

## ORIGINAL ARTICLE

# Outcome of *Program Kesehatan Optimum Sanubari* (SANUBARI) Wellness-based Self-management Intervention in Coaching Healthcare Workers for Well-being in COVID-19 Pandemic

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## ABSTRACT

**Introduction:** This study measured the outcome of the Optimal Health Program (OHP) among frontline healthcare workers during the COVID-19 pandemic. The OHP is a wellness-based self-management intervention focused on well-being to gain optimal health. OHP is originally from Australia and has been translated, culturally adapted and branded as the Program Kesehatan Optimum Sanubari (SANUBARI). The program was conducted as a psychosocial intervention and the outcomes measured were self-efficacy, coping styles and well-being. **Methods:** Eligible participants were nurses who actively managed COVID-19 inpatients in Hospital Kuala Lumpur and committed to complete the intervention. Those who did not provide consent or had comorbidity, unstable medical or psychiatry illnesses were excluded. 43 nurses were recruited through convenience sampling method and completed outcome measures from General Self-Efficacy Scale, Brief COPE and WHO-5 Well-being Index, before and 1-month after the intervention. The OHP was conducted via group-based, using OHP Sanubari workbook with 5 weekly sessions by trained facilitators and lasted for 60 to 90 minutes per session. **Results:** Significant improvement was observed 1-month post intervention for self-efficacy ( $t(42)=5.64$ ,  $p < 0.001$ ) and well-being ( $t(42)=2.14$ ,  $p < 0.05$ ); different approach coping strategies (acceptance, use of informational support, positive reframing, active coping, and planning) and avoidant coping strategies (distraction, venting, denial, and substance use). Whilst, humor coping reduced significantly 1-month post-intervention ( $t(42)=3.66$ ,  $p < 0.05$ ). **Conclusion:** This study reports the positive outcome of OHP on the mental health status of healthcare workers during the pandemic. This program can be considered as a tool towards optimal health throughout their career.

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## INTRODUCTION

The coronavirus disease (COVID-19) has spread across the globe. As of August 23, 2021, total cases worldwide are 121,657,781 cases. In Malaysia, the virus was first detected on January 24, 2020, with an escalating trend thereafter. To date, total positive cases are 1,572,765 (1). This health crisis has brought big impact to everyone globally. However, during the pandemic, the physical and mental health burden is prominent on the healthcare workers as they are the first responders with higher risk of infection to themselves and their families (2). Psychological trauma may develop from witnessing illness or death on a mass scale or of loved ones (2).

Overburdened setting and limited medical equipment are common scenarios faced by many healthcare workers due to the high demand (2). The healthcare workers end up overworked and fatigued in addition to the uncertainties of the duration of ongoing working hours and the expected timeframe for the pandemic to end (3). Additionally, they need to manage the extreme reaction from patients and patients' family and relatives while putting on personal protective equipment (PPE) around the clock (4). In view of the limited medical equipment or resources, the workers might feel guilty or have moral injury due to the inability to save lives despite their best efforts while observing patients and public's bereavement (3,4). Lastly, their workplace has become a dangerous place from points of care to potential disease transmission (3).

These obstacles put the healthcare workers at higher risk for developing mental health issues. Based on a

rapid systematic review of 22 studies, the prevalence of distress, sleep problem, depression and anxiety among healthcare workers ranged from 7% - 97%, 34% to 65%, 5% to 51% and 9% to 90%, respectively (5). Despite the low grade of evidence, the findings concur with previous infectious outbreaks such as the coronavirus and influenza epidemic.

Self-efficacy is an important factor in managing stressful life events. Self-efficacy is "defined as people's belief about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (6 p. 2). It controls "how people feel, think, motivate themselves and behave" (6 p. 2). This cognition gives rise to self-control over challenging situations by taking adaptive action and remain perseverant in adversities (6). Higher level of self-efficacy was reported to be linked with "optimism, positive affect, and work satisfaction" (7 p.1).

A study among high school teachers, students, and factory workers from Germany and Costa Rica has shown that self-efficacy and stress appraisal are closely related (8). Self-efficacy was found to influence performance at workplace both directly and indirectly; through clear goal setting, high motivation, focusing on opportunities and perceiving difficult situations as a challenge (9). The affective state thus becomes more stable, even on difficult tasks and during adversities (9).

Utilising Self-efficacy as a personal resource might drive them to fulfil their responsibilities and to adapt appropriately to COVID-19 crisis. Subsequently, it leads to perseverance which produces opportunities to experience mastery in completing the job task (9). Most importantly, self-efficacy promotes resilience that is defined as coping adaptively to a traumatic stressor (10). Hence, higher level of self-efficacy facilitates an individual to overcome any stressful situation, and resume baseline functioning (10).

Self-efficacy among healthcare workers has been explored in previous literatures during a non-pandemic setting (11,12). It has been shown to be beneficial in managing occupational stress that arises from highly challenging jobs (9). It has been reported that, self-efficacy scores measured from General Self-Efficacy scale among registered nurses were varied compared to the general population (15). For example, compared to the general population, self-efficacy amongst nurses in Indonesia was higher in contrast to acute care nurse practitioners in Taiwan (11,12). The difference among similar group of healthcare workers might be due to the study setting and work demands as well as other contributing factors such as occupational stress or individual factors. During the current pandemic in China, the self-efficacy score of nurses was found to be lower as compared to a non-pandemic setting (13,14). This is an expected result as self-efficacy can be affected

by challenging situations and occupational demands. Psychological interventions such as Acceptance Commitment Therapy (ACT) and Self-efficacy program had been implemented for healthcare workers in non-pandemic setting with significant positive result in enhancing self-efficacy (16,17). Self-efficacy plays a significant role in building resilience and coping especially when faced with ongoing stressors. Thus, self-efficacy needs to be examined and strengthened to ensure resilience is developed and maintained especially amongst frontline healthcare workers in managing the pandemic.

Lazarus and Folkman (1984) first introduced the concept of coping strategies or response to challenging life event that is perceived as excessive for one's resources (18). The coping process was defined as adjusting cognitive and behavior efforts in dealing with the challenge (18). Lazarus and Folkman outlined three elements involved in the coping process; the stressor, cognitive appraisal, and the available coping resources (18). The effectiveness of coping is context specific, based on individual's personality, the threat faced, and the expected results (19). There is extensive work in the areas of coping and how it can be measured (18). Most of the measurement was initially related to the Way of Coping by Lazarus and Folkman. Subsequently, Coping Orientation to Problem Experienced (COPE) scale was established and later on, Brief COPE was introduced to facilitate the brief administration of the questionnaire (20). Eisenberg et al. (2012) further categorized coping into approach and avoidant coping based on the Brief-COPE (21). Approach coping consists of active coping, positive reframing, planning, acceptance, seeking informational and emotional support subscale. Whereas avoidant coping comprised of substance use, denial, behavioral disengagement, venting, self-blame and self-distraction (21). Approach coping is any cognitive or emotional activity that addresses the threat while avoidant coping is any activity that directs away from the threat (22). This type of coping is a basic concept for coping with stressful event (22). Approach coping is considered as adaptive while avoidant coping as maladaptive but both coping strategies have their benefit and cost during stressful life event (22). There is evidence to support that avoidance coping is better than approach coping in uncontrollable situation. Whereas approach coping is better if there is potential control (22). There are also several other categories of coping such as adaptive/maladaptive (23) and problem-focused/emotion-focused (18). Nonetheless, approach-avoidant coping facilitates better understanding on individual response during ongoing traumatic experience such as the COVID-19 pandemic. Though religion and humor are not categorized as approach or avoidant coping, they are also part of coping strategies within the Brief COPE and provide greater depth in enhancing current coping strategies.

From a rapid systematic review, it has been shown that healthcare workers utilized various coping strategies during this pandemic (6). Ten studies found that they used other methods or individualized approach. Whereas, six studies found that approximately 43% to 78.5% of them sought social support from family or friends. Meanwhile, some of them, around 18%-36% coped by reaching out to professional psychological support (6). Another study on nurses in China during current pandemic found that strategies of approach coping such as seeking social support, problem solving, and self-care or avoidant coping of distraction were used (24). There was also published literature conducted in Malaysia during the pandemic in relation to the general population (19). In this study carried out among university students during lockdown, it was found that they utilized more maladaptive strategies represented by "acceptance and mental disengagement" compared to adaptive coping of "seeking social support and humanitarian", which were based on locally developed measurement tool (19 p. 1). From this local study, acceptance was categorized as maladaptive coping based on the previous studies (19). Thus, further exploration is needed on whether the coping strategies among the frontliners are any different from general population.

An individual's well-being is also affected during ongoing stressor. Well-Being is defined as "the presence of positive emotions, absence of negative emotion, life satisfaction, fulfilment, and positive functioning" (25). It promotes a holistic approach in health measurement that include both physical (body) and mental health (mind). In fact, perceived general health and life satisfaction were associated with less psychological issues (25). Close association between well-being and self-efficacy had been explored in different settings and groups such as among healthcare workers and working adults (26,27).

The uniqueness of the health care system can affect the well-being of a healthcare worker (28) and its effect is further exacerbated during the COVID-19 pandemic. From existing literatures, it was found that healthcare workers had lower score of well-being (41-59% of them had optimal well-being) compared to the community sample (58-61% had optimal well-being) and even lower score was observed among frontliners (29-30%). Additionally, community sample in Denmark and New Zealand also revealed that the scores for well-being during COVID-19 pandemic were lower compared to the previous baseline data (32, 33).

Therefore, adequate psychosocial support to healthcare workers in the difficult times of a pandemic is highly recommended (2). However, in view of the difference between mental health care during pandemic and disaster, it is unclear which will be an effective approach for maintaining psychological well-being. Studies regarding psychosocial intervention for healthcare workers

during pandemic are developing but to date, evidence is limited, and the findings for specific recommended interventions are inconclusive (34,35). This might be due to the heterogeneity of the interventions in research conducted during crisis. Based on a narrative review during COVID-19 pandemic, seven published programs with two ongoing trials were reported (35). Out of these seven conducted interventions, three studies were focused on stress and anxiety management with workshop on enhancing resilience. Meanwhile, the rest of the studies worked on general supportive measures such as providing practical assistance, safe place to rest, venting and available online mental health resources. The intervention was held by academic and tertiary care hospitals from North America, France, Italy, China, and Malaysia. It included the Malaysian narrative which offered Psychological First Aid protocol through telepsychiatry. Each study reported to have a good outcome, but no intervention was identified to be superior or pose significant benefit to support healthcare workers in view of the heterogeneity of the intervention and methodological limitation in times of crisis.

Optimal Health Program (OHP) promotes well-being, workforce resilience and self-care strategies which can be offered during a pandemic (2). OHP has been proven to improve self-efficacy and adaptive coping which have led to achieving desirable level of well-being (36,38). By improving well-being among healthcare workers, it promotes disease prevention such as distress and burnout and thus provide enormous benefit to the system by providing quality service to patients and other stakeholders. Thus, the main aim of his current study was to examine self-efficacy among frontline healthcare workers participating in the *Program Kesehatan Optimum Sanubari (SANUBARI)* during the COVID-19 pandemic while its secondary objectives were to assess coping styles and well-being related to the intervention.

## MATERIALS AND METHODS

### Study design and setting

This is a prospective, interventional study. It was conducted in Hospital Kuala Lumpur, the largest tertiary care center under Ministry of Health Malaysia and among the main medical treatment center that treats COVID-19 infection around the catchment area (37).

### Participants

Eligible participants were nurses who managed inpatients with COVID-19 in Hospital Kuala Lumpur and committed to complete the session of *Program Kesehatan Optimum Sanubari (SANUBARI)*. Exclusion criteria were those who did not provide consent or had comorbidity of unstable medical/surgical or psychiatry illness. The program for voluntary participation was promoted through flyers and letter and distributed to all departments via heads of department. Once they provided signed informed consent, participants were

then recruited through convenience sampling method. They were subsequently given a set of questionnaires to be filled prior to the program and 1-month after the intervention.

**Program Kesehatan Optimum Sanubari (SANUBARI)**  
 OHP was developed by Frameworks for Health at St Vincent’s Hospital in Melbourne, Australia. Subsequently, it was translated and culturally adapted for the Malaysian population in 2018, called as *Program Kesehatan Optimum Sanubari (SANUBARI)* (39). It is a psychosocial self-management intervention that promotes holistic well-being through self-discovery and self-empowerment that is highly relevant to health care workers at this point of time. This program was delivered from August 2020 until October 2020 for registered nurses who managed COVID-19 outbreak in Hospital Kuala Lumpur. The OHP was conducted via group-based, in-person sessions with 10-15 participants for each group, using the OHP Sanubari workbook. The program consisted of 5 sessions with each session done weekly or an interval allowed within two weeks. Each session was performed by trained facilitators and co-facilitators comprised of mental health practitioners namely psychiatrists, medical officers and registered nurses, which lasted for 60- 90 minutes. The outline of the session was shown in Table I.

**Measurements**

Measurements were pre-tested and validated measurements through self-administered questionnaires in the English language. Outcome measures included self-efficacy, coping skills and well-being. The questionnaire was distributed at two points: baseline/pre-program and 1-month post intervention. Also measured were participants’ sociodemographic and work-related questionnaires.

**General Self-Efficacy scale**

The scale had been developed from Ralf Schwarzer and Matthias Jerusalem in 1995 to measure self-efficacy and to predict adaptation after challenging life event (7). It has 10 items and responses from 4-point scale. The total score ranges from 10-40 with higher score indicates higher level of self-efficacy (7).

**Brief COPE**

Brief COPE questionnaire contains 28-item that assess strategies to handle stressful life events. This is a shorter version from Coping Orientation to Problem Experienced (COPE) scale with 14 subscales of coping styles (18). Each subscale consists of two items with total score ranges from two (minimum) to eight (maximum). Higher score shows the predominant strategies used.

**WHO-5 Well-Being Index**

The World Health Organization-Five Well-Being Index (WHO-5) is a measurement of current well-being. The total score ranges from 0-100 with 100 representing

**Table I: Outline Session of Optimal Health Program (40)**

Week	Session	Session outline
Week 1	Optimal Health	<p><b>What is Optimal Health?</b></p> <ul style="list-style-type: none"> <li>• <b>Tool 1: Optimal Health Wheel</b>- based on 6 domains of intellectual, physical, emotional, social, spiritual and occupational</li> <li>• Reflection on one’s own health using Optimal Health Wheel</li> <li>• Exploration of satisfaction level in each domain and area to change/improve</li> </ul>
Week 2	I-Can-Do Model	<p><b>Enhanced self-awareness through the concept of strength/vulnerability and stressor/strategy which can affect well-being</b></p> <ul style="list-style-type: none"> <li>• Identify one’s own strength and vulnerability</li> <li>• <b>Tool 2: I-Can-Do Model</b></li> <li>• Exploration of current stressor and strategies to deal with it</li> </ul>
Week 3	Factors of well-being	<p><b>Physical health care and how it can contribute to optimal health</b></p> <ul style="list-style-type: none"> <li>• psychoeducation on medication (if any) and responsibility to monitor own’s health condition.</li> <li>• <b>Tool 3: Medication and Metabolic Monitoring Table</b></li> <li>• Identify collaborative partners</li> <li>• <b>Tool 4: Eco-mapping</b></li> <li>• Explored role of collaborative partner in one’s optimal health</li> </ul>
Week 4	Visioning and goal setting	<p><b>Change enhancement</b></p> <ul style="list-style-type: none"> <li>• <b>Tool 5: Timeline activity</b>- Identify past event and the relation with the health status – to learnt and reflect from life experience.</li> <li>• Orientation and preparation for the change- identify barriers from achieving goal</li> <li>• <b>Tool 6: Cost-benefit table</b></li> <li>• Problem solving and SMARTER goal.</li> <li>• Reflection and acknowledge achievement</li> </ul>
Week 5	Build own health plan	<p><b>Understanding own stages of health</b></p> <ul style="list-style-type: none"> <li>• <b>Tool 7- Health Plan 1</b> (Optimal Health), Health Plan 2 (Suboptimal Health) and Health Plan 3 (Episode of Illness)</li> <li>• Explored skills and strategies at different stages of health</li> <li>• Wrap-up session and feedback.</li> </ul>

the best well-being. The cut off score of more than 52 indicates optimal level of well-being(39).

**Statistical Analysis**

The data was analyzed using SPSS version 25. Mean and standard deviation were used for continuous variables while frequency and percentage were used for categorical variables. Demographic characteristic was measured by descriptive analyses. All the data were normally distributed based on histogram and Kolmogorov–Smirnov test. Therefore, paired t-test was applied in univariate analysis to compare the mean of self-efficacy, coping styles and well-being before and one month after the program.

**Ethical consideration**

Ethical approval was obtained from the Medical Research and Ethics Committee, Ministry of Health Malaysia (Reference No: KKM/NIHSEC/P20-2413(7).

**RESULTS**

A total of 43 nurses participated in the program. Majority of the study participants were Malays (n = 37, 86.0%),

females (n = 32, 74.4%), married (n = 23, 53.5%) and had less than 5 working years (n = 23, 53.5%). Most of them (n = 36, 83.7%) were from general ward and the remaining from intensive ward such as Intensive Care Unit (ICU), Coronary Care Unit (CCU) and High Dependency Ward (HDW).

At baseline, the mean self-efficacy score was 27.33 (SD = 6.63) and the mean total well-being score was 73.40 (SD = 20.64) with 39 participants (90.7%) achieved optimal well-being. 32 participants (74.4%) used predominant approach coping while 11 participants (25.6%) used mixture of predominant approach coping with some avoidant coping. No participant utilized predominant avoidant coping. Mean score of approach coping was from 5.37 to 6.00 while mean score of avoidant coping ranged from 2.12 to 5.21. Religion and acceptance were among the most common coping used with mean score range from 5.79 to 6.65 whereas avoidant coping was characterized by distraction, venting and behavioral disengagement with mean score range between of 4.00 to 5.21. The least coping strategy used was substance use with the mean score of 2.12 (Table II).

At 1-month post intervention, self-efficacy and well-being scores significantly improved based on paired t-test analysis  $t(42) = 5.64, p < 0.001$  and  $t(42) = 2.14, p < 0.05$ , respectively (Refer Table II) with approximately 5% increment was observed for optimal well-being. The pattern of predominant approach coping changed with 29 participants (67.4%) while 14 participants (32.6%) had a mixture with some avoidant coping. Out of 6 subscales, 5 subscales of approach coping had significant increment based on paired t-test analysis (acceptance,  $t(42) = 2.26, p < 0.05$ ), use of informational support,  $t(42) = 2.78, p < 0.05$ , positive reframing,  $t(42) = 2.45, p < 0.05$ , active coping,  $t(42) = 4.24, p < 0.05$  and planning,  $t(42) = 2.28, p < 0.05$ ). 4 subscales of avoidant coping also had significantly higher scores compared to baseline [denial,  $t(42) = 2.08, p < 0.05$ ] (venting,  $t(42) = 4.12, p < 0.001$ ) (self-distraction,  $t(42) = 3.53, p < 0.05$ ) and (substance use,  $t(42) = 2.83, p < 0.05$ ).

Whereas humour subscale was significantly reduced with  $t(42) = 3.66, p < 0.05$ . Other avoidant coping such as behaviour disengagement and self-blame were found to have higher scores following the intervention but were insignificant (Table II).

## DISCUSSION

The main finding showed statistically significant improvement of self-efficacy, coping styles and well-being 1-month post intervention. At the baseline, the mean self-efficacy score was 27.33 which was lower compared to a study in Indonesia among similar group using the same measurement tool used in a non-pandemic setting (11). During the current pandemic, lower self-efficacy score was also observed among nurses in Italy (41). More than half of the study participants (50.65%) in Italy scored less than 29. It was most likely contributed from the challenging situation of COVID-19 pandemic and showed that this group was affected. Nonetheless, smaller sample size in this present study might not represent accurate result.

At 1-month post intervention, the self-efficacy scores among the participants were significantly increased from 27.33 to 34.42. The possible factors to enhance self-efficacy in this present study include the content, method of delivery and the group format of the intervention. OHP focuses on well-being through self-empowerment to take charge of one's own health (38). Realizing that the definition of optimal health may vary from one to another, participants were guided for self-reflection and self-awareness to identify their own perspectives (38). Subsequently, they were guided to understand factors that contribute to their well-being, the ability to identify their own strength and vulnerabilities, and access to available support (38). In turn, their self-efficacy would motivate themselves in setting up vision and goal to achieve optimal health (38). Apart from the content, the health coaching and motivational interviewing approaches created a supportive environment that can be regarded as verbal persuasion and emotional cue

**Table II: Comparison of general self-efficacy, well-being and coping strategies mean scores before and after the intervention**

	Pre-scores Mean (SD)	Post-scores Mean (SD)	T statistic (df)	Sig. (2- tailed)
<b>General self-efficacy</b>	27.33 (6.63)	34.42 (4.52)	5.64 (42)	<0.001*
<b>WHO-5</b>	73.40 (20.64)	81.77 (15.60)	2.14 (42)	0.038*
<b>Brief-COPE</b>				
<b>Approach coping</b>				
• Acceptance	6.00 (1.36)	6.65 (1.34)	2.26 (42)	0.029*
• Use of informational support	5.79 (1.60)	6.60 (1.31)	2.78 (42)	0.008*
• Positive reframing	5.63 (1.62)	6.40 (1.40)	2.45 (42)	0.019*
• Active coping	5.49 (1.39)	6.51 (1.16)	4.24 (42)	<0.001*
• Use of emotional support	5.42 (1.38)	5.86 (1.28)	1.77 (42)	0.084
• Planning	5.37 (1.51)	6.07 (1.03)	2.28 (42)	0.028*
<b>Avoidant coping</b>				
• Distraction	5.21 (1.73)	6.33 (1.21)	3.53 (42)	0.001*
• Venting	4.07 (1.22)	5.09 (1.42)	4.12 (42)	<0.001*
• Behavioral disengagement	4.00 (1.36)	4.14 (1.74)	0.41 (42)	0.685
• Denial	3.77 (1.48)	4.51 (1.81)	2.08 (42)	0.043*
• Self-blame	3.77 (1.62)	4.30 (1.50)	1.66 (42)	0.104
• Substance use	2.12 (0.54)	2.72 (1.44)	2.83 (42)	0.007*
<b>Religion</b>	6.65 (1.48)	6.7 (1.35)	0.18 (42)	0.858
<b>Humor</b>	5.95 (1.70)	5.4 (1.94)	3.66 (42)	0.001*

\*p<0.05

as a source of self-efficacy (9). Meanwhile, from group format with homogeneity, it brought an ambience of peer influence/social modelling and validating each other by normalizing their experience (9). Finally, using the workbook, each of the participants were encouraged to apply the optimal health concept into their own context and gain mastery experience to get actively involved in own health (9).

Despite there are no previous interventional studies conducted in the same context, research with almost similar setting and participants were compared. The self-efficacy score was consistent with previous studies that utilized locally developed training program based on expert opinion (42-43). A study using resilience training was conducted in Toronto, Canada after few years of Severe Acute Respiratory Syndrome (SARS) outbreak which aimed to prepare healthcare workers in teaching hospital for future influenza pandemic (42). The resilience training was designed based on educational input on the anticipated infectious outbreak combined with psychological elements such as “psychological first aid, stress management and coping” with positive outcome (42 p. 3). However, it was measured by a different tool, called Pandemic Self-Efficacy scale. The improvement of self-efficacy score might be contributed from the content of the intervention which addressed self-management intervention such as stress management and coping skill which was consistent with present study. Another interventional study was performed in non-pandemic setting to enhance self-efficacy among frontline nurses in a dementia center (43). The intervention was known as Self-efficacy Program which was conducted in view of the potential occupational for the caregivers. The content was based on the challenges and unmet need of the nurses, with integration of sources of self-efficacy through role play sessions and discussion. The self-efficacy score showed significant improvement measured at 3-month post intervention using a newly developed measurement tool, The Inventory of Geriatric Nursing Self-Efficacy. The study’s finding supports that self-efficacy can be enhanced by appropriate intervention and the consistency of favorable result was achieved even in a real pandemic setting.

Additional aim of this study was to examine the coping style used. At baseline, the most common coping strategies were religion and acceptance while the least common coping strategy was substance use. This finding is consistent across studies from previous infectious outbreak and this current pandemic (44). Moreover, this pattern was also observed in different study subjects during the COVID-19 pandemic conducted among university students in Pakistan (45). This might suggest the universal need for spirituality to manage the stressor that is beyond human control and indicates the human adaptive system towards the stressor of this pandemic regardless of groups/nation. Most of the participants positively appraised the current challenge

through religion perspective and some of them planned to improve their religion knowledge and practice. Participants were found to have a tendency to cope by accepting the current situation. This coping helps to improve quality of life (44). The acceptance coping was also observed among patients with chronic conditions and disabilities during COVID-19 (45). This might reflect the vulnerability felt not only among patients but also among healthcare workers. In a context of other disaster, acceptance coping was also observed in a general population, a year after an earthquake in Italy (46). This general finding throughout various countries showed how people respond in facing unexpected events.

At 1-month post intervention, almost all the approach coping subscales had significant increment. This finding might show resilience among healthcare workers by coping adaptively despite huge challenges in the pandemic. However, humour coping was significantly reduced. In contrast, four of the subscales of avoidant coping had significantly increased, which was different from what would be expected. Otherwise, the score in avoidant coping remained lower than approach coping. It is postulated that the finding might be from the additional stressor during the second measurement period that might affect their response. At this point of time, the third wave unexpectedly struck back with larger scale and required most of the study’s participants to be re-deployed to treat patient with COVID-19 infection. Despite the somewhat alarming finding of significant increase of substance use, this might be biased with self-reported measurement and one’s appraisal of the given situation. As healthcare workers, they might misinterpret the item of ‘other drugs’ in Brief COPE questionnaire as a medicine. The term ‘drug’ might be interchangeable with ‘medicine’ among nurses of inpatient setting in view of routine chores of administering ‘prescribed drug’ to the patients. Considering a predominant Malay ethnic population, language might be an obstacle in understanding and reporting their condition. In comparison to a study among nurses in Emergency Department in Singapore following SARS outbreak, it was found that the substance use subscale score was relatively higher with mean score of 4.63, but it was still the lowest coping as measured by Coping Orientation to Problem Experienced (COPE) compared to present study with mean score of 2.72 (47). The higher score in previous study might be attributed to religion and cultural differences. Whereas the substance use score was found to be lower among university students in Pakistan during COVID-19 pandemic (21). This might portray the different situation and setting between general population and healthcare workers. This might also reflect the uncontrolled situation experienced by healthcare workers based on the approach-avoidant coping (22). For the religion subscale, the score was consistently high throughout the program which was unlikely to detect the significant difference. Whereas the use of emotional support was also increased but not

significant as they might use other coping styles.

In this intervention, a specific module was used to address coping strategies and the participants were encouraged to reflect on their existing coping and to explore into new coping method. In previous interventional studies among healthcare workers, no marked changes were found following resilience training (42). This might be contributed to smaller sample size and the confounder effect as it was conducted for pandemic preparedness in non-pandemic setting. In present study, it was conducted during pandemic and real time experiential learning may take place. The content of the intervention in present study that focused on the awareness of strength and vulnerabilities, visioning and goal setting may contribute to the significant increment in coping strategies.

Compared to general population, healthcare workers scored higher in approach coping (48). This might be due to the knowledge and understanding about this infectious disease. Moreover, with huge responsibility, healthcare workers were deemed to sustain in this pandemic through adaptive coping to maintain their well-being. However, when compared to norms, both groups scored lower in approach coping with a mixture of avoidant coping as would be expected during crisis (48).

The final investigation was to measure the well-being index. At the baseline, the mean score of 73.4 (SD=20.64) was comparable with the general population score in non-pandemic setting (39). This positive result might indicate the fighting spirit among healthcare workers. In relation to other countries during this pandemic, the study's well-being score was higher compared to Oman and Italy (29,30). This difference might be reflected from the worst pandemic situation in Italy and might also be cultural related in the Middle Eastern country.

The significant increment of well-being score following OHP might further support the positive outcome of the conducted intervention. This result was also consistent with a study using mindfulness-based stress reduction to healthcare workers in a tertiary care hospital in Arizona in non-pandemic setting (49). From a randomized controlled design, they found a significant improvement of well-being from WHO-5 Well-Being Index in both groups of in-person training and smartphone training compared to control group.

A realist review on well-being intervention among healthcare workers highlighted the importance of workplace health promotion (50). Types of intervention includes "skills and knowledge development, communication and team building, workload and time management, stress management and leadership development" (50 p.1). The study measures also included psychological resilience, life satisfaction, burn

out and stress (50 p. 3). Out of 55 papers, 25 studies revealed positive finding whereas other studies found partial improvement, improved in long term only or no improvement or decline in study outcome. Based on the review analysis, the main theme/challenge of conducting workplace health promotion intervention include good liaison with stakeholders and the healthcare workers, identifying the unmet needs among them, to merge with achievable expectation and to have a holistic measurement to represent mental health and well-being as a study outcome to maintain the sustainability of the intervention. This paper highlighted the need for research to be expanded to understudied population in developing countries to promote well-being among workers.

The strength of this research would be the positive outcome from the psychosocial intervention conducted to the frontline healthcare workers during the COVID-19 pandemic crisis. Most of the participants perceived that it was helpful for their career and overall personal development. Even though, the intervention was aimed at individual level, its potential benefit, if any, can be extended to the organization, clients, and other stakeholders. However, there were a number of limitations in this study that need to be considered. First, the study had small sample size with no control group that led to difficulty to produce generalizability. Suggestion for future study includes virtual and shorter session to address the issue of time constraint. For instance, better study design with randomized controlled trial might produce more accurate finding.

During pandemic crisis, holistic efforts are crucial to support first responders. Psychosocial intervention to ensure psychological stability is an important component of the holistic effort. Other important components include practical assistance/support, organized plan and policy from the authority, clear communication among the team players and spiritual guidance (2). Nonetheless, more interventional studies need to be in place as a guidance for preparation of future infectious outbreak.

## CONCLUSION

*Program Kesehatan Optimum Sanubari (SANUBARI)* had been observed to bring a beneficial result towards psychological health among healthcare workers during COVID-19 pandemic. The implication of the study is perhaps to contribute as an evidence-based intervention for mental health care during pandemic and as a workplace mental health promotion. Finally, it may contribute to leaders and organization in the management of helping the helpers.

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