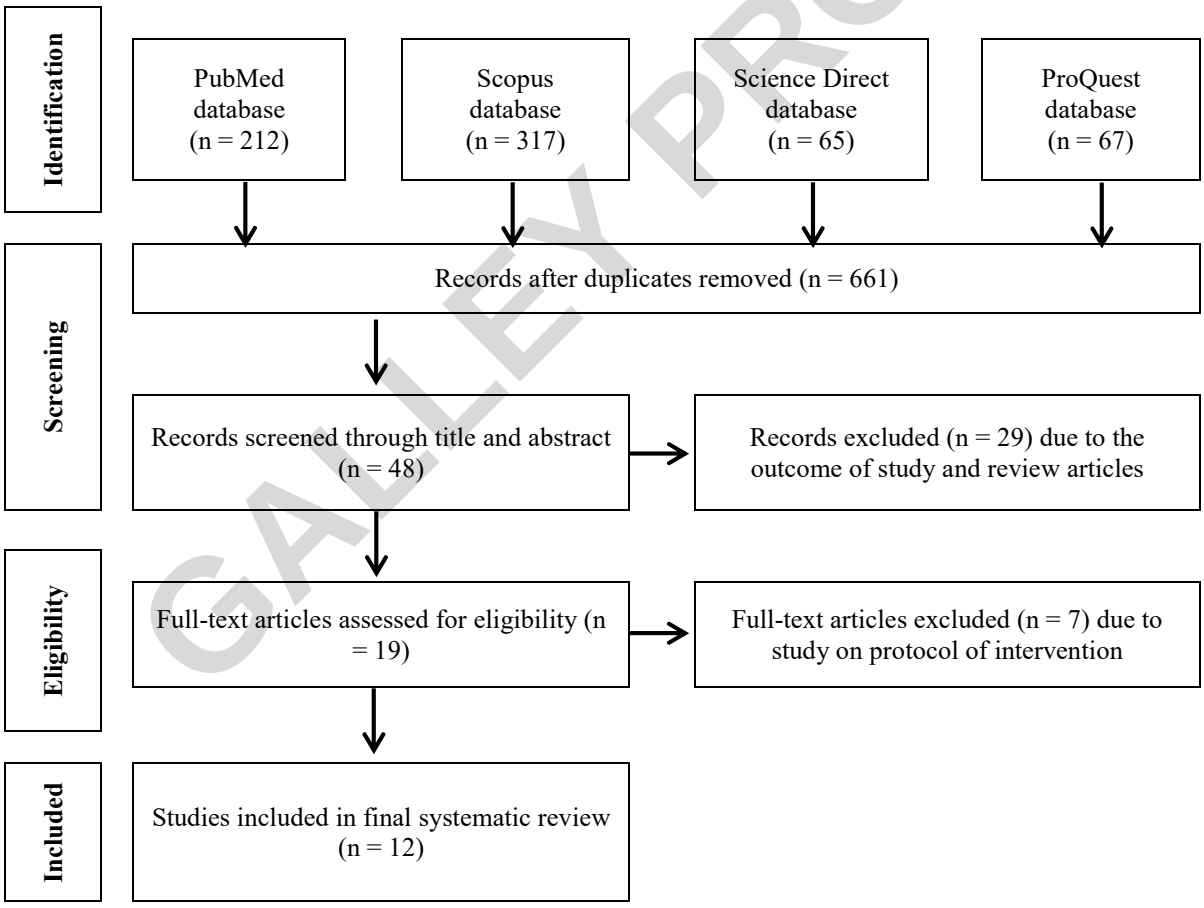

FIGURE 1. Flow chart of article search strategy according to PRISMA statements

DATA EXTRACTION

Data extraction was conducted by the main researcher, which was mainly to take out the important points in the articles being selected for better understanding and analysis. The data extracted include name of authors, year of the article published, study design, study participants, intervention used and outcome of the intervention. The extracted data were counterchecked by other reviewers. Any disagreements were resolved by consensus and expert's checking. The articles were further analysed to assess the risk of bias presence when performing the study and to assess the quality of evidence of the intervention. Further descriptions are as below:

Assessment on the Risk of Bias The aim of the review was to identify the methods of organisational intervention, which involves aiming for reducing absenteeism at the workplace. The assessment of risk of bias was done using the revised Cochrane risk of bias tool for randomized trials (RoB 2.0) (Julian et al. 2016). The assessment items for biases includes random sequence generation, allocation concealment, blinding that includes performance bias and detection bias on the efficacy outcome, incomplete outcome data (attrition bias) and selective reporting (Julian et al. 2016). The level of risk will be set up for low risk of bias if all the domains were low. Next, the assessment will be concluded as unclear risk if one of the domains is unclear risk. High risk of bias will be concluded if one of the domains had been listed as high risk or unclear risk reported in two or more domain (Julian et al. 2016). The input of the bias will be part of the assessment of level of evidence.

Assessment of Level of Evidence The level of evidence was assessed using the GRADE system (Atkins et al. 2004). The assessment started by assessing the study design. The high score will be given if it is randomized controlled study. The assessment took into accounts several criteria, whether subtracted or added points to the quality of evidence. The criteria categorized in the subtract from no (no deduction), serious (deduct 1 point) and very serious (deduct 2 points) includes risk of bias, inconsistency, indirectness, imprecision and publication bias. Whereas, the large effect and possible confounding are two points of added values to 1 point each. Since the study outcome does not measure the trial of drug, therefore, a dose response gradient will not be applicable. Final grading of the level of evidence will be categorized into high, moderate, low and very low.

RESULTS

SEARCH RESULTS

12 studies that were chosen met the eligibility criteria and were fully retrieved to meet the purpose of this review. The 12 studies were conducted from various countries, which are Denmark (Rasmussen et al. 2016; Justesen et al. 2017; Andersen et al. 2016), Finland (Rantonen et al. 2018; Toppinen-Tanner et al. 2016), Netherlands (Hendriksen et al. 2016; Strijik et al. 2014), German (Muschalla, Linden & Jobges 2016; Linden et al. 2013), United Kingdom (Stansfeld et al. 2015), Sweden (Von Thiele Schwarz & Lindfors 2015) and Australia (Chau et al. 2016). The studies were done between 2013 to 2018. Majority of the studies were randomized control design except for three studies that used non-randomized control design (Von Thiele Schwarz & Lindfors 2015; Linden et al. 2013; Chau et al. 2016). Two pilot studies were also included (Stansfeld et al. 2015; Chau et al. 2016).

Most of the respondents for intervention involve more than 100 workers, except for three studies (Von Thiele Schwarz & Lindfors 2015; Chau et al. 2016; Anderson et al. 2016). Respondents involved in the studies were mainly focused on the intervention towards the employee, however, there were two studies that involved managers as the participants in the intervention and control group (Hendriksen et al. 2016; Stansfeld et al. 2015).

Majority of the mean age of the respondents were around 40 years old. The youngest respondents were revealed at the mean age of 30 years old (Strijik et al. 2015). The eldest population of respondents involved in the intervention was 50 years old (Toppinen-Tanner et al. 2016; Chau et al. 2016). One intervention study covered all stages of age of the workers, where all the age groups were equally distributed (Stansfeld et al. 2015). Majority of the respondents involved in the intervention study were females. Two studies divided the intervention equally among gender (Hendriksen et al. 2016; Muschalla et al. 2016).

The duration of the intervention measured was from the starting of the first measurement calculated until the last measurement that were counted. The intervention studies were between 12 weeks to three years. Majority of the intervention were done in less than one year and a year intervention was recorded in four studies. Two studies were done within two years and another one study was conducted for three years which was the longest duration in the included study. However, one study did not exactly mention the duration of the intervention. The target respondents for the intervention mainly involved office workers. There were four studies done among healthcare workers. The details on the descriptive results of the included study is shown in TABLE 1.

TABLE 1. Descriptive results of the included study

Variables		Number	Reference study
Duration of intervention	Less than one year	4	Rasmussen et al. 2016 Muschalla, Linden & Jobges 2016 Stansfeld et al. 2015 Chau et al. 2016
	One year	4	Justesen et al. 2017 Von Thiele Schwarz & Lindfors 2015 Strijik et al. 2013 Anderson et al. 2016
	Two years	2	Hendriksen et al. 2016 Rantonen et al. 2018
	Three years	1	Toppinen-Tanner et al. 2016
	Not mentioned	1	Linden et al. 2013
Type of workers	Healthcare workers	4	Rasmusen et al 2014 Von Thiele Schwarz & Lindfors 2015 Strijik et al. 2013 Anderson et al. 2016
	Services workers	1	Stansfeld et al. 2015
	Office workers	7	Rantonen et al. 2018 Justesen et al. 2017 Hendriksen et al. 2016 Muschalla, Linden & Jobges 2016 Toppinen-Tanner et al.2016 Linden et al. 2013 Chau et al. 2016
Domains of intervention	Individual	9	Rasmussen et al. 2016 Rantonen et al. 2018 Justesen et al. 2017 Hendriksen et al. 2016 Muschalla, Linden & Jobges 2016 Toppinen-Tanner et al. 2016 Strijik et al. 2013 Anderson et al. 2016 Linden et al. 2013
	Workplace environment	10	Rasmussen et al. 2016 Rantonen et al. 2018 Justesen et al. 2017 Hendriksen et al. 2016 Toppinen-Tanner et al.2016 Strijik et al. 2013 Anderson et al. 2016 Linden et al. 2013 Von Thiele Schwarz & Lindfors 2015 Chau et al. 2016
	Motivation	6	Justesen et al. 2017 Stansfeld et al. 2015 Linden et al. 2013 Von Thiele Schwarz & Lindfors 2015 Hendriksen et al. 2016 Toppinen-Tanner et al.2016

Quality Assessment Most of the articles included were high grading articles, using randomized controlled trial as the study design exception for another three articles, whereby, one article was graded as moderate (Linden et al. 2013) and another two were graded as low (Von Thiele Schwarz & Lindfors 2015; Chau et al. 2016). Out of nine high grading articles, five of the articles had high risk of bias, however, due to a large number of sample size

and the bias that had been clearly explained, the high grading quality of the article still superseded. Summary of the grading for each study is shown in TABLE 2.

TABLE 2. Summary of quality grading of included studies

Study	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Large effect	Dose-response gradient	Plausible confounding would change the effect	Quality
Rasmussen et al. 2016	RCT	No	No	No	No	No	Yes (+1)	NA	No	High
Rantonen et al. 2018	RCT	Yes (-1)	No	No	No	No	Yes (+1)	NA	No	High
Justesen et al. 2017	RCT	No	No	No	No	No	Yes (+1)	NA	No	High
Hendriksen et al. 2016	RCT	Yes (-1)	No	No	No	No	Yes (+1)	NA	No	High
Muschalla, Linden & Jobges 2016	RCT	Yes (-1)	No	No	No	No	Yes (+1)	NA	No	High
ToppinenTanner et al. 2016	RCT	No	No	No	No	No	Yes (+1)	NA	No	High
Stansfeld et al. 2015	RCT	Yes (-1)	No	No	No	No	Yes (+1)	NA	No	High
Von Thoele Scharwz & Lindfors 2014	Non RCT	Yes (-1)	No	No	Yes (-1)	No	No	NA	No	Low
Linden et al. 2013	Non RCT	Yes (-1)	No	No	No	No	Yes (+1)	NA	No	Moderate
Strijik et al. 2013	RCT	Yes (-1)	No	No	No	No	Yes (+1)	NA	Yes (+1)	High
Chou et al. 2016	Non RCT	Yes (-1)	No	No	Yes (-1)	No	No	NA	No	Low
Andersen et al. 2016	RCT	No	No	No	Yes (-1)	No	No	NA	Yes (+1)	High

RCT: Randomized Control Trial

Intervention and Their Effectiveness The following results for the intervention carried out were based on the three domains, which include individual factors, workplace environment factors and motivation factors. Three study articles having low to moderate quality grading were excluded from discussions. About 7 out of 9 studies conducted includes workplace environment factors as part of the interventions. Only one study focused solely on the individual factor (Muschalla et al. 2016) and one study focused on motivation factors alone (Stansfeld et al. 2015). There were three studies that tackled all domains in the intervention (Justesen et al. 2017; Hendriksen et al. 2016; Toppinen-Tanner et al. 2016). Whereas, other studies combined two domains in carrying out the intervention. The effectiveness of the intervention where shown in half (50%) of the included studies. Studies that involved all domains in their study intervention had recorded significant results (Justesen et al. 2017; Hendriksen et al. 2016; Toppinen-Tanner et al. 2016). Other studies that reported significance in reducing absence were shown in those targeting aspects of individual and workplace environment factors (Anderson et al. 2016) and targeting individual factor (Muschalla et al. 2016). TABLE 3 showed the summary of the domains tested in the intervention and the significant of the intervention. APPENDIX A showed the detailed summary of all included studies.

TABLE 3. Description on the intervention for included study

AUTHOR / YEAR	DESIGN	LOCATION	PARTICIPANT	INTERVENTION	OUTCOME DOMAIN	OUTCOME
Rasmussen et al. 2016	Randomised control trial	Healthcare worker (nurses) in Denmark	451 eligible participants were workers in elderly care employed more than 20 hours per week and aged 18–65 years Cluster randomization	12 weeks: 1. Participatory ergonomics 2. Cognitive behavioural training 3. Physical training Measures: Pre (before) and post intervention (after 12 weeks)	Workplace environment Individual	No significant difference for improvement of sickness absence
Rantonen et al. 2018	Randomised control trial	Employees in forestry company in Finland	126 participants were randomised into three intervention groups: Rehab, n = 43 Physio, n = 43 Advice, n = 40 Control group "moderate LBP", n =50	2 years: 1.Multidisciplinary rehabilitation 2.Progressive exercises 3.Self-care advice Measures: At 3, 6, 12, and 24 months.	Workplace environment Individual	No significant mean difference on sickness absence was observed
Justesen et al. 2017	Randomized control trial	Office workers: -Two were private companies (a telecommunications a food company), -Two public municipalities, -Two national boards (department of social services) in Denmark	Participants were employed as office workers for at least 25 hours a week in order and voluntarily Intervention group, n: 193 Treatment group, n: 194	1 year: 1.Baseline individual health check 2.Intelligent physical exercise training (1 H) once a week within working hours 3.Moderate-intensity physical activity (30 min) 6 days a week during leisure –time Health ambassadors assisted in guiding and motivating the participants. Measures: Pre and post intervention	Individual Workplace environment Motivation	A per-protocol analysis [adherence of 70% (N = 89)] showed a significant 6% increase in productivity and a 29% reduction in absenteeism compared with control

Hendriksen et al. 2016	Randomized controlled study	Insurance company in Netherlands	502 employees (mainly white-collar workers), including 52 supervisors All five clusters, each having multiple teams (Step wise methods)	2 years: Activities at management, team, and individual level, self-management to perform healthy behaviors: a meeting session, vitality training sessions, workshops session, Individual coaching, and intervision. Measures: T0 (baseline), T1 (after 5 months), and T2 (after 15 months).	Individual Motivation Workplace Environment	Good organisational support and involved supervisors were significantly associated with lower sickness absence
Muschalla, Linden & Jobges 2016	Randomized controlled trial	In rehabilitation hospital Berlin, Germany	345 patients in rehabilitation hospital (mainly office workers) had work anxieties Work-anxiety Coping Group (WAG), n: 177 Recreational Group (RG), n :1 68	6 months: Cognitive behaviour therapy: -coping with work anxiety Measures: Pre and post intervention	Individual	Patient with work-anxiety, and no additional mental disorder, the duration of sickness absence until 6 months follow-up was shorter in the WAG (WAG: 11 weeks, RG: 16 weeks, P<0.050).
Toppinen-Tanner et al. 2016	Randomized controlled trial	Work organization from different sector in Finland	684 employees (mostly white collars) Intervention group, n: 350 Comparison group, n :334	3 years: The resource-enhancing intervention 4 half-day sessions, 16 H (working hours) • skills training element career goals • coping skills and familiarised with work • interrelationship with workers, social conflict • built their own near-future career plan . Measures: 1 year before and 2 years after intervention	Individual Motivation Workplace environment	The intervention was effective in decreasing the number of longer sickness absences (lasting longer than>2 weeks), but no other significant effects were found

Stansfeld et al. 2015	Pilot randomised controlled trial	National Health Services Mental Health Thrust in United Kingdom	Employees and managers of the services workers Intervention group: Employee, n: 341 Manager, n:49 Control group: Employee, n: 83 Manager, n: 11 Cluster randomization	3 months: Anderson Peak Performance e-learning package (Manager) 'Managing Employee Pressure at Work' Six domains: Change, Control, Demands, Relationship, Role and Support Measures: Pre and post intervention	Motivation	No evidence on the improvement of the number of sickness absence
Von Thiele Scharwz & Lindfors 2014	Non-randomized longitudinal intervention study	Older people's care facility in Stockholm, Sweden.	Four work units at an elderly centre involve women worker only Intervention group, n: 13 women Control group, n: 12 referents	1 year -Work-based physical exercise (PE), 1 H for twice a week - Motivational efforts by physiotherapist Measures: Before the intervention, and after six and 12 months.	Workplace environment Motivation	Sickness absence had no significant time or group differences among intervention and control group
Linden et al. 2013	Non randomized controlled trial	German Federal Pension Agency (Deutsche Rentenversicherung Bund) in German	Intervention group: 159 employees. Control group: 216 and 234 employees.	Occupational Health Management Program (OHMP), group sessions working teams, focussing on self-efficacy and self-management of the individual participant as well as the team as a group (focus groups) Measures: Pre and post intervention	Individual Workplace environment Motivation	The rate of sickness absence in the intervention group decreased from 9.26% in the year before the OHMP to 7.93% in the year after the program, while there was in the same time an increase of 7.9% and 10.7% in the two control groups

Strijik et al. 2013	Randomized controlled trial	Academic hospital in Leiden and Amsterdam, Netherlands	Older workers (> 45 years old) Intervention group, n: 367 control group, n:363	1 year: -one yoga for relaxation exercise -one weekly session of aerobic exercising -three individual coach visits - workers' lifestyle behaviour Measures: At baseline (before intervention), 6 and 12months post intervention	Individual Workplace environment	There were no significant differences in vitality, work engagement, productivity, and sick leave either 6- and 12-months follow-up
Chou et al. 2016	Pilot non-randomised controlled study	Telecommunications company in Sydney, Australia	Customer Care center employees Intervention group, n = 16 Comparison group, n = 15	19 weeks -a sit-stand desk (Rumba "2 Stage" Sit-Stand Workstation) together with daily e-mail reminders to stand up more during the workday for the first 2weeks . Measures: At baseline (before sit-stand desk installation, Week 0), 1 week after sit-stand desk installation (Week 1),4 weeks after the installation (Week 4), and 19weeks after the installation (self-report only for sitting and physical activity outcomes) (Week 19).	Workplace environment	No changes were observed in number of absenteeism from baseline to follow-up in either group.
Andersen et al. 2016	Randomized controlled study	Department for Health and Social Services in Sonderborg Municipality in Denmark	Healthcare workers (n=54) Intervention group (TPA), n = 27 Reference group (REF), n = 27	1 year: -Individual health counselling (1.5 hours). -Tailored physical activity (TPA) consisted of both aerobic fitness training and strengthening exercises Measures: Three months after baseline measurement and one year after baseline measurement	Individual Workplace environment	TPA showed a significant effect compared to REF in the ability to reduce sickness absence related to troubles in the musculoskeletal system

DISCUSSIONS

Overall the intervention covering all domains had shown to be effective in reducing absenteeism. This answer the first objective whereby to create an intervention program to reduce absenteeism, all domain must be included. As supported by the previous study, to perform well in an organisation, the connection between the individual, workplace environment and motivation must be tightened up (Hendriksen et al. 2016). Another study had mentioned that, the attendance of an employee can be improved when the individual is fit physically and mentally added with the support from the manager and being stabilized with a supportive working environment (Chandrasekar 2011). This review that yield significant outcome had shown the concept of health promotion at workplace by self-awareness and educating on vitality and health by using a different approach for every category from manager, team, and individual did give a significant impact in reducing absenteeism (Hendriksen et al. 2016; Toppinen-Tanner et al. 2016; Justesen et al. 2017)

Subsequently, the examples of intervention were further discussed. The first domain that mainly being addressed in designing an intervention was the workplace environment. Whereby, 7 out of 9 studies using this approach and half of the studies had shown significant results. Most studies focused on encouraging physical activity at the workplace as the method of choice (Anderson et al. 2016; Justesen et al. 2017; Hendriksen et al. 2016). The study by Justesen et al. (2017) revealed the methods of intense physical training in 60 minutes for once a week added with 30 minutes moderate intensity training during leisure time, which involved cardiorespiratory fitness and strengthening muscles were designed depending on the health based check that suites every worker (Justesen et al. 2017). Another study also supported that physical training involves muscle strengthening that was being implemented at work for 50 minutes, three times per week, added with individual health guidance, had revealed significant reduction in the frequency of sickness absence (Andersen et al. 2016). Studies have shown that workplace environment did have a positive correlation on workers' health, thus by injecting health promoting lifestyle at the workplace through physical training would directly reduce presenteeism subsequently suppress absenteeism (Li et al. 2019). Apart from that, workplace rehabilitation center together with a good support system at work will help in improving working ability and reducing long term sickness absence (Hoe et al. 2012).

The second domain was the motivation factors which are role by the manager. Managers need to be an expert in organizing resources at the workplace to balance between supply and demand to maintain a successful working system. As been stated by the previous study by focusing on improving managers' skills will help in improving workers capabilities at work and be the motivator in promoting physical activity and health at work (Michie & Williams 2003). For example, in the study findings by implementing a health education program at the workplace to improve awareness of their health, such as running health check-up or health screening for early detection of disease, early treatment can be sought out. Moreover, familiarisation of the workplace settings and system by managers could help workers adapt to the working environment and improve the work task (Toppinen-Tanner et al. 2016). Other aspects of motivation that should be considered as input in the intervention on the roles of managers to allocate tasks for each job clearly and precisely to their worker to avoid undone work or becoming overworked, which had been emphasized by a previous study (Nyathi & Jooste 2008).

Finally, the third component is the individual factor, which also contributes to a successful intervention to prevent sickness absence in all significant studies. Awareness on their own health is one of the crucial matters for reducing absenteeism as they had knowledge of their own health issue, and they are capable to monitor themselves. According to the review findings, cognitive behavioural therapy is one of the initiatives in improving skills to prevent stress at the workplace that can reduce absenteeism (Muschalla et al. 2016; Rasmussen et al. 2016). Moreover, successful intervention to reduce sickness absence had been set up before the career begins, which focusing on the individual's well-being and solution as well as coping mechanism in order to manage future challenges (Toppinen-Tanner et al. 2016). The individual component had been highlighted by many studies, including setting up goals to encourage perseverance (Ahlstrom, Hagberg & Dellve 2013) and problem-solving skills to solve their own problem wisely and avoid unnecessary action that could jeopardize their work performance (Robertson-Kraft & Duckworth 2014). This method had been extensively used in many developed countries and had been proven to reduce absenteeism (Muschalla et al. 2016). However, other aspect of individual factors which had been stated by Rhodes and Steers Theory of Attendance, includes handling other responsibilities had not been discovered yet. Study had proved that by having other responsibilities without helper give significant impact on absenteeism (Saruan et al. 2019). Therefore, intervention to tackle this problem should be look upon.

Studies that revealed significant improvement in the workplace attendance had been carried out within six months to three years of intervention. The duration of intervention did contribute to the significance in the study findings. As been proposed, the duration of intervention suggested by WHO to reduce negative behaviour is three to six months, therefore, studies that were conducted in less than the suggested duration need to enhance further supportive evidence or consider various methods in behavioural changes (WHO 2010). In terms of goals of intervention, the duration of study intervention did matters as the duration of sickness days had been proven to

give no effect if the intervention conducted was just in a year compared to the frequency of sickness absence (Von Thiele Scharwz & Lindfors 2014).

The studies that had showed insignificant findings can be summed up by the characteristics of participants, the designed intervention and the event occurred during conducting intervention. One study had included all types of workers that had sickness absence, however, the intervention only focused on improving back pain (Rantonen et al. 2018). Furthermore, the intervention conducted on managers involved managers with most experienced in their work and the most senior, which had difficulties to change their behaviour in a short period of time (Stansfeld et al. 2015). The type of intervention also plays an important role as the intervention involving rehabilitation will only have the effect on sickness absence if the intervention is not less than three to four years (Rantonen et al. 2018). Furthermore, intervention based on education alone will not give a significant impact on the change of behaviour without the elements of motivation for behaviour change (Stansfeld et al. 2015). Other than that, factors of non-adherence of participants to intervention being carried out had contributed to insignificant findings as well (Chou et al. 2016; Strijik et al. 2013).

Further discussion was made on the several limitations that could influence the outcome of the study intervention (WHO 2010). The aspect that should be focused on is the selection of the control group. As in an organisation subjected to intervention, it is difficult to truly label them as part of a control group because they might as well join the activities being held at the workplace. Next is the Hawthorne effect that is commonly being discussed if intervention was done at the workplace. This is because the workers being subjected to an intervention tends to improve simply because someone is paying attention to them. This can affect the outcome of the study. Self-selection of participant in the intervention could potentiate the effect as those that voluntarily respond always had the encouragement to change.

IMPLICATION TO THEORY AND PRACTICE

This review had added supporting evidence that for an intervention of absenteeism to be a success, all domains brought up by the theory should be in place. The factors that predisposed workers to be absent in certain organisations must be addressed clearly to ensure the aim and design of the intervention suit the workers and hit the main target. Each domain plays its own role in reducing absenteeism and many aspects that should be considered when designing an intervention to achieve the goals.

RECOMMENDATION

Further intervention should look into the policy on management of absenteeism to ensure it is clear and updated. The rules and system application designed should be monitored continuously and continuous education on the purpose of being in the organisation must be enhanced to develop accountability and prevent absenteeism culture in an organisation. Future study should consider conducting meta-analysis of subgroup analysis to identify the intervention that contributes significantly to halt absenteeism at the workplace. In addition, non-experimental study or qualitative study should be conducted specific to the organisation in order to identify the exact intervention that suites the organisational need for better resource planning.

CONCLUSION

In summary, based on the systematic search on the above matters, the important factors for successful organisation intervention for absenteeism must comprise of individual, workplace environment and motivation component. Organisations must incorporate awareness programs and wellness clinics to increase awareness and importance of monitoring owns health, the concept of self care comes into play. Modules on coping strategies at work and cognitive behavioural therapy sessions for stress management at work can and should be promoted. The workplace environment factors emphasized promoting a healthy workplace mainly through a physical activity designed according to the worker's fitness to improve cardiorespiratory fitness and muscle strengthening. It is the responsibility of the governance and managers to implement health education programs at workplace, designing adaptation program for workers to improve task performance. Overall, incorporating all the factors in organisational strategies to halt absenteeism was shown to be effective. Different organisations at work have different types of absenteeism intervention being carried out according to their target and needs. Thus, to ensure the intervention meets the purpose, all factors mentioned should be integrated into every workplace for better prevention of absenteeism among workers.

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