

Investigating the Role of Emotional Self-regulation about Social Support and Psychological Well-being among Health Care Workers in Pandemic COVID-19: A Cross-sectional Survey

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Abstract

Aim: The present study investigated the role of emotional self-regulation in social support and psychological well-being among healthcare workers during the COVID-19 pandemic. This was a descriptive-analytical study followed by a correlational design. **Method:** This cross-sectional research was conducted on healthcare workers (medical, nursing, and volunteer COVID-19 workers) who worked in hospitals or clinic centers in Tehran, Iran from May–to August 2020. A total of 146 HCWs were selected using the random method. Research instruments included the demographic information questionnaire, The Emotional Self-Regulation Inventory (SRI), the Multidimensional Scale of Perceived Social Support (MSPSS), AND Ryff's scale of Psychological well-being, a short-form (18-item). The collected data were analyzed using the Pearson correlation coefficient and the path analysis technique in SPSS (version 25) and SmartPLS (version 2) software.

Results: The bootstrapping test findings showed the direct effect of social support on psychological well-being was statistically confirmed ($b = 0.40, t = 2.44$) and the indirect effect or the full mediator effect of emotional self-regulation in the relationship between social support on psychological well-being was found to be significant ($b = 0.25, t = 2.94$). Thus, the full mediator role of emotional self-regulation in the relationship between social support on psychological well-being has been proven. The total effect of social support on psychological well-being was confirmed ($b = 0.65, t = 2.79$). **Conclusion:** These findings contribute to behavioral science knowledge and understanding of emotion regulation in enhancing social support and well-being during this pandemic and beyond.

Keywords: Emotional self-regulation, Social support, Psychological Well-being, Health Care Workers, COVID-19 Pandemic.

Introduction

The COVID-19 pandemic affected the entire human race, yet some groups had a qualitatively different experience (Gloster, Zacharia, et al., 2020), such as healthcare workers and especially those at the front lines, whose limits and capacities were tested in the effort to deal with the pandemic (Karekla et al., 2021). The current narrative on the psychological well-being of frontline healthcare workers (HCWs) during the coronavirus disease 2019 (COVID-19) pandemic has been highly polarized by a predominant focus on distress (Fino et al., 2021). Healthcare workers constitute the most affected group of people in the fight against the COVID-19 virus. Among the common mental effects of the pandemic are anxiety, panic, depression, anger, confusion, ambivalence, and financial stress. Healthcare workers were observed to experience similar problems during previous pandemics (Black Dog Institute, 2020; Bozdağ, & Ergün, 2020).

Further, rapid increases in the number of suspected and confirmed positive cases, overwhelming work-loads, widespread media coverage of the pandemic, perceived inadequate organizational support, and an increased risk of contracting the disease and transmitting it to one's own family have also caused psychological distress among healthcare workers (Xiao, Zhang, Kong, Li, & Yang, 2020; Preti et al., 2020). It is essential to consider both the psychological and physiological influence of the pandemic on healthcare workers. Failure to assess and address psychological responses to pandemic-associated stressors can negatively impact healthcare workers' physiological and psychological functioning (Heath, & Sommerfield, 2020). Notably, during pandemics, healthcare workers who provide care to patients are among the populations most likely to experience psychological distress, including depression and anxiety (Lai et al., 2020). In a situation such as the one described above, it is essential to be able to draw on resources that can facilitate individual coping. Job resources have motivating effects, contribute to high work engagement (Brauchli, Jenny, Füllemann, & Bauer, 2015), and buffer the negative effects of excessive job demands on employee health and well-being (Zhou et al., 2022).

Social support has been considered an important resource to cope with job-related stressors (Muller et al., 2020). Previous research showed that social support is positively related to well-being but negatively related to burnout among healthcare workers during the COVID-19 pandemic, and perceived lack of social support was directly associated with depression, anxiety, stress, and inadequate sleeping (Gleason et al., 2020).

The moderating effects of social support on job-related stress have also been proven in other populations, although not under the situation of COVID-19 (Fong et al., 2018). Philip and Cherian (2020) reported that the factors influencing HCWs' PWB during an outbreak include poor coping strategies, insufficient social support, increased patient interactions, challenging work conditions, inadequate preparation, quarantine, high perceived risks, stigma, social isolation, lack of resilience and a history of physical or mental health problems. Strong evidence has also been shown proving that emotional intelligence capability predicts facets of PWB and the positive relationship between life satisfaction and subjective happiness (Guerra-Bustamante et al., 2019). Meanwhile, studies have found that regulating emotions influences individuals' well-being (Gross &

John, 2003) and higher involvement with their work (Barreiro & Treglown, 2020). Furthermore, it has been shown that a person's failure to regulate emotional reactions to daily experiences and choose appropriate behavioral reactions to manage emotions both have an impact on several outcomes, including interpersonal relationships, physical health complaints, behavioral problems, and decreased levels of resilience/survival (Tamir et al., 2020).

However, as organizations differ in how they respond to the crisis, there will be important differences in how employees experience the COVID-19 pandemic. In this study, emotional self-regulation was considered a personal resource that mediates the association between social support and psychological well-being in healthcare workers in pandemic 19. Indeed, the relationship between social support and psychological well-being is also likely to be influenced by emotional self-regulation. Therefore, based on the above evidence, the purpose of this study is to investigate the role of emotional self-regulation in social support and psychological well-being in healthcare workers in Pandemic 19. The below figure represents the relationship between variables in this study. This model is by the proposed theory and literature review.

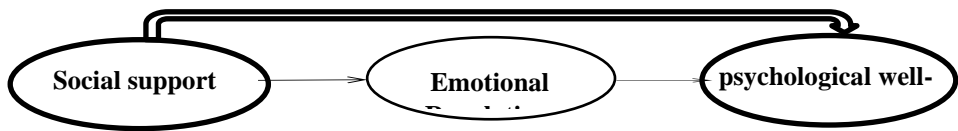


Figure 1. Conceptual model of research

Methods

This was a descriptive-analytical study followed by a correlational design. This cross-sectional research was conducted on HCWs (medical, nursing, and volunteer COVID-19 workers) who worked in hospitals or clinic centers in Tehran, Iran from May–to August 2020. A total of 146 HCWs were selected using the random method. The age range was divided into three age groups (20–34, 35–50, and >50 years). Since transmission of the COVID-19 virus can occur by direct contact with infected people and indirect contact with surfaces in the immediate environment or with objects used on the infected person, the data collection tools were prepared online, and the link was sent to the (medical, nursing, and volunteer COVID-19 workers) via smartphone applications such as WhatsApp or to their social media accounts. A survey form was commissioned to finalize an online survey using a questionnaire. First, the participants were contacted via social media. Next, the contributors were randomly selected, after which a link was sent inviting them to join the study. The participants were informed that their involvement was voluntary and confidential. Upon submitting a signed letter of consent, they were then given the questionnaire on Google Forms and were asked

to fill it out. The researchers were blind to the identities of the selected participants. Research instruments included the Demographic information questionnaire, The Emotional Self-Regulation Inventory (SRI), the Multidimensional Scale of Perceived Social Support (MSPSS), AND The Ryff's scale of Psychological well-being, short-form (18-item). The collected data were analyzed using the Pearson correlation coefficient and the path analysis technique in SPSS (version 25) and SmartPLS (version 2) software. To test the significance of indirect effects, bootstrapping analysis was used.

Measures:

Demographic information questionnaire: The participants completed a questionnaire extracting their contact and demographic information, including their gender, age, and educational level.

The Emotional Self-Regulation Inventory (SRI): Marques et al. (2005) developed this 25-item inventory. This inventory examines 5 dimensions of emotional self-regulation - positive actions, controllability, expression of feelings and needs, assertiveness, and well-being seeking. The SRI is scored based on a 5-point Likert-type scale that ranges from 1 to 5, with a minimum score of 25 and a maximum score of 125. The higher the score of a respondent, the higher the levels of related emotional self-regulation and skills. A study conducted on a sample of students (N=827) validated the Persian version of this inventory. The results showed an alpha coefficient of the entire inventory of 0.93; the alpha coefficient of male subjects was 0.91, whereas, for female subjects, it was 0.92 which indicated the high internal consistency of this inventory. There is a reliable and valid Persian (Iranian) form of this inventory (Ghalebani & Besharat, 2011). To examine the consistency of the self-regulation inventory, exploratory factor analysis through the principal component method was used. Five factors were extracted: positive action, controllability, expression of feelings and needs, assertiveness, and well-being seeking. To measure the internal consistency, the Cronbach Alpha test was relied upon, and the coefficients for the 357-member sample were 0.93, 0.87, 0.91, 0.92, and 0.90 showing satisfactory internal reliability (Besharat, 2011). In this study, the internal consistency by Cronbach Alpha test was 0.71, and for each subscale, it was 0.72-0.88.

Multidimensional Scale of Perceived Social Support (MSPSS): Zimet, Powell, & Farley (2012) developed the 12-question MSPSS in 1998; it was used for subjective evaluation of social support (37). MSPSS is a Likert-type scale that is rated as 7. It provides response options of 0 (very strongly disagree), 1 (strongly disagree), 2 (Mildly disagree), 3 (Neutral), 4 (Mildly agree), 5 (strongly agree), and 6 (very strongly agree). Cronbach α has an internal consistency of 0.95 for family support, 0.94 for friend support, 0.91 for special person's support, and 0.94 for the total scale (38). In this study, Cronbach α , has internal coordination of 0.92 for family support, 0.92 for friend support, 0.88 for

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special person's support, and 0.94 for the total scale. In Iran, Cronbach's coefficient is 0.84 for the scale and 0.90, 0.93, and 0.85, respectively, for the friends, significant others, and family subscales from the patient sample, and 0.92 for the scale and 0.89, 0.92, and 0.87, respectively, for the friends, significant others and family subscales from the healthy sample (Saraoudi, Sanei, & Baghbanian, 2011). In this study, the internal consistency was 0.74.

The Ryff's scale of Psychological well-being, short-form (18-item): Caregiver psychological well-being was assessed based on the score of the 18-item Index of Psychological Well-being (Ryff, & Keyes, 1995). This scale evaluates six significant dimensions of psychological well-being that consist of (a) autonomy, (b) environmental mastery, (c) purpose in life, (d) personal growth, (e) positive relations with others, and (f) self-acceptance. The items were scored on a 6-point Likert scale from (1) strongly disagree to (6) strongly agree. Generally, the score is in the range of 18-108, and higher scores indicate better psychological well-being. In this study, the internal consistency was 0.76, and for each subscale, it was 0.72-0.88. The scale's internal homology using Cronbach's alpha in 6 factors of Self-acceptance, environmental mastery, positive relationships with others, having a purpose in life, personal growth, and independence, were respectively, 0.52, 0.76, 0.75, 0.52, 0.73, 0.72, and for the total scale it was 0.71. Overall, the results suggest that the short form (18-item) of Ryff's scale of Psychological well-being was a useful tool to measure psychological well-being among the Iranian sample (Khanjani et al., 2014).

Results

According to demographic characteristics, more than half of the participants held a bachelor's degree. In terms of the number of participants, there are twice as many males as females (78.8%). The HCWs are holders of master's degrees and above (39.33 ± 4.87), aged 35–50 years (38.84 ± 4.65), and females (37.65 ± 5) in terms of educational level, age, and gender groups, respectively.

Table1. One-Sample Kolmogorov-Smirnov Test was used.

Statistical index	Social support	Emotional Regulation	psychological well-being
Kolmogorov-Smirnov Z	3.051	2.577	3.018
Asymp. Sig. (2-tailed)	.000	.000	.000

According to table 1, the results of the data normality test show that the data distribution is abnormal because the significant values obtained are less than 0.05.

Table 2. Spearman correlation coefficient test results

Statistical index	Social support	Emotional Regulation	psychological well-being
Correlation Coefficient	1		
	.461**	1	
	.601**	.673**	1
Mean± Std	27.1±6.5	118.0±49.2	36.7±14.5
Skewness	3.38	-.795	2.61
kurtosis	2.02	.959	2.00

** . Correlation is significant at the 0.01 level (2-tailed).

The results of the Spearman correlation coefficient test in table 2 show that there is a positive and significant relationship between the components of self-regulation, social support, and psychological well-being, and this relationship is also statistically confirmed because the level of significance obtained is less than 0.05.

Table3. Bootstrapping Analysis Findings

Relationships between variables			Direct effect			Indirect effect			Total effect		
Independent Variable	Mediator Variable	Dependent Variable	beta	t	P	beta	t	P	beta	t	P
Social support	Emotional self-regulation	Psychological well-being	0.40	2.44	0.01	0.25	2.94	0.01	0.65	2.79	0.001

From the bootstrapping test findings in Table 3, the direct effect of social support on psychological well-being was statistically confirmed ($b = 0.40$, $t = 2.44$) and the indirect effect or the full mediator effect of emotional self-regulation in the relationship between social support on psychological well-being was found to be significant ($b = 0.25$, $t = 2.94$). Thus, the full mediator role of emotional self-regulation in the relationship between social support on psychological well-being has been proven. The total effect of social support on psychological well-being was confirmed ($b = 0.65$, $t = 2.79$).

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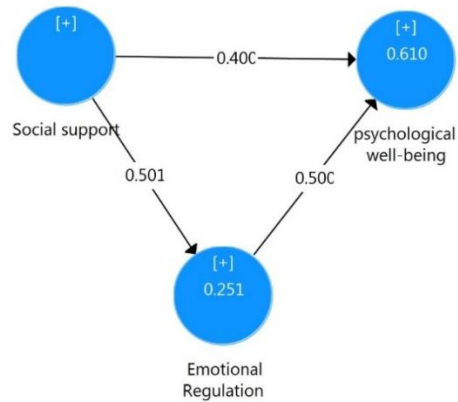


Figure 2 - Path based on standardized coefficients

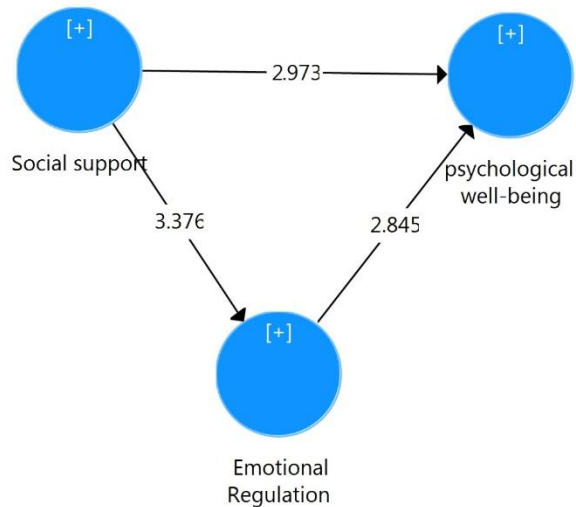


Figure 3-Path based on significance coefficients

Discussion

In this study, emotional self-regulation regarding social support and psychological well-being was investigated among health care workers during the COVID-19 pandemic.

findings this study showed that the direct effect of social support on psychological well-being was statistically confirmed and the indirect effect or the full mediator effect of emotional self-regulation in the relationship between social support on psychological well-being was found to be significant.

Thus, the full mediator role of emotional self-regulation in the relationship between social support on psychological well-being has been proven. The total effect of social support on psychological well-being was confirmed. In line with these results, numerous studies have been conducted (Yan et al., 2021; Ningrum, Dyah Artaria, & Suen, 2021; McDougall et al., 2021; Kılınç, & Sis Çelik, 2021; Alnazly, et al., 2021; Zhou et al., 2022; Sultan et al., 2022). During the COVID-19 pandemic, HCWs are one of the most vulnerable workgroups at risk of low PWB, because they face excessive workloads and work hours as they care for their patients (McDougall et al., 2021). Studies conducted before the COVID-19 outbreak reported that the level of social support perceived by nurses was moderate. The most important function of social support is that it serves as a buffer by reducing or balancing the psychological harms caused by stressful life events and the ongoing challenges of life. Moreover, catering to the basic social needs of individuals, such as love, compassion, belonging to a group, and finding mental, financial, and emotional solace in stressful situations, directly affects their mental health (Lu-shao-bo Shi et al., 2021). Various studies have concluded that social support increases psychological resilience, which in turn decreases stress and increases physiological and psychological health (Lu-shao-bo Shi et al., 2021; Kılınç, & Sis Çelik, 2021; Alnazly, Khraisat, Al-Bashaireh, & Bryant, 2021; Gröndal, Ask, Luke, & Winblad, 2021). Previous reviews have been conducted to explore the mental health of HCWs during infectious disease outbreaks. Two recent reviews found a high prevalence of stress, anxiety, depression, and insomnia among HCWs during the current COVID-19 outbreak (Pappa et al., 2020; Spoorthy, 2020). Other reviews on the mental health of HCWs during infectious disease outbreaks or following a disaster found that compared with lower risk controls, high-risk HCWs had greater levels of post-traumatic stress, psychological distress, and depressive symptoms (e.g. Kisely et al., 2020; Naushad et al., 2019). Several of these reviews have also identified various protective and risk factors associated with psychological distress in HCWs. The most commonly reported protective factors included clear communication, social support, practical support (e.g. the provision of appropriate work attire and access to adequate PPE), and getting sufficient rest (Schneider, Talamonti, Gibson, & Forshaw, 2021). A lack of social support from friends and family (perceived or otherwise) was an important factor in predicting poor psychological outcomes, such as burnout (Kim and Choi, 2016). Indeed, a large body of evidence suggested that social, organizational, and governmental support plays a crucial role in how global pandemic outbreaks are experienced by HCWs, and there was evidence that proper support has the potential to significantly impact their general well-being. The results of this review recommend that support was actually the most frequently reported factor for protecting HCWs' well-being. There is, therefore, a need to ensure that support is given, especially

as degradation in mental health over time can lead to perceptions of low support in the future (Xiao et al., 2020). Improving social support was also shown to increase self-efficacy (Xiao et al., 2020). Batra et al. (2020) conducted a meta-analysis to provide new evidence related to COVID-19 impact on healthcare workers' psychological well-being. Among the main factors identified as causal in psychological distress are anxiety, depression, stress, post-traumatic stress syndrome, insomnia, psychological distress, and burnout. Higher anxiety and depression levels were more prevalent among females than males and nurses compared to doctors and front-line workers compared to second-line healthcare workers. It has been suggested that self-emotion regulation serves as a mediator to explain the way that people interpret and deal with situations, and that the individual's evaluation of the situation is more important for their emotional reaction than the event itself. The COVID-19 pandemic puts people in situations that often result in strong and negative emotions, as they adjust to new family routines or adjust to working or studying from home during a crisis. Individuals' emotional responses to the COVID-19 pandemic seem to contribute to their willingness to take protective action, in addition to the consequences for their well-being (Gröndal et al., 2021). The study has several limitations. Due to the lack of data, it was not possible to assess the implications of ethnicity, culture, socioeconomic differences, and designation or age of HCWs on psychological distress. The results may not be generalizable due to the over-representation of participants from one country and the lack of nursing staff. Moreover, the level of stress among HCWs was not assessed. Self-reporting bias resulted from the use of self-reported questionnaires in this study.

Conclusion

In addition to considering social support an important factor during the pandemic, healthcare workers also demonstrated a need for increased social support to fulfill their well-being. Study results have demonstrated emotional self-regulation among healthcare workers as a way to stay healthy during COVID-19. It follows that healthcare organizations should pay attention to their employees' well-being and promote early identification and assessment of psychological distress. Furthermore, it is influential to address social support through policy, since there are fewer opportunities for social interaction and to attend social events due to social distancing. Having a social support system in place is essential for reducing the prevalence of psychological distress among healthcare workers.

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