
Perceived Social Support and Psychological Distress among Healthcare Professionals during COVID-19

Abia Nazim¹, Tauqeer Nazim², Ivan Suneel³**Abstract**

The Coronavirus disease (COVID-19) has brought an array of problems affecting people everywhere. Healthcare professionals were under immense work and emotional pressure since the advent of COVID-19 outbreak which exposed them to physical and psychological vulnerabilities. Current study was designed to investigate social support and psychological distress defined as depression, anxiety and stress in healthcare professionals serving during COVID-19. Sample comprised 321 healthcare professionals including male ($n=57%$) and female ($n=42%$) professionals from various healthcare facilities. Majority of the participants had poor social support. Depression mean score (11.86, $SD=5.81$) was in mild severity range, whereas mean score of anxiety (11.81, $SD=5.76$) indicated moderate severity. Mean score on stress (14.01, $SD=7.37$) was towards the high side of the normal range. Data revealed gender differences in terms of mean scores on depression, anxiety, stress ($p<0.05$) and social support ($p>0.05$). Female healthcare professionals scored significantly lower ($p<0.05$) on all components of psychological distress namely depression, anxiety and stress than males. Those with high scores on any of the three dimensions of psychological distress also showed to have poor social support. Healthcare professionals noted to have experienced mild to moderate levels of psychological distress and showed differences in level of psychological distress based on relative exposure to patients, perceived social support and gender.

Key words: COVID-19, Depression, Healthcare Professionals, Social Support, Stress

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Introduction

Devastating effects of Coronavirus (COVID-19) pandemic spread across the world soon

after its origin in December 2019 in Wuhan, China (Alnazy et al., 2021). The deadly virus resulted in large number of people getting hospitalized and losing their lives (Wang et al., 2020). Like many other countries, Pakistan also remained under the serious threat of COVID-19 as its neighboring countries were struggling hard against the virus. To curb the effects of COVID-19, government enforced strict sanctions like lockdown, closure of business and sanctions on social events and traveling like many other countries (Kaplan et al., 2020).

COVID-19 resulted in suspension of regular activities and exposed world population to many significant lifestyle changes abruptly. The global economic and social changes prompted by COVID-19 made mental health issues more pronounced (Turchioe et al.,

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2021) in almost all countries including Pakistan (Riaz et al., 2021). The most common psychological disturbances that emerged particularly in response to COVID-19 were helplessness, insecurity, uncertainty and doubts about future, fear of contracting virus and death, severe anxiety, depression, suicidal thoughts, and stress. The pandemic not only developed psychological distress in people who did not have any prior history of psychological problems but also exacerbated the existing psychopathologies (Ambelu et al., 2021; Oppenauer et al., 2021). This was due to the fact that large scale pandemics create unusual circumstances that calls for effortful adjustment. Social support has been reported as a notable factor used to adapt and cope effectively with potentially threatening circumstances (Grey et al., 2020; Ioannou et al., 2019).

Social support is a complex psychological phenomenon comprising psychosocial resources available to one in terms of interpersonal and social contacts (Kocalevent et al., 2018) which contribute substantially to one's psychological and physical health (Bøen et al, 2012; Gray et al., 2012) and to cope with financial and social difficulties (Reblin & Uchino, 2008; Viseu et al., 2021). The COVID-19 has interfered in many aspects of our lives one of which was lack of social interaction which for many had significantly influenced our connectivity with significant others consequently making people felt alone and lacking immediate social support (Alnazy et al., 2021).

The occurrence of COVID-19 cases brought an array of problems in Pakistan over burdening the fragile health system which was lacking to meet health needs of the country adequately (Khan, 2017) adding into the existing difficulties of healthcare professionals. Large majority of health professionals started fighting against COVID-19 with inadequate personal protective equipment and medical resources.

Health professionals faced many problems like increased workload, being exposed to virus, contracting COVID-19, losing lives and facing the wrath of those who lost their loved ones due to COVID-19. All these factors contributed significantly to increase the emotional distress while providing medical services making them particularly vulnerable to psychological problems.

Considering the work and emotional pressure of healthcare providers, many researchers conducted studies to assess psychological wellbeing of healthcare providers during COVID-19. Many studies reported significant increase in psychological distress of healthcare providers during COVID-19 (Hajure et al., 2021; Rehman et al., 2021) and identified depression, fear, anxiety and stress as most common psychological problems experienced by healthcare professionals during COVID-19 pandemic (Hajure et al., 2021; Kafle et al., 2021; Shahbaz et al., 2021). Present study was designed in the context stated above to assess the levels of psychological distress expressed through depression, stress and anxiety among healthcare professionals in Pakistan and to ascertain the relationship between depression, anxiety, stress and social support among healthcare professionals. The findings will not only be helpful to record the psychological experiences of Pakistani healthcare professionals during COVID-19 pandemic but also provide good insight into factors related to psychological distress during pandemic. It also aimed to explore the gender differences and personal and social correlates of these variables. Therefore, the study hypothesized that there would be significant levels of depression, stress and anxiety among healthcare professionals during COVID, (2) there would be significant gender differences in perception of social support and psychological distress and (3) there would be an inverse association between level of social support and

psychological distress among healthcare professionals.

Method

Present study was based on descriptive cross-sectional design and carried out between January and May 2021. Participants consisted of 321 healthcare workers selected through convenient sampling working at different private and public health facilities. Only those participants were included who worked at their respective clinical settings during COVID-19 pandemic. Healthcare professionals who were working remotely from home during COVID-19 pandemic were excluded during the initial screening. Participants included male (57 %), female (41.7%), transgenders (0.6 %) and 0.6% did not reveal their gender. Mean age of participants was 32($SD=7.92$) ranging from 20 to 62 years. Majority of participants was Muslim (66 %) but also included Christians (31 %) and other religions (3 %). Majority (50.2 %) was living in nuclear family units with monthly income ranging between 15000 and 800000. As for marital status, 49 % participants were unmarried, 38.3 % were married, 9.3 % were divorced and 3.1 percent were widowed. Participants included 46 % nurses, 25 % doctors, 11 % ward-boys, 10% clinical psychologists, 2% pharmacists and 3% of dentists and medical social workers.

Measures

Data collection tools included demographic questionnaire, Oslo Social Support Scale (OSSS-3) developed by Dalgard in 1996 (Dalgard et al., 2006) and Depression, Anxiety and Stress Scale-21 (Lovibond & Lovibond, 1995). Demographic form was designed especially for this study which included detailed questions about personal information like gender, age, education, marital status, job title, family system and income.

Oslo Social Support Scale (OSSS-3)

Oslo Social Support Scale was used to assess perceived social support. It included 3 statements and scores ranged from 3 to 1, the total score was used to operationalize the level of social support available to participants using categories of poor to excellent social support mentioned by the scale authors. OSSS-3 used frequently in population-based and epidemiological studies and reported to have shown good psychometric characteristics ranging from 0.60 to 0.84 (Kaplan et al., 2020).

Depression, Anxiety, and Stress Scale-21 (DASS-21)

Depression, Anxiety, and Stress Scale-21 was employed to measure aspects of three main categories of psychological distress including depression, anxiety and stress. Short version of DASS with 21 items where each statement was rated on a 4-point Likert scale was used to assess psychological distress with reliability ranging from 0.78 to 0.89 (Beaufort et al., 2017).

Procedure

Study protocol was approved by the departmental research and ethical review board after a detailed review. All measures were converted into google forms with restricted access as it was difficult to collect data in person due to COVID-19 restrictions. Data were collected online through the request to collect data along with the secure link of online forms which was shared at different social networking sites and groups. The initial response rate was very low; therefore, researchers requested the group administrators and moderators to encourage group members to fill research forms. This approach was found to be helpful to improve the response rate. Online forms were then converted into Statistical Package for Social Sciences (SPSS v-21.0) data sheets and data were analyzed using this software.

Ethical Considerations

Detailed study protocol was thoroughly reviewed by the ethics and research review committee before approval. Special care was taken to ensure the privacy of the participants and their right to withdraw from research and other rights were accepted without any conditions and participation was completely voluntary based on free will of the participants.

Results

OSSS score consisted of a composite score with mean of 8.53 (*SD*= 3.96) and score with minimum of 3 and maximum of 14 scores depicting poor social support. DASS

composite score ranged between 4 and 70 with mean score of 37.69 (*SD*= 14.56). Scores for three main components including depression, anxiety, and stress were also calculated. Mean score on Anxiety scale was 11.81 (*SD*= 5.76) and it ranged from 1 to 21. On depression scale, the mean score was 11.86 (*SD*= 5.81) and it ranged from 1 to 25. The mean score on stress scale was 14.01 (*SD*= 7.37) and it ranged from 0 to 32. The composite mean score for anxiety scale was in moderate range of severity, depression mean score was in mild range and the stress mean score fell in the ceiling of normal range.

Table 1

Mean Scores of Social Support, Depression, Anxiety, Stress Scales Across Specialties (N=321)

| Specialties | OSSS | | Depression | | Anxiety | | Stress | |
|----------------|-------|--------|------------|--------|---------|--------|--------|--------|
| | Mean | (SD) | Mean | (SD) | Mean | (SD) | Mean | (SD) |
| Nurses | 9.22 | (3.84) | 11.40 | (5.52) | 11.62 | (5.89) | 13.71 | (7.44) |
| Doctors | 6.80 | (3.91) | 13.27 | (5.92) | 12.37 | (5.32) | 14.84 | (7.32) |
| Ward-boys | 7.60 | (3.97) | 13.14 | (5.44) | 13.83 | (5.22) | 16.63 | (7.33) |
| Psychologists | 9.91 | (3.78) | 8.44 | (6.11) | 8.97 | (6.59) | 10.72 | (7.03) |
| Dentists | 8.50 | (3.57) | 13.10 | (5.28) | 12.50 | (5.25) | 13.60 | (6.50) |
| Social Workers | 9.80 | (3.52) | 14.30 | (5.59) | 13.40 | (4.33) | 15.30 | (6.20) |
| Pharmacists | 10.60 | (.89) | 9.80 | (5.31) | 8.20 | (2.17) | 11.00 | (5.96) |

Other than the composite scores, mean scores were also calculated for health professionals working in different specialties or job positions. Mean scores on social support was observed to be highest in pharmacists and lowest in doctors. On Depression subscale,

mean score was noted to be highest in social workers and lowest in psychologists. Highest mean score on anxiety observed in ward-boys and lowest in pharmacists. Mean score on stress subscale was noted to be highest in ward-boys and lowest in psychologists.

Table 2

*Mean Scores of Social Support and DASS Subscales for Female and Male Participants (N=321)**

| Variables | Females (n=134) | | Males (n=183) | | <i>t</i> | <i>p</i> | <i>Cohen's d</i> |
|------------------|--------------------|-------|------------------|-------|----------|----------|------------------|
| | Mean | SD | Mean | SD | | | |
| Social Support | 8.78 | 3.90 | 8.26 | 3.90 | -1.17 | .250 | .13 |
| Depression Scale | 11.07 | 5.97 | 12.54 | 5.64 | 2.23 | .020 | .25 |
| Anxiety Scale | 10.98 | 6.06 | 12.52 | 5.41 | 2.38 | .021 | .27 |
| Stress Scale | 12.69 | 7.34 | 15.04 | 7.21 | 2.85 | .005 | .32 |
| DASS-Total | 34.74 | 15.38 | 40.09 | 13.35 | 3.31 | .001 | .37 |

Note. *Analysis excluded transgenders and those who did not reveal gender.

Female participants scored significantly lower mean scores on depression, anxiety and stress subscales of DASS than male participants. On social support, male

participants scored relatively lower than female participants, but the difference was not found to be significant.

Table 3

Correlation of Social Support with Depression, Anxiety and Stress (N=321)

| | <i>Mean</i> | <i>SD</i> | 1 | 2 | 3 | 4 | 5 |
|---------------|-------------|-----------|----------|----------|----------|----------|----------|
| 1. OSSS | 8.53 | 3.96 | — | | | | |
| 2. Depression | 11.87 | 5.81 | -.40** | — | | | |
| 3. Anxiety | 11.81 | 5.76 | -.46** | .59** | — | | |
| 4. Stress | 14.01 | 7.37 | -.43** | .23** | .37** | — | |
| 5. DASS total | 37.67 | 14.56 | -.56** | .75** | .82** | .75** | — |

** $p < .01$

Social support through its significant inverse association with composed DASS score ($p < 0.01$) suggested that poor social support exists with higher levels of psychological disturbance. In relation to anxiety, depression and stress separately, social support revealed

to have strong inverse association with all these variables ($p < 0.01$). Thus, clearly suggesting that the lower levels of social support were associated with significant increase in anxiety, depression and stress.

Table 4

Correlation of Social Support with Depression, Anxiety, Stress Scales Across Specialties (N=321)

| Specialties | <i>n</i> | Depression | Anxiety | Stress | TDASS |
|--------------------|----------|-------------------|----------------|---------------|--------------|
| Nurses | 149 | -.28** | -.31** | -.38** | -.43** |
| Doctors | 79 | -.37** | -.46** | -.46** | -.59** |
| Ward-boys | 35 | -.26 | -.49** | -.40* | -.53** |
| Psychologist | 32 | -.56** | -.72** | -.62** | -.78** |
| Dentists | 11 | -.56 | -.63* | -.72* | -.87** |
| Social Workers | 10 | -.46 | -.53 | .04 | -.40 |
| Pharmacists | 5 | -.71 | -.72 | -.66 | -.79 |

* $p < .05$, ** $p < .01$

Social support revealed to have inverse association with all dimensions of psychological distress across all professional categories. The association of all study variables was also studied with some significant demographic factors. An interesting pattern of association was observed between demographic variables and social support, scores of depression, anxiety and stress. Social support was found to be positively associated with female gender ($r = .01$) and joint family system ($r = .05$),

however, revealed to have inverse association with age ($r = -.09$), monthly income ($r = -.04$) and being divorced or widowed ($r = -.04$) but none of these correlations were significant ($p > 0.05$) or strong. Depression scores revealed inverse correlation with female gender ($r = -.08$), income ($r = -.04$), being married ($r = -.12$, $p < 0.05$), whereas, showed to have positive association with age ($r = .19$, $p < 0.05$). Anxiety indicated inverse association with female gender ($r = -.08$), income ($r = -.14$, $p < 0.05$)

and not being married ($r=-.09$) and showed to have positive correlation with age ($r=.03$). Stress only observed to have significant inverse association with male gender ($r=-.12$,

$p<0.05$), income ($r=-.02$), and being married ($r=-.01$).

Discussion

COVID-19 due to its exceedingly contagious nature had established itself as a serious threat to human health in a very short time, forcing world population to take drastic measures to curb the fast spread (Wang et al., 2020). The increased need of hospitalization of COVID-19 patients put an excessive pressure on health system across the world especially low-income countries where healthcare systems were already burdened and struggling with continued low resources. Healthcare professionals were also observed to be under constant threat of contracting the virus, faced significant increase in their workload and reported to have significantly higher level of depression, anxiety and stress compared to other population cohorts (Kafle et al., 2021).

Present study interestingly revealed that health providers working at different positions not only showed different amount of social support available to them but also varied patterns of psychological distress.

The mean social support score revealed poor levels of social support, even the highest mean score on this domain indicated moderate levels of social support as was also reported in other studies indicating lower levels of social support available to healthcare professionals during COVID-19 (Alnazy et al., 2021). Present findings showed that poor levels of social support were related to higher levels of psychological distress of any form which is in line even with the assumption that social support helps individuals deal with emotionally difficult experiences and supported by other findings that poor social support was associated with increase in depression, anxiety and stress

(Ioannou et al., 2019; Kocalevent et al., 2018).

Findings of present study supported the findings of other research (Rehman et al., 2021) as most of the participants scored in mild to moderate severity of depression and anxiety. Reasons for increase in psychological distress might be that even before pandemic, healthcare workers used to frequently complain of over work and insufficient resources available in health system of Pakistan. The situation became even more challenging after COVID-19, as healthcare workers not only had to work more and insufficient resources but were also working under the constant threat of contracting the virus and were to face rage of family members of those who lost their lives due to COVID-19. These factors were also identified by other researchers as significant correlates of depression, fear, anxiety, stress and other forms of psychological problems during COVID-19 pandemic (Rehman et al., 2021).

Results showed that depression score was highest in social workers and lowest mean score was observed to be in psychologists. This can be explained considering the nature of working of these two subspecialties. Social workers remain more in the field and were to witness emotional, physical and financial sufferings of patients and their families whereas psychologists received selected referrals and they follow different procedures. It may also be explained in terms of professional training as psychologists are well trained to manage their emotions and stress than other participants in the present study.

Ward-boys observed to be most anxious as they received highest mean score, whereas,

pharmacists got lowest mean scores on anxiety. This could probably be because ward-boys were frequently exposed to patients and their families which might have increased their sense of vulnerability making them more anxious (Hou et al., 2020). Pharmacists were less anxious because they were not dealing with patients directly and pharmacies created a safety shield between their workers and customers. This might have increased their internal locus of control resulting in low anxiety compared toward-boys who had less control over the situation and therefore, found to be more anxious (Rotter, 1966).

As far as stress was concerned, it was observed to be highest in ward-boys and lowest among the psychologists which may be attributed to the relative exposure to the patients and caregivers and ability to manage stress personally. Psychologists are better trained to manage their stress effectively than the ward-boys. Another significant reason behind high anxiety and stress in ward-boys might be that ward boys had the lowest salary and job rank from all participants. They had less safe working conditions and were to rely heavily on Personal Protective Equipment (PPE) material provided by the government or institutes, unlike other professionals. It was difficult for them to afford PPE material from their own resources. These factors were also identified as significant predictors of stress in health care workers during COVID-19 (Yin et al., 2021).

Mean scores on social support were observed to be highest among pharmacists and lowest in doctors. A possibility could be that doctors for the demands of their work spent most of their time in hospitals and many restricted social interactions for the fear of making others vulnerable (Hou et al., 2020). This lower social interaction might have created a gap for them where they felt lack of social support available to them (Li et al., 2021). Pharmacists on the other hand, had a less

demanding routine and work load compared to the doctors, which might have made them socially more available and easily approachable than others in the study. Availability of more social support might have worked as a buffer against stress as reported by other studies (Li et al., 2021).

Present data showed significant differences across gender as female participants showed lower levels of depression, anxiety and stress which fell in line with findings of other studies indicating significant gender differences in response to COVID-19 (Garcia-Fernandez et al., 2021; He et al., 2021). In Pakistan, men are the bread winners for family, and economy in general has been hard hit by the lockdown during the COVID-19 and many have either faced a cut down in income or lost their jobs. Being someone responsible for generating finances for family, it must be relatively more stressful for the males. It is also the male members in the family who mostly run errands outside the household, which make them more exposed to vulnerabilities of COVID-19. Both these responsibilities might have contributed significantly to increase the psychological distress among male participants (He et al., 2021).

On social support, no significant difference was observed between male and female participants. Male and female healthcare professionals usually have same set of responsibilities like patient exposure and clinical responsibilities. During pandemic, almost all healthcare professionals were exposed to same vulnerabilities and circumstances regardless of their gender. This must have contributed to similar pattern of social support across male and female participants, which falls in line with findings conducted in other countries reporting no significant gender differences with reference to levels of social support (Shangguan et al., 2022). Even though the findings are insignificant, the slight difference could be

explained in context of findings of previous research reporting females having higher levels of social support available to them during COVID-19 (Guo et al, 2021). This difference might be due to the different coping ways males and females employ to seek support. Females prefer remaining more connected to their friends and families and rely strongly on them to get emotional support from them. Right from the start of COVID-19 pandemic, majority of healthcare professionals developed a fear of making their family members vulnerable to virus and their increased workload adversely affected their interaction even further with close family and friends. These two factors might have significantly contributed to lower levels of social support available to them.

Conclusion

Present findings revealed that healthcare professionals with poor social support showed high psychological distress. Gender and relatively more frequent exposure to patients were among the most significant factors associated with different levels of psychological distress.

Contribution of Authors

Abia Nazim: Conceptualization, Investigation, Formal Analysis, Writing - Reviewing & Editing

Tauqeer Nazim: Conceptualization, Methodology, Formal Analysis, Writing-Original draft

Ivan Suneel: Investigation, Data Curation, Formal Analysis, Writing - Original draft

Conflict of Interest

There is no conflict of interest declared by authors.

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