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# Article

# The impact of work-related physical assaults on mental health among Japanese employees with different socioeconomic status: The Japan Work Stress and Health Cohort Study (JSTRESS)



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# ABSTRACT

*Background:* Work-related physical assaults or violence has severely impacted on the safety of the work environment and employees' mental health. The aim of the present study was to investigate the prevalence of physical assaults, the effect of socioeconomic status (SES) on it and depression associated with it in employees working at large companies.

*Methods:* A total of 22,770 Japanese employees responded to a self-administered questionnaire including SES (educational status and occupational status), violence victimization, worksite social support and depression (response rate, 85%). The 12-month prevalence of physical assaults and depression was examined using a single question and the Center for Epidemiologic Studies Depression scale, respectively. *Results:* The prevalence of physical assaults was 1.8% both in males and females. Although the risk of exposure to physical assaults was 2–3 times higher in the blue-collar group than in the manager group, the association of exposure to physical assaults with depression was stronger in the manager and white-collar worker group (Prevalence ratio [PR]=2.1 in males; 1.8 in females) than in the blue-collar worker group (PR=1.7 in males; 1.5 in females) after adjusting demographic and occupational covariates. A similar pattern was observed for education in males; the association was stronger than in the lower education group (PR=2.1 and 1.8).

*Conclusions:* Low SES is a risk factor of exposure to physical assaults, however, the association of physical assaults with depression was significantly greater among company employees of higher SES than those of lower SES.

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# 1. Introduction

Work-related physical assaults or violence such as kicking, hitting or pushing has severely impacted on the safety in the work environment and employees' health. In European countries, it was reported that an average of 1.9% of workers had experienced physical violence at the workplace (Parent-Thirion, Fernández Macías, Hurley, & Vermeylen, 2007). Work-related physical assaults and threats are associated with poor mental health (Hogh, Sharipova, & Borg, 2008) such as depression (Wieclaw et al., 2006), depressive and anxiety disorders (Virtanen et al., 2008), fatigue (Hogh, Borg, & Mikkelsen, 2003) and burnout (Couto & Lawoko, 2011).

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Most researchers have focused on health care workers in this field as there is high prevalence of violence in clinical setting. For instance, 13.2% and 10.4-39.1% of nurses had experienced these behaviors in the United States (Nachreiner et al., 2005) and in European countries, respectively (Camerino, Estryn-Behar, Conway, van Der, & Hasselhorn, 2008). Given the high prevalence in clinical setting, studies on employees in other industries such as white-collar workers, e.g., professionals, engineers or clerks, or blue-collar workers, e.g., salespersons, drivers or cleaners, are limited (Camerino et al., 2008; Hogh et al., 2008; Nachreiner et al., 2005; Tolhurst et al., 2003). There are, however, several studies that reported the prevalence rates based on national representative samples of working population which were carried out in Europe (0.08% in Denmark (Hogh et al., 2003), 0.8% in the UK (Clark et al., 2012) and 7.7% in Turkey (Aytac et al., 2011)). In Asia, there is no other study except for a South Korean study that reported 0.7% of Korean national representative working samples had experienced physical violence at the workplace (Lee, Kim, & Park, 2014), while other studies conducted surveys only among

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health care workers (Alameddine, Kazzi, El-Jardali, Dimassi, & Maalouf, 2011; Arimatsu et al., 2008; Chen, Hwu, Kung, Chiu, & Wang, 2008; Kamchuchat, Chongsuvivatwong, Oncheunjit, Yip, & Sangthong, 2008). Nevertheless, information on prevalence of physical assaults at work especially in Asian countries are still lacking.

On the other hand, it is also important to identify the risk factors for physical assaults in order to prevent employees from being subjected to violence. To the best of our knowledge, there are only two studies that have reported the risk groups and consequences of physical assaults or violence (Aytac et al., 2011; Wieclaw et al., 2006). Among those two studies, one Danish study (Wieclaw et al., 2006) revealed a high prevalence of occupational violence among male workers in personal services and teaching association; female workers in health association, teaching association and personal services. The other study which included workers from various sectors in Turkey (Aytac et al., 2011) revealed that males or security sector workers were usually the victims of physical violence. These studies indicated that workers who are engaged in helping others are more likely to experience physical violence.

Meanwhile, researches which focused on socioeconomic status (SES) of the victims are also limited. In recent years, SES (e.g., educational status, income and occupational status) have attracted considerable attention as an important risk factor for violence. For example, recent study showed that low SES were more likely to be exposed to workplace bullying or interpersonal conflicts (Inoue & Kawakami, 2010; Tsuno et al., 2015). Among the minimal researches on work-related physical assaults which focused on SES, high school graduate workers were found to be more exposed to violence compared with university graduate workers (Aytac et al., 2011). Similarly, females with low income were also more vulnerable to violence (Virtanen et al., 2008). These studies indicate that workers of lower SES are at high risk for exposure to physical assaults. In Japan, remuneration is rewarded according to the employee's educational status. For example, in 2013, the average lifetime wage of high school graduates is JPY 208.7 million for males and JPY 172.2 million for females but university graduates could earn an average of JPY 261.4 million for males and JPY 212.5 million for females (The Japan Institute of Labour Policy and Training, 2015). Such hierarchical pattern exist even within the same organization, which means educational status cause lower position in the workplace.

Low SES is not only at high risk for exposure to physical assaults but also at a high risk for poor mental health; in fact, it has a direct relationship with depression and anxiety (Sakurai, Kawakami, Yamaoka, Ishikawa, & Hashimoto, 2010; Virtanen et al., 2008). In the same manner, workers with low SES were more likely to have mental health problems from occupational stress events such as interpersonal conflicts or organizational injustice (Inoue & Kawakami, 2010; Inoue, Kawakami, Tsuno, Tomioka, & Nakanishi, 2013). Therefore, one could hypothesize that the association between exposure to work-related physical assaults and mental health is stronger in low SES individuals than in high SES individuals. However, when investigating separately for males and females, the results are slightly different. For instance, the association of interpersonal conflict with depression was significantly greater among males of high SES than males of a low SES, though this pattern was not observed in females (Inoue & Kawakami, 2010). Although low SES is a risk factor both for exposure to violence and mental illness, the effect of SES on the association between violence and mental health is inconclusive.

The objective of this study was therefore to investigate the prevalence, the effect of SES on prevalence and consequences of work-related physical assaults among people in large Japanese companies using data from the large-scale cross-sectional survey within the Japan Work Stress and Health Cohort Study (JSTRESS) (Kawakami et al., 2004).

# 2. Methods

# 2.1. Participants and procedure

A baseline survey of the JSTRESS using a self-administered questionnaire was conducted on employees from six manufacturing companies located in Kanto and Chubu areas. Recruitment strategies were as previously described (Kawakami et al., 2004). A total of 22,770 (19,033 males and 3737 females) questionnaires were returned with written consent obtained (85% response rate). We excluded 2444 males and 618 females because of at least one missing response for variables in the study. Finally, data of 16,589 males and 3119 females were analyzed.

## 2.2. Measurements

#### 2.2.1. Socioeconomic status (SES)

SES was measured by the total years of education and occupational status. The respondents were classified into either lower (12 years or less) or higher (more than 12 years) education groups and if they were blue-collar workers (service workers including salespersons or security guards, production skills workers that require technical proficiency, involve running a machine or frequently involve exertion of physical strength or others) or managers and white-collar workers (professionals, engineers, or clerks). The questionnaire in this study did not include incomerelated questions.

## 2.2.2. Physical assaults

Physical assaults were measured by the single-item question from the National Institute for Occupational Safety and Health Generic Job Stress Questionnaire (NIOSH-GJSQ) (Haratani et al., 1996; Hurrell Jr. & McLaney, 1988). The participants were asked "How often have you been physically assaulted within the past 12 months while performing your job?," with response options from 1 = "not at all" to 5 = "very often". Respondents were classified into two groups, those with experience of physical assault ("once in a while", "sometimes", "often" or "very often") and those without experience ("not at all"). We did not ask the respondents who the perpetrator was, however, they could be more likely to imagine physical assaults from people outside their workplaces rather than inside workers such as supervisors or coworkers because our question in terms of physical assaults was described just after the questions "Does your job primarily involve providing direct service to specific groups of people or client populations?" and "How often does your job expose you to verbal abuse and/or confrontations with clients or the general public?".

#### 2.2.3. Worksite support

Worksite social support was assessed by the Japanese version of the National Institute for Occupational Safety and Health Generic Job Stress Questionnaire (NIOSH-GJSQ) (Haratani et al., 1996; Hurrell Jr. & McLaney, 1988). Based on the Caplan Social Support Instrument (Caplan, Cobb, French, Harrison, & Pinneau, 1975), the NIOSH-GJSQ social support scale consists of four items for supervisor support (4–20 score) and four items for coworker support (4– 20 score). The response options were from 1 ("don't have any of such person") to 5 ("very much"). The internal consistency, reliability, and validity are acceptable for this Japanese version (Haratani et al., 1996). The Cronbach's alpha was 0.84 for supervisor support and 0.81 for coworker support in this study. Download English Version:

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