Fear of COVID-19 and Mental Health Outcomes among Psychosocial Service Providers in Palestine: The Mediating Role of Well-Being

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Abstract

Objectives: The current study was designed to investigate the relationship between fear of coronavirus (COVID-19) and mental health outcomes, the mediating role of well-being among Palestinians psychosocial service providers in response to the emergence of COVID-19, and the quarantine system implemented in Palestine. **Methods**: Structural equation modeling (SEM) was used to test a conceptual model, where well-being was identified as a mediator, fear of COVID-19 as a predictor, and mental distress - operationalized in terms of depression, anxiety, and stress - as outcome variables. Participants were comprised of 280 psychosocial service providers, 84 males and 196 females, working at mental health institutes in Palestine throughout the pandemic. Participants were recruited from online advertisements, e-mail campaigns and social media. **Results**: Results from correlational analyses showed that fear of COVID-19 was positively correlated with mental health indicators (anxiety; r =.22, *p* < .01), (depression; r =.17, *p* < .01), and (stress; r =.20, p < .01). Results of structural equation modeling yielded a standardized total effect of well-being on mental health outcomes ($\beta_{X,M} = -.66$, *p* < .001) . However, this effect was composed of a statistically significant indirect effect (via well-being, $\beta_{X,M, Y} = -. 15$, *p* < .01) and a statistically significant direct effect ($\beta_{X,Y,M} = -.51$, *p* < .01). The relationship between fear of COVID-19 and mental health outcomes was fully mediated by well-being. **Conclusion**: The current study supported results from previous findings, demonstrating that fear of COVID-19 is positively correlated with mental health issues (depression, anxiety and stress). In addition, the relationship between fear of COVID-19 and psychological distress was fully mediated by well-being. Further investigation targeting psychosocial service providers aimed to support well-being and alleviate mental health distress are recommended.

Keywords: COVID-19; Fear of Disease; Palestine; Mental Health Outcomes; Well-being

An acute respiratory disease caused by a novel coronavirus emerged on January 6th, 2020, identified as COVID-19 (Pan et al., 2020). The scale at which COVID-19 affected the population reached the necessary epidemiological criteria for it to be declared a pandemic; having infected more than 11, 873, 485 people across 213 countries (Remuzzi & Remuzzi, 2020). From these countries, many Arabian countries were infected, including: Lebanon, with 1946 confirmed cases; Jordan with 1169 cases; Saudi Arabia with 220,144 cases; Syria with 372 cases, Egypt with 78,304 cases; and Palestine with 5576 confirmed cases (World Health Organization, 2020).

This virus characterizes itself by several symptoms, including; fever, chills, cough, fatigue and shortness of breath (Xu et al., 2020). Moreover, this virus could be fatal, especially for those with preexisting medical complications, such as cardiovascular disease, diabetes, chronic respiratory disease, and cancer (WHO, 2020). This virus is transmittable through face to face contact with a sneeze or cough, or from contact with secretions of people who are infected (Heymann & Shindo, 2020).

As COVID-19 spreads, there is currently no treatment or vaccine. However, there is a circulation of false information about factors related to virus transmission (Wu et al., 2020). Fear is sought to be a natural emotional reaction to the spread of COVID-19; it is an adaptive defense mechanism that is fundamental for survival, involving several biological processes of preparation as a response to potentially threatening events (Ornell et al., 2020).

Individuals also feared losing their jobs, and being unable to work (and ultimately earn money), as most governments globally implemented mandatory quarantine, social distancing and community containment as tools to curb the pandemic (Pakpour & Griffiths, 2020; Wilder-Smith & Freedman, 2020). In addition, people feared their loved ones of contracting the virus (Mertens et al., 2020).

As a result of this fear, individuals started to demonstrate different psychological impairments, including anxiety, depression, stress, posttraumatic stress disorder (PTSD), insomnia and various mood disorders (Hossain et al., 2020; Mahamid & Bdier, 2020). Some groups are considered to be more vulnerable than others to psychosocial side effects of events such as pandemics, including those who contract the disease, those with compromised immune systems, people with preexisting medical, psychiatric, or substance abuse issues, and mental health and health care providers (Pfefferbaum & North, 2020).

Health care providers, such as doctors, nurses and psychosocial service providers are anticipated to experience several mental health problems related to fears around COVID-19, as these individuals deal with infected patients and suspected cases and are at a great risk for being infected (Pragholapati, 2020). Moreover, many facets of frontline work during the COVID-19 pandemic play a role in the psychological stress levels, including: access to appropriate personal protective equipment (PPE); family safety due to potential COVID-19 exposure at work; uncertainty surrounding fulfillment of personal and family responsibilities should one become infected; access to childcare during increased work hours and school closures; supporting other personal and family needs as work hours and demands increase (food, hydration, lodging, transportation); being able to provide competent psychological care; and lack of access to up-to-date information and communication resources (Ornell et al., 2020; Shanafelt et al., 2020).

Han et al. (2020) investigated the mental health of clinical frontline medical staff during the COVID-19 pandemic.

Results showed that the incidence of anxiety and stress disorder was high among medical staff. In addition, Lu et al. (2020) assessed the psychological statuses of medical staff, with results showing high levels of fear, anxiety and depression. Furthermore, it was found that medical health workers have higher levels of insomnia, anxiety, depression, somatization and obsessive compulsive than nonmedical health workers (Zhang et al., 2020). In addition, Guo et al. (2020) examined the psychological impact of the COVID-19 outbreak on medical staff in China. Results revealed that respondents reported moderate to high levels of anxiety and depression since the COVID-19 outbreak. In addition, at least one in five healthcare professionals reported symptoms of depression and anxiety, and almost four in 10 healthcare workers experienced patterns of sleeping difficulties and/or insomnia (Pappa et al., 2020).

Experience of wellbeing are expected to be a protective factor during the COVID-19 pandemic, which is best defined as the extent to which a person is satisfied, happy and enjoys life (Coverdale & Long, 2015), while the term "subjective well-being" (SWB) refers to how people experience the quality of their lives and appraise their internal experiences (Agbaria & Natur, 2018). More specifically, SWB is defined as a person's cognitive and affective evaluations of his or her life; as these evaluations include emotional reactions to events, as well as cognitive judgments of satisfaction and fulfillment (Abu-Raiya & Agbaria, 2016).

As mental health issues start to appear among psychosocial service providers during crises and the pandemic, high levels of psychological well-being are expected to be a possible indicator of how well someone will cope in a stressful situation, as it involves having self-efficacy, self-comprising behavior, high self-esteem, power and control, confidence and positive beliefs about the ability to successfully change a situation. In addition, it involves high life satisfaction, efficient coping capacities, optimism and an absence of depression (Coverdale & Long, 2015; Uskul & Greenglass, 2005). Moreover, increasing well-being may also help reduce the acute pain of a negative life event (e.g., bereavement, unemployment) or foster adaptive coping methods with acute stress, thus preventing a downward spiral into clinical levels of depression, anxiety, substance use, or other mental health conditions (Layous et al., 2014). Furthermore, it was found that those who perceived themselves to have high levels of well-being were able to experience more happiness throughout the COVID_19 pandemic (Yang & Ma, 2020).

According to Grant et al. (2013), low levels of well-being significantly predicted increased depressive symptoms during instances of stress. Also, high levels of well-being appeared to be positively associated with task-focused coping and inversely related to maladaptive strategies and depressive symptoms (Pérez-García et al., 2014). Notably, González-Sanguino et al (2020) found that spiritual well-being assisted in preventing symptoms of depression, anxiety and PTSD among different Spanish groups during COVID-19.

With respect to fear of COVID-19 and mental health outcomes among psychosocial service providers in geopolitically at-risk environments, such as Palestine, the situation is far more complex. People residing in occupied territories of Palestine have high levels of environmental stressors (e.g., militarization, poverty, lack of employment opportunities, cultural pressures, etc.) and fewer effective social outlets, due to movement restrictions between communities, a lack of recreational facilities, and cultural standards of gender separation. In this situation, the spread of COVID-19 in Palestine could lead to

maladaptive and depressive symptoms in the face of heightened stressors and few avenues for intervention (Mahamid & Bdier, 2020; Mahamid & Berte 2019; Mahamid & Berte 2020). More specifically, psychosocial service providers in Palestine (e.g., social workers, counselors, psychologists) operating in war-like conditions, experienced signs of distress (Mahamid & Veronese, 2020; Veronese et al., 2018; Mahamid et al., 2015; Mahamid, 2020). Studies also demonstrated that well-being mediated the relationship between stressors and effects on one's mental health (Grant et al., 2013; González-Sanguino et al., 2020). Based on previous findings, three study hypotheses were defined: (1) the fear of COVID-19 will be positively associated with mental health issues (anxiety, depression, and stress) among psychosocial service providers in Palestine; (2) well-being will be negatively associated with mental health problems (anxiety, depression, and stress) among psychosocial service providers in Palestine; (3) well-being will mediate the association between fear of COVID-19 and mental health problems (anxiety, depression, and stress) among psychosocial service providers in Palestine.

Methodology
Participants
Participants were recruited from online advertisements, e-mail campaigns and social media. Participants consisted of 280 psychosocial service providers working at mental health institutes in Palestine. 84 were male and 196 were female. A geographical representation of the participants showed that 52.5 percent of participants were from cities, 35.6 percent were from villages, and 11.9 percent were from Palestinian camps. The academic discipline of participants showed that 68.6 percent were psychologists and counselors, and 31.4 percent were social workers. Inclusion in the study required

participants to be: 1) Palestinian, 2) native Arabic speakers, and 3) working in a mental health institute during the COVID-19 pandemic. The study was submitted for review by An-Najah Institutional Review Board (IRB) and received approval before data collection was initiated. Informed consent was obtained electronically before data were collected from the participants.

Measures
Following standard methodological recommendations for questionnaire development (Hambleton et al., 2005), all questionnaire items were translated and back translated from the original standard English version into Arabic, and then pilot-tested by ten Arab professional experts in psychology, counseling, and social work. They evaluated the clarity and relevance of the questions and translation was done by the researchers, with the help of professional experts. After completion of the translated draft of the questionnaires, the questionnaires were back-translated into English by an independent expert in translation. The translated version was then pilot-tested among 40 participants and further refined for clarity according to their comments.

Depression, Anxiety and Stress Scale (DASS21): The DASS 21 is a 21 item self-report questionnaire designed to measure the severity of a range of symptoms common to both Depression and Anxiety. In completing the DASS, the individual is required to indicate the presence of a symptom over the previous week. Each item is scored from 0 (did not apply to me at all over the last week) to 3 (applied to me very much or most of the time over the past week). The essential function of the DASS is to assess the severity of the core symptoms of Depression, Anxiety and Stress. Accordingly, the DASS allows not only a way to measure the severity of a patient's symptoms, but a means by which a

patient's response to treatment can also be measured. The scale to which each item belongs is indicated by the letters D (Depression), A (Anxiety) and S (Stress). Because the DASS 21 is a short form version of the DASS (the original form has 42 items), the final score of each item groups (Depression, Anxiety and Stress) was multiplied by two (x2) (Gomez, 2016).

TheWHO-5 Well-Being Index: The 5-item World Health Organization. Well-Being Index (WHO-5) is a short and generic global rating scale measuring subjective well-being. Because the WHO considers positive well-being to be another term for mental health, the WHO-5 only contains positively phrased items. TheWHO-5 items are: (1) I have felt cheerful and in good spirits, (2) I have felt calm and relaxed, (3) I have felt active and vigorous, (4) I woke up feeling fresh and rested and (5) My daily life has been filled with things that interest me. The respondent is asked to rate how well each of the 5 statements applies to him or her when considering the last 14 days. Each of the 5 items is scored between 5 (all of the time) and 0 (none of the time). The raw score therefore theoretically ranges from 0 (absence of well-being) to 25 (maximal well-being) (Staehr, 1998).

The Fear of Coronavirus-19 Scale (FCV-19S): The FCV-19S is a self-report measure aimed at assessing fear of COVID-19. The scale consists of seven items pertaining to emotional fear reactions towards the pandemic. Participants are requested to respond on a five-item Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score ranges between 7 and 35, with a higher sum score indicating a higher fear of COVID-19. The measure showed appropriate internal validity (Cronbach's alpha of 0.82) (Ahorsu et al., 2020).

Procedures
Research was conducted in May of 2020 and targeted Palestinian psychosocial service providers working at mental health institutes throughout the COVID-19 pandemic. The sample was recruited online using convenience sampling techniques. All participants were provided with information that enabled them to make informed decisions as to whether or not they wanted to participate in the research. They were provided with descriptions of the scales and the purpose of the research. Participants who agreed to participate in the research signed an informed consent. The research was conducted in line with the ethical guidelines of the American Psychological Association (APA, 2010) and the Declaration of Helsinki (2013) and had been approved by the An-Najah National University IRB (Protocol number 16 May).

Data analysis
Structural equation modeling (SEM) (Gunzler et al. 2013) was used to test a conceptual model where well-being was identified as a mediator; fear of COVID-19 as a predictor; and mental distress, operationalized in terms of depression, anxiety, and stress as an outcome variable. A statistical distribution of the data was explored for each of the variables. Both kurtosis and skewness values fell inside the recommended cut-offs [–1, +1]. Moreover, we calculated Mahalanobis' distance (p < .001) for all scores to detect and omit multivariate outliers: no extreme multivariate values were found. We adopted two fit-indexes: absolute and relative. The selected absolute indexes were χ^2 and normed-χ^2 (NC) as non-statistically significant χ^2 value and NC values of under 2.0 indicate good fit (Hair et al. 2010). Accordingly, root mean square error of approximation (RMSEA), normed fit index (NFI), non-normed fit index (NNFI),

comparative fit index (CFI) and standardized root mean square (SRMR) were calculated. The thresholds for good fit were as followed: RMSEA<.051 and SRMR<.06 (Schermelleh-Engel et al., 2003), NFI>.93 (Marsh et al., 2004), CFI>.94 (Hu & Bentler 1999). Finally, we set a *P* value at .003. The SEM model (see Figure 1) has been tested using AMOS 25 software for data analysis.

Findings

Descriptive statistics related to fear of COVID-19, well-being, depression, anxiety, and stress are described in Table 1. Overall, it must be noted that the participants scored within a mild degree of fear of COVID-19, anxiety and depression; moderate scores on well-being; while high scores emerged on stress.

All measures satisfied normality assumptions. Regarding reliability, all scales displayed high reliability values ranging from .75 (*Anxiety*) to .87 (*Stress*).

Table1: Descriptive statistics for research variables (N= 280)

Variable	Mean	S.D	Min	Max	Range	Skewness	Kurtosis	Reliability
Fear of COVID -19	1.779	.686	1.00	3.43	2.43	.644	-.463	.861
Well-being	2.95	.96	.80	5.00	4.20	-.588	-.349	.823
Anxiety	1.083	.370	.00	1.57	1.57	1.049	.422	.754
Depression	1.512	.398	.00	1.85	1.86	.63	.32	.804
Stress	2.25	.508	.00	2.00	2.00	.291	-.360	.876

Results at correlational analysis are reported in Table 2. Namely, fear of COVID-19was positively correlated with mental health indicators (anxiety; r =.22, *p* < .01, depression; r =.17, *p* < .05), and stress; r =.20, *p* < .01), while negatively correlated to well-being (r = -.35, *p* < .01). Moreover, well-being negatively correlated to anxiety (r = -.41, *p* < .01), depression (r = -.51, *p* < .01), and stress (r = -.42, *p* < .01). Anxiety positively correlated to depression (r =.61, *p* < .01) and stress (r =.62, *p* < .01). Finally, depression correlated positively to stress (r =.69, *p* < .01).

Table2: Correlations among study variables (N= 280)

Measures	1	2	3	4	5
1.Fear of Covid-19	1	-.35**	.22**	.17*	.20**
2.Well-being		1	-.41**	-.51**	-.42**
3.Anxiety			1	.61**	.62**
4.Depression				1	.69**
5. Stress					1

*p < 0.05; **p < 0.01*

Structural equation model (SEM)

The attained path analysis results are described in Figure 2. The hypothesized model in figure 1 with fear of COVID-19as a predictor, well-being as a mediator, and mental health outcomes as a target variable was tested across the sample (n=280). Findings suggested that well-being mediated the relationship with a good fit for the data ($\chi^2_{(4)}$ = 16.37; *p*=.003; GFI=.97; AGFI=.91; RMSEA=.051; NFI=.93; CFI=.94).
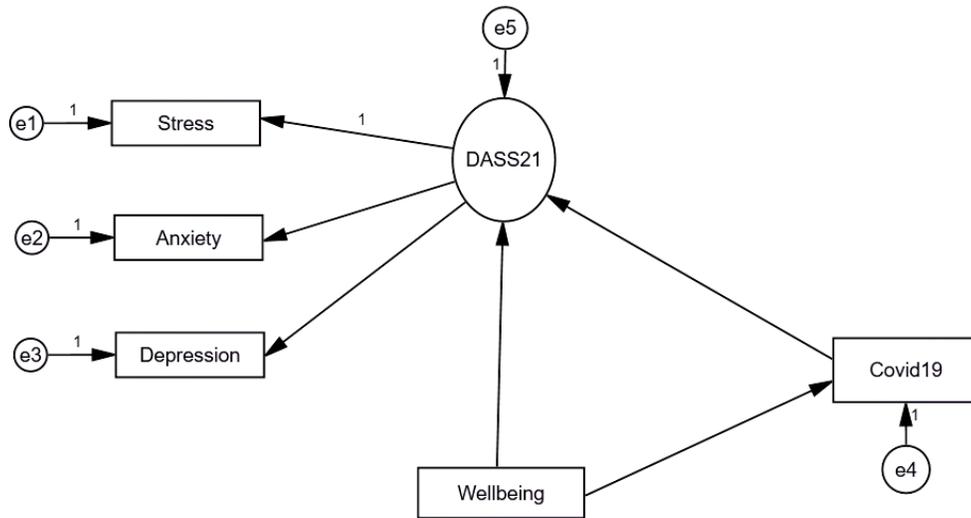
Fig1: Conceptualized effect of the fear of Coronavirus (COVID-19) on stress, anxiety and depression, and the mediating role of well-being
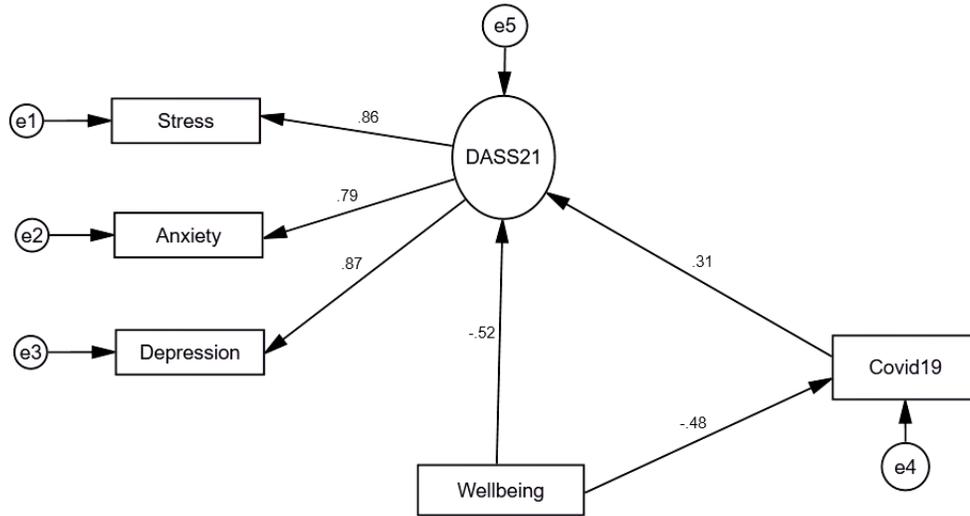
Fig2: Structural equation modeling of the fear of Coronavirus (COVID-19)
on stress, anxiety and depression, and the mediating role of well-being

For study purposes, three main hypotheses were tested with coefficient and *t* value. All of the *t* values coefficients are over 1.96; therefore, the three hypotheses could be accepted as shown in Table 3.

Table 3: Estimates parameters for the structural equation model

Model	Parameter			β	*t* value	Hypothesis
H1	Covid-19	→	DASS21	.31	5.77***	Accepted
H2	Well-being	→	DASS21	-.52	9.20***	Accepted
H3	Well-being	→	Covid-19	-.48	11.57***	Accepted

*Note: Standardized solutions are reported. * p<.05; *** p <.001*

Regarding (H1), analysis of the moderating effects showed a negative effect of fear of COVID-19 on mental health outcomes ($\beta_{X,Y} = .31$; $p < .001$). As for H2, analysis of the path between well-being and fear of COVID-19 suggested a negative, standard

total direct effect ($\beta_{M,Y} = -.48$; $p < .001$). Finally, concerning the full mediation hypothesis (H3), the model yielded a standardized total effect of wellbeing ($\beta_{X,M} = -.66$; $p < .001$) . However, this effect was composed of a statistically significant indirect effect (via social support, $\beta_{X,M, Y} = -.16$ $p < .01$) and a statistically significant direct effect ($\beta_{X,Y,M} = -.52$ $p < .01$). Therefore, relationship between fear of COVID-19 and mental health outcomes was fully mediated by well-being.

Discussion

This study examined the relationship between fear of COVID-19 and mental health problems (anxiety, depression, and stress), and whether well-being mediates the relationship between both variables among psychosocial service providers in Palestine.

Fear of COVID-19 and mental health problems

Consistent with previous studies (Kang et al., 2020; Ozamiz-Etxebarria et al, 2020; Rajkumar, 2020; Satici, Gocet-Tekin, Deniz, & Satici, 2020; Shah et al, 2020; Wang et al., 2020; Wu et al, 2000), the results of this study showed that fear of COVID-19 positively correlated with mental health problems (depression, anxiety and stress).

The COVID-19 pandemic has placed healthcare professionals worldwide in an unprecedented situation, having to make very difficult decisions and work under extreme conditions. These decisions may include how to allocate scant resources to patients equally in need how to balance their own physical and mental healthcare needs alongside those of their patients, how to align their desire and duty to patients with those to family and friends, and how to provide care for all severely unwell patients without the adequate resources. This may cause some to experience high levels of mental health problems (Greenberg et al, 2020).

Psychosocial service providers are at a significant risk of adverse mental health outcomes during the COVID-19 outbreak (Mahamid & Veronese, 2020). A possible explanation for this includes long working hours, risk of infection, shortage of PPE, fatigue, and separation from their families. In addition, psychological distress among psychosocial service providers may be associated with difficulties falling asleep, restless sleep, early morning awakening, significant impairment in social or occupational functioning, and feeling overwhelmed by the demands of everyday life.

Psychosocial service providers are at risk of direct exposure to patients with confirmed cases, increasing their personal and family's risk of infection. The greater number of stressors they encounter within their line of work, the greater likelihood that feelings of hopelessness may arise, which could internalize subsequent symptoms of anxiety, depression and stress (Greenberg et al, 2020).

Mental health disorders constitute one of the largest and least acknowledged health problems in occupied Palestinian territory (OPT). Roughly one third of Palestinians are in need of mental health intervention, yet mental health services are among the most under-resourced areas within the healthcare system (Afana et al., 2004), increasing the challenges and difficulties psychosocial service providers face in addition to practicing during the COVID-19 pandemic. Mahamid and Veronese (2020) found that the main challenges psychosocial service providers in Palestine face include a lack of qualified specialized staff, insufficient funding, political conflict, and poor community awareness of psychosocial services, as well as low salaries and

unemployment among psychosocial practitioners.

Well-being and mental health problems
Well-being was found to be negatively associated with stress, depression and anxiety. These findings were consistent with previous studies indicating that well-being is negatively correlated with stress, anxiety and depression (Firth-Cozens, 2003; Hodgen & Wylie, 2005; Nikmat et al, 2008; Vazi et al, 2013). Previous research provided evidence on the impact of stress and anxiety on one's well-being, by showing that fear and anxiety are negatively associated with SWB, satisfaction with life, positive affect, autonomy, positive relations with others, self-acceptance, environmental mastery, personal growth, and purpose in life (Yildirim, 2019). Grant et al., (2013) found that a decrease in mental health issues was related to high levels of well-being, and low levels of well-being was associated with higher levels of psychological distress. Similarly, Keyes, Dhingra & Simoes (2010) found that low well-being was positively associated with depression and psychological distress. Hodgen & Wylie (2005) found that psychosocial service providers who reported low levels of well-being were more likely to have side effects such as: poor general health, insomnia, fatigue, depression, anger, frustration within their job, unhappiness, to be impatience, pessimism, tension, and to be over or under weight. One possible explanation that the challenges of prolonged stressors throughout the pandemic may impact the psychosocial service provider's capacity to cope effectively is that psychological well-being protects against these side effects through behaviors such as positive relationships with others, autonomy, and environmental mastery.

Well-being, fear of COVID-19 and mental health problems

The relationship between the fear of COVID-19 and psychological distress was fully mediated by well-being. This is consistent with previous studies, as it was found that well-being mediates the relationship between psychological stressors and metal health distress among psychosocial service providers (Van der Vaart et al., 2013). Moreover, González-Sanguino et al (2020) indicated that spiritual well-being was found to be effective against symptoms of depression, anxiety and PTSD among the Spanish population throughout the COVID-19 pandemic. Since psychological discomfort is to be anticipated among psychosocial service providers, creating and maintaining a sense of well-being is vital when responding to stressful events. Well-being has a positive influence in promoting individual mental health and the decrease in psychological disorders among psychosocial service providers. Our findings align with those of Vazi et al (2013), who assessed the relationship between well-being and distress, alongside the capability of well-being to explain variance in stress among a large sample of school teachers in South Africa. Results revealed that high levels of well-being were negatively correlated with stress. Results also demonstrated that psychological well-being significantly explained variance in stress. Yahaya et al. (2012) highlighted the importance of well-being as a resilience factor, which may assist adolescents to cope with physical and psychological challenges and stressors.

One explanation for our findings might be that the relationship between well-being and mental health outcomes viewed as indirect. Although the direct effect described above is clear, the indirect effect related to positive effects of well-being on different personality factors such as, resilience, self-efficacy, self-awareness and assertiveness, are crucial in improving mental health

outcomes among psychosocial service providers during pandemics.

Limitations

This study has some limitations that need to be addressed in future studies. First, the study focuses on fear of COVID-19, mental health problems (depression, anxiety and stress) and well-being among psychosocial providers in Palestine. In order to generalize findings, comparative studies in different contexts must be administered. Second, the study was based entirely on quantitative data collected on line via self-reporting instruments completed by participants. Third, the cross-sectional design of this investigation could not establish a causal relationship between fear of COVID-19, mental health outcomes and social support. Longitudinal and experimental studies are required in the future to assess the causal relationship between these variables.

Conclusion

The current study supported previous findings demonstrating that fear of COVID-19 is positively associated with mental health problems (depression, anxiety and stress), while well-being was found to be negatively associated with stress, depression and anxiety. In addition, the relationship between fear of COVID-19 and psychological distress was fully mediated by well-being. The present work not only contributes to the theoretical understanding of how the study variables relate to or affect each other, but also provides insights that may have practical implications. It provides a rationale for the design of intervention studies targeting psychosocial service providers, aimed to support their well-being and self-efficacy during a pandemic. Such efforts will potentially alleviate mental health distress and enhance well-being among psychosocial service providers.

Compliance with Ethical Standards

Conflict of Interest

The authors declare that they have no conflict of interest. No funding was received for this study.

Ethical Approval

All procedures performed in this study involving human participants were in accordance with the ethical standards of University's Research Ethics Board and with the 2013 Helsinki Declaration.

Informed Consent

Informed consent was obtained from all participants.

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