

SYSTEMATIC REVIEW

Occupational Stressors Experienced by Police Officers During Coronavirus Disease (Covid-19) Outbreak – A Systematic Literature Review

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ABSTRACT

Introduction: Police officers are at high risk for many forms of psychological problems which includes anxiety and depression during COVID-19 outbreak. This review is aimed to identify relevant stress factors faced by police officers during COVID-19. **Methods:** Literature searches were conducted in Scopus and Web of Science databases. Search terms used includes the following: psychological OR stress OR mental health, and COVID-19 OR coronavirus, and police, OR policing OR law enforcement. **Results:** All types of articles published in January 2020-October 2020 which were relevant to the subject of the review were identified. The stress factors found relevant can be divided into operational, organizational, and other factors. Risk of infection, lack of knowledge on disease, uncertainty, availability of safety gear, and lack of pre-disaster training are the unique stress factors related to COVID-19. **Conclusion:** It is crucial to determine pandemic-specific occupational stressors experienced by police officers to enable its mitigation and improve work performance. Recommended risk control may include counseling services to officers affected by COVID-19, improve officers job satisfaction by acknowledging their work, and provide social support to maintain their wellbeing.

Keywords: COVID-19, occupational stress, police officer, stressors

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INTRODUCTION

Coronavirus disease (COVID-19) outbreak has caused serious threats to people's lives and health. This newly discovered strain of coronavirus infectious disease originates from Hunan South China Seafood Market and was first discovered on 12th December 2019 in Wuhan City, Hubei Province (1). With international travel, the virus spread to other populations outside of China and subsequently caused the World Health Organization (WHO) to declare COVID-19 pandemic during early 2020 (2). This disease causes life-changing impacts such as environmental policies, slowdown of

the world economy and impact on global health and society. Police officers are among the frontliners who continue to bravely fight this pandemic. Many countries have taken emergency measures such as lockdowns, travel bans, social distancing and face mask-wearing to control infection of COVID-19 (3). To help governments enforce these measures, police officers are among the frontlines being tasked with the essential yet crucial additional job scope on top of their existing duties (4).

As the first responders, police officers have been reported to experience significant health-related impacts due to rising cases of COVID-19 (5). Police officers may be directly or indirectly involved in COVID-19 response which triggers the higher possibility of infection risk to the disease (6). In addition, policing is considered as an occupational group that is more at risk due to their nature of work which experiences a large number of incidents

or traumatic events (7). Before the pandemic crisis, the policing occupations have been regarded as the most stressful professions in modern civilizations since they experienced long and often rotating shifts, threats of violence, and higher exposure to traumatic events during work (8). With the addition of this pandemic crisis, it has made the job scope broader that may lead to more occupational stress. Thus, this led to various psychological problems such as anxiety and depression among others.

Recent reports in China have shown that police officers carry out a series of rescue duties during COVID-19 outbreak (9). They also reported that police officers in Wuhan have been involved in the screening of 13 million people and investigated more than 100,000 epidemiological cases related to COVID-19. Approximately 95 police officers in China died on the frontline of fighting this outbreak (10). With the addition of this pandemic, police officers experience unique pressure to perform their duties and at concurrently are responsible to control the disease infection (9). Thus, it is important to provide appropriate mental health services and to be able to do such, there is the need to understand the psychological risk factors and their subsequent needs during the pandemic.

The factors causing stress in an individual are called stressors (11). Multiple stressors from various aspects may contribute to mental health problems among police officers. In terms of policing stressors, it can be categorizing into general and work-specific stressors (11). General police work factors include organizational support, policies, and job control (12). Meanwhile, police-specific work stressors involve exposure to traumatic events, internal affairs investigation, the threat of injury, and appearing in court (13).

Therefore, this systematic review aims to determine potential stressor during the response to COVID-19 pandemic among police officers. The outcome of this review will be used to identify recommendations for policing in this pandemic.

SYSTEMATIC LITERATURE REVIEW METHODS

Research aim and objectives

This systematic literature review aims to consolidate stress factors reported in the literature among police officers due to COVID-19 outbreak. The objectives of this current review were to address the gap between existing stress factors and current COVID-19-related stress factors police officers.

Literature search terms and search process

To address the objectives, systematic literature searches were performed. The literature searches were performed in SCOPUS and WEB OF SCIENCE databases. The search

terms used includes the following: psychological; OR stress; OR mental health; AND COVID-19; coronavirus; AND police; OR policing; and OR law enforcement. The search only included documents published between January to October 2020 because the first discovery of the COVID-19 disease was reported in December 2019. The documents included in the search only considered original research articles, reviews, commentary and letters to editors related to the keywords were used in this review.

Inclusion/exclusion criteria of the documents

From all the articles found that was relevant to the topic of review, the results were screened with the following pre-set inclusion and exclusion criteria:

- . Only literature published in 2020 was included in the review to correlate with current COVID-19 issues
- . Only English literature was included for practical reasons
- . Unobtainable literature or missing full-text or abstract were excluded.

Synthesis approach

Searching and removal process of the duplicate documents were conducted independently by two researchers. The same researchers then assess the titles and abstracts of the relevant documents. Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) and the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist were used to extract the selected articles that comply with inclusion criteria to ensure the quality of the articles included in this review was at par with peer-reviewed articles (14). Studies selected were summarized in relation to their type of study design, sample, method of data collection, general findings and related stress factors of mental health problems among police officers.

Overall, we categorized part of the results and the discussion into two main stress factors to makes it easier to navigate our review. These include operational factors and organizational factors (15).

RESULTS

Currently, there is limited literature that covers the impact of COVID-19 pandemic on policing work. This disease is considered as global pandemic by WHO since declaring H1N1 influenza as a pandemic in 2009. Since COVID-19 is a new disease, the literature related to occupational stress among police is limited. The literature search led to a total of 85 articles, in which 25 were removed from the list for duplication. Then, after screening for the titles and abstracts of the articles, 45 articles were excluded and only 15 articles were included for full-text assessment and eligibility. From this number, 7 more articles were excluded because it was not related with to topic reviewed. In the end, a

total of 8 articles were included in the final review. The details of the flow diagram of the reviewed studies are given in Fig. 1.

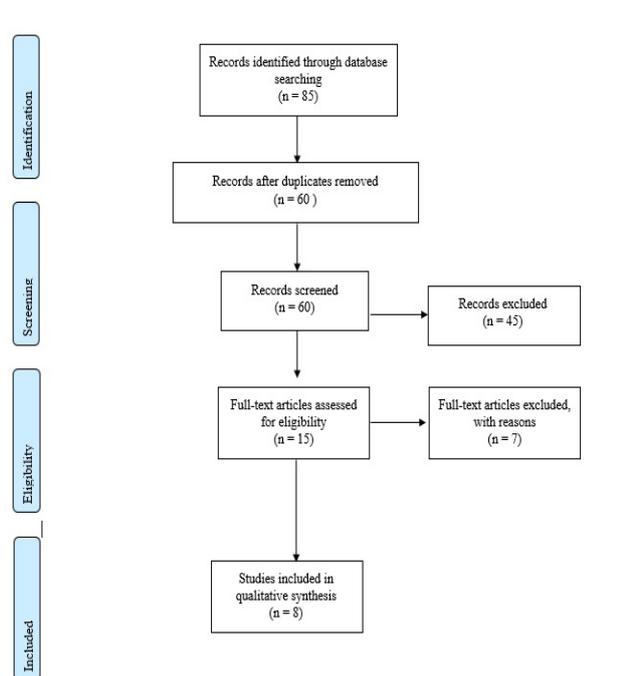


Fig 1: PRISMA Flowchart for a systematic review of the potential stress factors among police officers during the COVID-19 outbreak. This figure explain the flowchart on selecting the article in this review. The process begins with identification, screening, eligibility and included. At first, the records identified through database searching are 85, after duplicates have been removed, and articles selected based on inclusion and exclusion criteria, the final studies included in the review were 8 articles.

The included work of literature were published between January until October 2020. Three studies were conducted in China (16, 9, 17), one in Europe (15), two studies in the United States (5, 19), one study in India (20) and Peru (21). Two of the studies employed a cross-sectional study design, while the other two used mixed-method and one was a qualitative study. The other three studies were review papers. The summary of the studies is as presented in Table I. The table is organized

according to variables such as type of study, sample, psychological measures, main findings and stress factors

The study on evidence-based review study to understand the relationship between experience and exposure to COVID-19 and police mental health outcome (5). They found that COVID-19 has provided new and exclusive circumstances under which the police force might serve the community. New York Police Department (NYPD) which was the epicentre for this infection in the US have a total of 38 000 workforces and they reported that in early May 2020, 41 officers had died from COVID-19. The department had to ask 452 officers who were on sick leave to report to duty. The study reported that approximately 13% of the officers in NYPD have been medically impacted by this pandemic. They also found that at the end of May 2020, a total of 60 officers from the New York Police Department died from suicide due to mental health disturbance during the COVID-19 pandemic period.

One study investigated the challenges and preparedness of police officers in Maharashtra, India during the period of the COVID-19 pandemic (20). The authors reported that ten out of 1000 police officers tested positive for the disease and they reported that 50% of the police personnel were mentally disturbed due to COVID-19 fear and its challenges.

Three studies found that depression, anxiety and fear were the stress symptoms experienced by the police officers (16, 17, 21). The survey conducted in China reported that 12.17% from some 3517 police officers experienced moderate to severe depression, while 8.79% reported having moderate to severe anxiety (14). Another study found that out of 2614 frontline police officers, 50% of them suffered depression while 23.4% of them suffered moderate to severe anxiety (16). Only two studies reported the prevalence of mental health effects such as depression (23.4%) (16), anxiety (8.79%) (17) among police officers during COVID-19 pandemic, meanwhile six other studies did not state the prevalence

Table I: Summary of the studies included in the review on the stressors among police officers during the COVID-19 pandemic.

No	Study	Type of study	Sample	Method of data collection	Main general finding	Main factor/stressors
1	Teng et al.,(2020)	Cross sectional study survey	2614 frontline in China	Depression measured by Patient Health Questionnaire-9. Anxiety measured by Self-Rating Anxiety Scale (SAS) Fatigue measured by Fatigue Self-Assessment Scale (FSAS)	Most participants experienced depression and anxiety and more than 55.6% frontline staff felt tired.	Risk factors contribute to psychological status and fatigue among frontline: 1. Risk of infection (OR:2.7, 95% CI: 2.2-3.4) 2. Knowledge on COVID-19 3. Support from family (OR:6.1, 95% CI:1.4-27.8) 4. Income level (OR:1.2, 95% CI:1.0-1.5) 5. Age (OR:3.1, 95% CI:1.5-5.9)) 6. Gender (OR:1.3, 95% CI:1.0-1.6)

CONTINUED

Table I :Summary of the studies included in the review on the stressors among police officers during the COVID-19 pandemic.

(cont.)

No	Study	Type of study	Sample	Method of data collection	Main general finding	Main factor/stressors
2	Yuan et al., (2020)	Cross sectional	3561 police officers in Wuhu China	Patient health questionnaire (PHQ-9) Generalized anxiety disorder (GAD-7)	12.17% of police officers had moderate to severe depression Depression score correlated with anxiety score	Age (OR:1.01), education level (OR: 0.19), marital status (OR:0.61), police classification (OR:1.8) and sleeping pill intake (OR:0.19)associated with depression and anxiety
3	Frankel et al.,(2020)	Mixed method study	2567 police officer -Austria -Germany -Switzerland -Netherland -Spain	Self-drafted questionnaires measure: perceived stress single item, fatigue single item, participant mood 6 items, stressor appraisal of COVID-19 four items, emotion regulation 6 items	On average, officers seemed to tolerate the pandemic outbreak over time with slight decrease in strain.	Risk of infection and deficient leadership, and uncertainty are main sources of stress. Gender, work experience predicted strain/stress.
4	Kokane et al., (2020)	Mixed method -Cross sectional -Qualitative	102 police officer in India	Telephone interview and in-depth Online questionnaire	Three main challenges during COVID-19 which is self-precautionary, duty related and structural factors	Long hours of duty, multiple shift, inadequate security gears and risk of infection associated with mental health of police officer during exposure to COVID-19
5	Garay et al., (2020)	Qualitative analysis	4 police in Peru	Semi-structured interview measure emotional state of police officer	Police officer show emotional difficulties such as fear, anxiety, depression and stress due to risk exposure to COVID-19	Inadequate knowledge, logistic planning and awareness are the factors that affect the emotional state of the police officer during pandemic.
6	Laufs & Waseem (2020)	Systematic review	-	Best practices response for police during COVID-19	There are four categories of issues: police-community relation, mental health and well-being, intra-organisational challenges and inter-agency collaboration and cooperation.	Lack of pre-disaster training, staff shortage, training on disease, availability of equipment is the stressor for police stress. Age and gender influence the mental health of police officers.
7	Drew & Martin (2020)	Evidence based review	New York	Mental health and wellbeing of police	Understanding the relationship between experience and exposure to COVID-19 and police mental health outcome.	COVID-19 impact to police: 1. Threat to safety 2. Critical incident and trauma to families 3. Possibility of PTSD
8	Stogner et al., (2020)	Review	United States	Stress, mental health and resiliency	1)COVID-19 affected officer stress 2)COVID-19 as occupational stressors	Occupational stressors: 1. New policies 2. Adapt limit exposure 3. Shortage in PPE 4. Traumatic event 5. Increased protocol

OR: Odds Ratio; CI: Confidence Interval

instead the other six studies discuss the effects based on the related stressors.

The stressors that have been identified in the reviewed literature were divided into two main categories namely operational factors and organizational factors (15). The operational factors that have been identified to be associated with occupational stress among police officers are i) fatigue, ii) workload, iii) support from family, iv) risk of infection, v) incident and trauma. On the other hand, the organizational stressors associated with mental health of the police officers includes i) lack of knowledge on the disease, ii) deficient leadership that lead to uncertainty, iii) inadequate security gear, iv) inadequate logistics, v) lack of pre-disaster training, vi) staff shortage, and vii) new policies. Other stress factors that have been identified to relate with occupational stress among police officers also include socio-demographic characteristics of the police officers.

Table II presents the main categories of stressors among police officers.

DISCUSSION

Based on the digital search until October 2020, there is no systematic literature review that has been published discussing the specific stressors of mental health related to COVID-19 pandemic among police officers. However, there is one systematic literature review article discussing the potential short and long term effects of disasters and public health emergencies on policing including challenges during COVID-19 responses (3). The present review suggested that the stressors can be broadly categorized into two main factors which are operational and organizational factors (15). The use of these valid categories of stressors was initially introduced by McCreary and Thompson (15) who have established it based on the results from a series of focus group

Table II Summary of stressors for psychological and mental health of police officers during COVID-19 pandemic.

No	Study	Operational Factors	Organizational Factors	Other Factors
1	Teng et al.,(2020)	1. Fatigue 2. Workload 3. Support from family	1. Lack of knowledge on pandemic	1. Income level 2. Age 3. Gender
2	Yuan et al., (2020)	Not stated	Not stated	1. Age 2. Education level 3. Marital status
3	Frankel et al.,(2020)	1. Risk of infection	1. Uncertainty 2. Deficient leadership	1. Gender 2. Work Experience
4	Kokane et al., (2020)	1. Long hours of duty 2. Multiple shift 3. Risk of infection	1. Inadequate security gears	
5	Garay et al., (2020)	1. Risk of infection	1. Inadequate knowledge 2. Inadequate logistic	
6	Laufs & Waseem (2020)	1. Not stated	3 Lack of pre-disaster training 4 Staff shortage 5 Training regarding knowledge of disease 6 Availability of equipment	1.Age 2.Gender
7	Drew & Martin (2020)	1. Safety/injury 2. Incident and trauma 3. Risk of infection	Not stated	Not stated
8	Stogner et al., (2020)	1. Traumatic event	1. New policies 2. Shortage in Personal Protective Equipment (PPE)	Not stated

discussions among 55 experienced police officers from the Ontario Provincial Police Department. Apart from the categories of stressors by McCreary and Thompson (15), we also discussed other stressors as other factors that have been reported to related to mental health. Most importantly, we included a discussion focusing on the gap of unique stressors related to the mental health status of police officers during the COVID-19 pandemic.

Operational factors

Fatigue is one of the factors that has been pointed out as the operational stressor for police officers during the COVID-19 pandemic. This is supported by Kokane et al. (20) who found that fatigue correlated with stress during this pandemic. Since the outbreak of this disease, police officers have been assigned with the additional task such as patrolling to ensure compliance and crowd control among the public. They have multiple duties, irregular shifts, and long hours of duties that contribute to the development of fatigue among them. An earlier study found excessive fatigue will lead to negative emotion and enhance depression over time (22). It also contributed to poor quality of employees' life. Untreated fatigue also leads to chronic disease development. Therefore, timely intervention and rest adjustment are necessary.

Other than fatigue, the workload is correlated with occupational stress. Due to pandemic, police officers have additional tasks that adds up to their existing routine. Therefore, the workload is greatly increased. This is in line with Kokane et al. (20) who reported that police officers in Maharashtra have to work long hours on the field and there have limited time for personal health. This study also highlighted that police officers need to take multiple shifts to cater to tasks such as handling migrants who are travelling to their homeland. This is due to staff shortages and staffs on medical leave due to COVID-19 infection. All the stated reasons may increase the risk of job stress among police officers.

Excessive workload during the pandemic reduced the time available to spend with family members (16). Family support is considered as part of the operational stressors because it is equal with existing stressors such as lack of understanding from family about police work. In one study, higher level of family support was believed to enhance emotional satisfaction of the individuals and thus increasing their sleep quality. Enough rest and sleep may decrease symptoms of stress such as anxiety, depression and fatigue (23). Therefore, support from family members help to minimize mental health problems among police officers.

From the reviewed studies, it was found that risk of COVID-19 infection appeared to be an operational stressors of police stress (5,18,20,21). Frankel et al. (18) found that, at the beginning of the outbreak, police officers were worried of being infected with the disease

due to limited safety gear and ultimately placing their family members at risk. This finding is similar with the study by Kokane et al. (20) who reported that lack of personal protective equipment (PPE) such as face masks, gloves and sanitizers at the beginning of the outbreak in Maharashtra, India caused officers to experience stress from the risk of COVID-19 infection. It is noted that about the percentage of reported infection among police officers in the study by Kokane et al. (20) was relatively small at 1% compared to other studies in the United States that reported 13% of the police officers were medically impacted by this disease (5). Therefore, it can be concluded that risk of infection to the disease is the additional operational stressors for police officers during response to COVID-19.

The reviewed literature found that incident and traumatic events during the COVID-19 pandemic were associated with police stress. A previous study indicates trauma as a situation when an individuals experienced threat to self or witness a threat or harm to others (24). Events such as 9/11 and Hurricane Katrina are examples of trauma episodes that pose threat to self (25). Drew & Martin (5) suggested in their study to consider COVID-19 as a critical event that can cause trauma responses. They reported that responders in the COVID-19 pandemic were likely to experience the following; i) risk of disease infection as part of their duties, ii) excessive risk because of ongoing physical threat and iii) excessive stress due to physical danger that is exposed to themselves and their families. In a separate study, it was found that traumatic experienced during working hours have the potential to interfere with social life and decrease work performance among police personnel (26). It has been reported that due to traumatic events during the COVID-19 pandemic that presents a consistent risk to officers, it requires them to be hyper vigilant of their working environment (19).

Organizational factors

Three studies reported that lack of knowledge on COVID-19 lead to occupational stress among officers (3,16,21). Compared to healthcare workers, police officers have less professional medical knowledge and medical equipment appropriate for the pandemic (16). Thus, this tends to lead them to fear, tension and depression. A study conducted in Pakistan among doctors found that doctors who have moderate to low knowledge of coronavirus disease (Odds Ratio, OR: 2.69, 95% Confidence Interval: 1.68-4.31) tend to have higher depression since the outbreak of the disease (27). In the study by Kokane et al. (20), it was reported that 50% of the police officers obtained COVID-19 information from social media outlets such as Facebook and WhatsApp. Furthermore, the study indicated that the majority of the first responders were not provided with sufficient infection control practices and preparedness guidelines from the authorities or government. It is believed that lack of knowledge on COVID-19 also led to high risk of infection (28). Similarly, a study reported

that police officers at the Peru National Police force had lack of preparation for COVID-19 pandemic at the beginning of the outbreak due to lack of knowledge on the disease (21). This led them to not being able to develop efficient strategic planning for the police force during the outbreak. Providing sufficient knowledge and training on the disease especially crucial information on the transmission of the disease and its prevention measures are believed to help better response during a pandemic outbreak (3).

During the pandemic, leadership and communication are crucial within the organization (18). This is due to an overload of changing daily laws, regulations and orders that did not contain clear instruction to facilitate action (18). Rapid change of regulation in the organization, limited time given to the officers and inconsistent orders were reported to trigger uncertainty in action. Subsequently, uncertainty affects the self-confidence of the officers and prevents officers to implement right intervention. Frankel et al. (18) highlighted that uncertainty is the major source of stress. The authors went further to recommend action to reduce uncertainty among officers by strengthening the legislation and communication to provide clear instructions.

Availability of physical resource during an emergency is necessary. In this scenario, lack of personal protective equipment (PPE) such as gloves and face masks may create serious issues for law enforcement officers to perform their duty (3). Due to their nature of work, social distancing policy may prove to be impossible, therefore they need to protect themselves from risk of infection by wearing proper PPE (29). Kokane et al. (20) also found that the unavailability of protective gears for officers on duty impact mental stress. Improper wearing of PPE can increase higher possibility of infection risk of the disease and increase fear among police officers which lead to the development of job stress. In addition, PPE does not only protect the officer, it is also a fundamental aspect for organization efficiency as a whole (30,31). Garay et al. (21) also found those police officers in Peru lack transportation to perform their essential duty during this health emergency. Previously, lack of resources and inadequate instruments have been listed as one of the organizational stressors among police.

One of the papers reviewed in this study reported that inadequate pre-disaster training among officers also contributed to detrimental mental health effects during an emergency (3). This study also stated the importance of having detailed plans and adequate capacities for disaster response (32) to avoid unnecessary ad-hoc reaction (30) due to disruption of normal routine within the organization (33). Training should provide a real-life expectation of police officers' role during emergency (34). Besides, it should also expose the officers to the impact of staff shortages to the organization in terms of operation and skill or expert person (34,35). The

information regarding the training must be kept up-to-date (34). Pre-disaster training is important to prevent and manage mental health problem after the disasters (3).

The implementation of social distancing and alteration of the protocol such as the wearing of PPE during duty to reduce risk of infection among police officers is one of the changes in work procedure during COVID-19 pandemic response. It might be difficult to implement social distancing when the police officers need to handle criminal cases since they need to have close contact with the suspect. They might be exposed to the disease and have a higher possibility of infection if social distancing on duty is not made possible. Next, the after-effects of officers being infected is staff shortage (3). Kokane et al. (20) reported that due to police officers being infected with COVID-19, a problem with staff shortages arises and thus increased work stress. Staff shortages also can impact the police operation due to additional workload for healthy officers who are already facing psychological and physical stress on duty (31). They also found that it is difficult to maintain operational and officers' well-being in the distribution of work when there are limited officers.

Since COVID-19 has been declared as a pandemic, the WHO (2) have suggested certain procedures to be followed. In the context of policing, new policies on social distancing, face mask usage, stay at home and movement restriction order were among the new challenges that they had to face (19). Wesley & Nicholas (36) reported that the introduction of a new policy to the public add additional anxiety among police officers due to disapproval from the citizen. In overall, all the identified organizational stressors in this review might already exist with additional unique stressors related to COVID-19.

Other factors

Apart from the specific operational and organizational stressors, employment in policing is associated with other factors such as socio-demographic variables or characteristics which either directly or indirectly affect job stress. This finding supports the literature that socio-demographic factors add light to the explanation of police stress (37).

It is found that gender was significantly related to police stress (3,17,18). These two studies reported that women were more prone to experience more stress than men. Female police officers were more likely to feel a lack of support in high pressure working condition which led to stress and poor mental health (38,39). This may be explained by physiological factors where there was evidence found that women are more vulnerable to mental disease due to the fluctuation of ovarian hormones which causes changes in sensitivity to emotional stimulation in some stages of the menstrual

cycle (40).

Studies conducted by Teng et al. (16), Yuan et al. (17) and Laufs & Waseem (3) showed that age variable was associated with police stress during the response to COVID-19. It was found that younger people tend to have higher symptoms of stress such as depression and anxiety (16). One study found that younger people were more stressed because they received a higher amount of information from social media (41). One previous study has reported that older officers have higher level of mastery and self-esteem compared to younger officers, therefore they can solve problem and this will lessen their stress levels (42).

Teng et al. (16) reported that income level may contribute to police stress. This finding is supported by a previous study who reported officers whose salaries did not equal with their job were more likely to experience higher stress (37). Higher salaries among police officers may give more security that can minimize mental health problems among them (43). In addition, due to shift work, police officers cannot take other jobs for additional income (37).

The study by Yuan et al. (17) found marital status and education level were related to stress. The authors found that married police officers showed higher degree of stress than unmarried police officers. They also reported that higher education levels decrease stress. This is similar findings found by Ali et al. (44) who stated lower education levels show a significant higher degree of satisfaction (outcome of stress) than high education level. Meanwhile, Frankel et al. (18) stated work experience was negatively related to police stress.

To sum it up, socio-demographic variables are among the stress factors that are associated with development of mental health problem among police officers during COVID-19 pandemic. Thus, this can be used as the guidance to the development of best practices among officers during pandemic by considering their background to enable them to be equipped with effective coping strategies to manage stress.

Limitation and strengths of the study

This review paper has several limitations. First, the database search was conducted for articles published within 10 months only as the search was restricted between January to October 2020. There are limited articles that were related to mental health issues of police officers during the COVID-19 outbreak. Therefore, the information presented here is limited within the time frame. Second, not all the reviewed articles used the demarcation of operational and organizational categories to group the stressors. Three studies that were not presented with these categories and for these studies, we cross-checked the stressors identified and categorized them manually into a suitable

group of stressors. Lastly, only three studies reported risk values such as Odds Ratio (OR) for the identified stressors, others studies were not able to provide with risk values due to it being a qualitative study or a review paper. Notwithstanding these limitations, this review has several strengths. This review discussed the police-specific stressors during COVID-19 pandemic response. It also includes the potential of unique or additional stressors arising from the COVID-19 pandemic situation. Therefore, this review paper may be among the earliest paper that discusses specific and unique work stressors related to COVID-19 before the arrival of vaccines. With vaccination which is expected to reduce the pandemic infection, the landscape of the policing work may be altered and further study may be required to determine the changes of stressors or work environment after vaccination programs have been implemented.

CONCLUSION

Police officers play crucial roles in controlling the spread of COVID-19. Thus effective management is important to protect police officers functioning, health and mental health. From the reviewed literature, it is found that external stressors or known as extra organizational stressors effect the psychological health and well-being of police officers. This may impact both organization and officers at work. Therefore, it is crucial to determine pandemic-specific occupational stressors experienced by police officers to enable its mitigation because untreated stress can result in a variety of physiological, psychological and behavioral problems.

Recommended risk control to minimize mental health problems among police officers may include counseling services to officers affected by COVID-19, improve officers job satisfaction by acknowledging their work, and provide social support to maintain their wellbeing. In addition, pre-crisis training policies should be implemented to improve competencies and skills to prevent mental health problems in a future crisis. Encourage police officers to report mental health complaints, better communication between colleagues and superiors by implement supportive organizational practices approach help to minimize mental health problems among officers.

Future research measuring mental health status among police officers during COVID-19 outbreak should include. Identified stressors in this review also can be used as supporting information to evaluate the current mental health policy that may have already exist in different countries. This information helps to enhance the action plan needed for successful implementation of mental health policy by considering the variation of need for each country. Further studies need to be conducted by specified countries to develop mental health policy for policing by referring to the WHO guidelines. The need to revise mental health policy is advisable to

ensure it corresponds with the pandemic scenario since successful mental health policy has been evidenced to improve officers' performance.

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