

Psychological Impact of COVID-19 Patient Care on Families of Healthcare Workers

Ankur Sachdeva^{1*}, Vipin Kumar², Harsh Nandini³, Faisal Shaan⁴

Abstract

Objective: The Coronavirus-19 (COVID-19) pandemic has perpetrated a significant mental health burden amongst health care workers (HCWs) and their families. Families of HCWs are at significant risk of various mental health problems due to concerns regarding the wellbeing of the HCW, fear of contacting the virus from HCWs, staying isolated during periods of quarantine and being the passive recipient of public stigma directed towards HCWs.

The objective of this study was to assess the perceived stress, resilience and coping tendencies of families of HCWs managing the COVID 19 crisis.

Method: A cross sectional study was conducted at a tertiary care hospital in India, where close relatives of 150 HCWs managing COVID-19 patients (directly or indirectly involved in patient care) were selected using systematic random sampling. They were evaluated using the Perceived Stress Scale, Brief Resilience Coping Scale, and the Hospital Anxiety and Depression Scale. Pearson's correlation and Independent t-test were used for statistical analysis using the SPSS software.

Results: Majority (75%) of the family members associated with frontline HCWs had moderate to high level of perceived stress, while 23% and 17% had clinically significant anxiety and depressive symptoms, respectively. More than 50% had low resilience and coping scores. High levels of stress, anxiety and depression were seen in female respondents, those less than 40 years old, having a child or an elderly family member and when the HCW had direct involvement in COVID-19 patient care.

Conclusion: Families of HCWs suffer from significant psychological burden due to the COVID-19 crisis. They face significant risk of depression and anxiety associated problems, which are augmented by low resilience and impaired coping. Mental health of HCWs and their family members should be given due attention with a focus on early identification, providing psychological support and improving resilience.

Key words: Covid-19; Family; Healthcare Workers; India; Psychological Health

1. Department of Psychiatry, ESIC Medical College & Hospital, Faridabad, Haryana, India.
2. Department of Psychiatry, SHKM Government Medical College, Nuh, Mewat, Haryana, India
3. Department of Psychiatry, ESIC Medical College and Hospital, Faridabad, Haryana, India
4. Department of Psychiatry, SHKM Government Medical College, Nuh, Mewat, Haryana, India

*Corresponding Author:

Address: Room Number 3004, Department of Psychiatry, ESIC Medical College and Hospital, NH-3, NIT, Faridabad, Haryana, India, Postal Code: 121001.

Tel: 9899528355, Fax: N.A., Email: drankur.rml@gmail.com

Article Information:

Received Date: 2021/06/04, Revised Date: 2021/11/18, Accepted Date: 2021/12/26



The unprecedented Coronavirus-19 (COVID-19) outbreak has engulfed the entire world. It has put tremendous pressure on the healthcare systems and healthcare workers (HCWs) across the globe, albeit more in the developing world (1). India has reported over 27 million cases and more than 3,00,000 deaths since the outbreak (2). It has been established that HCWs are at high risk for exposure to infection, developing several psychological problems, and facing stigma from society (3). This is exacerbated by fear of contagion and spreading the virus to family members (4).

HCWs, as individuals, have responsibilities towards their families, either as a spouse, a parent or a child. In a crisis situation like COVID-19, balancing family life becomes almost impossible for HCWs. HCWs are anxious about transmitting the infection to their families. Those who have elderly parents and young children are already burdened with added care due to school closures, social distancing and difficulty in obtaining groceries and medications (5). Family members of HCWs are highly vulnerable and therefore at high risk of various psychological problems. Possible reasons may be due to concerns about wellbeing of the HCW, fear of contracting the virus from HCWs, staying isolated during periods of quarantine and being the passive recipient of public stigma directed towards HCWs during the COVID-19 pandemic (6). Disturbances in families can affect motivation levels of HCWs, make them vulnerable to psychological problems and reduce performance.

The Coronavirus has generated a lot of uncertainty among the public and families of HCWs are not immune to this. Individuals respond to this uncertainty in different ways. Stress, anxiety, panic, depression and relationship problems are common responses. One's coping style, cognitive, and behavioral expressions play a major role in determining one's emotional and psychological health (7). Improving coping skills and resilience improves response to COVID-19 related psychological distress. Understanding psychological problems in family members and providing prompt interventions to enhance mental wellbeing will ultimately motivate HCWs and result in better productivity and less burnout.

Mental health of families living with HCWs has not been given due attention till now. We could not find any Indian study assessing the psychological impact of COVID-19 on families of HCWs. We planned this study with the aim of assessing the psychological impact of COVID-19 on family members of HCWs and to evaluate their resilience.

Materials and Methods

Study design

A cross-sectional study was conducted at a tertiary care center in North India dedicated to COVID where close relatives (children, parents, spouse) of health care workers (Doctors, Nurses, Para-medical staff) involved in management of the COVID-19 crisis (Direct/Indirect) and those who satisfied the inclusion and exclusion criteria were included in the study. Approval from the Institutional Ethics Committee was obtained before study commencement.

A sample size of 150 was considered. We selected family members of HCW by the systematic random sampling method where every 2nd HCW family member who consented for inclusion was approached for the study. One family member (preferably spouse or parent) of each HCW, managing COVID-19 patient care or working in managerial/administrative duties, was included. Those participants with previous history of mental illness or cognitive disturbances (assessed by neurologist/psychiatrist) were excluded from the study.

Participants

HCWs were approached and verbal consent was sought for inclusion of their family members in the study. Family members were approached either physically or by telephone obliging their convenience and considering the COVID-19 social distancing norms. Eligible participants were asked to give written informed consent and the procedure for information collection was explained in detail. The assigned resident doctor was available for telephone call assistance while filling the questionnaire.

The study participants were divided into two groups and self-reported questionnaire and semi-structured proforma were used to collect information. The questionnaire sought information regarding Age, Gender, Education, and Relation to HCW, Designation of HCW, Role in COVID (of HCWs) and other demographic parameters . Category 1: Families of HCWs directly involved in treating corona virus patients (posted in wards/OPDs/Sample collection area/Laboratories). Category 2: Families of HCWs who were involved in managerial/ administrative duties.

Instruments

1. Socio-demographic Details –Information was sought regarding age, gender, education, relation to HCW, designation of HCW, role in COVID and number of hours spent at work.
2. Perceived Stress Scale (PSS): PSS has been widely used as a measure of psychological stress assessed over the last 4 weeks (8). It uses a five-point Likert scale (0-4) to rate 10 items. The PSS score ranges from 0 to 40, where scores up to 13 indicate low, 14 to 26 moderate and 27 to 40 indicate high stress levels (9). PSS has demonstrated good internal consistency and validity in different subsets of populations.

3. Hospital Anxiety and Depression Scale (HADS): HADS is a useful tool to screen for anxiety and depressive symptoms distributed over 14 items. HADS has two sub scales; one for anxiety (HADS–A) and one for depression (HADS–D), with 7 questions in each subscale. Scores of 8 to10 are borderline abnormal (indicating individual at considerable risk) and greater than or equal to 11 on either scale indicate a definitive case (10). Cronbach's alpha for HADS-A varies from.68 to.93 (mean.83) and for HADS-D varies from.67 to.90 (mean.82).
4. Brief Resilience Coping Scale (BRCS): BRCS measures the extent to which an individual deals with stress by 4 simple questions. Scoring ranges from 1 to 5, where high scores denote good resilience. BRCS is a reliable and validated instrument for resilience. Scores of 4 to 13 indicate low resilience, 14-16 are moderate and17-20 are highly resilient copers (11). Alpha scores average around. 86 suggesting good validity.

Statistical analysis

Statistical analysis was conducted using SPSS version 20. Frequencies and percentages were computed for the categorical variables. Mean and standard deviation was calculated for the continuous variables and significance was determined using the independent t- test. Correlation among continuous variables was assessed using Pearson's correlation test. Significance level was set at less than 0.05.

Results

Total of 376 HCWs were initially approached for including their family members in the study. 39 out of 376 did not consent for inclusion of their family members in the study citing reasons such as discomfort for family members, lack of time and family members availing no benefits from the study. 337 HCWs were comfortable with the study design and verbally consented for inclusion. Their spouses or parents (depending upon availability and comfort level) were approached by the authors and screened for inclusion. We found that 23 family members had present or past significant psychiatric problems, while 14 did not consent for inclusion. Finally, out of 300 consenting family members of HCWs, 150 were included and interviewed as per the systematic random sampling protocol.

We had almost equal distribution in female and male respondents, wherein 78 (52%) were spouses and 72(48%) were parents. Among these, 98 (59.3%) HCWs were directly involved in care of COVID-19 patients while 52 (34.7%) were involved in administrative duties. 72 (48%) participants had children at home and 32 (21.3%) had elderly members (age more than 65 years) (Table1).

We found majority (76%) of the frontline HCWs' family members had moderate to high levels of perceived stress, while 23% and 17% had clinically significant anxiety and depressive symptoms, respectively (Table 2). Around 51% of the participants reported borderline abnormal anxiety levels whereas around 31% reported borderline abnormal depressive symptoms. It is worth mentioning that borderline anxiety and depression could translate to clinically significant psychiatric disorders if not dealt with in time. More than 50% had low resilience and coping scores, while 29% were moderate and only 18% were highly resilient copers.

The mean score for PSS was 18.63 ± 6.71 , HADS A was 9.79 ± 2.37 , HADS D was 8.63 ± 2.76 and BRCS was 12.26 ± 3.83 , which reflect moderate to severe symptoms (Table 2). The perceived stress score correlated positively with anxiety ($P < 0.001$) and depressive scores ($P < 0.001$) but were inversely correlated with resilience scores ($P < 0.001$) (Table 3).

We tried to assess different factors associated with high levels of stress, anxiety and depression among family members of HCWs. Participants less than 40 years of age had significantly higher anxiety scores ($P = 0.03$) and depression scores ($P = 0.014$) as compared to participants above 40 years of age. Female participants experienced significantly higher perceived stress ($P = 0.001$), anxiety ($P < 0.001$) and depression ($P = 0.01$) as compared to their male counterparts. Family members of HCWs directly involved in COVID care had significantly higher perceived stress ($P < 0.001$), anxiety ($P < 0.001$) and depression scores ($P < 0.001$) compared to those who were involved in administrative work. Families having children and elderly at home reported higher mean scores for stress, anxiety and significantly higher depressive scores ($P = 0.012$ for children, and $P = 0.04$ for elderly). Also, families of HCWs who worked more than 48 hours per week reported significantly higher mean scores for depression ($P = 0.012$). Mean resilience scores were significantly lower in parents of HCWs and in families who had elderly at home (Table 4).

Table 1. Participants' Demographics, Relation with Health Care Workers and Role of the Health Care Workers in COVID-19 Management

Socio-demographic variables		N (%)
Age	≤ than 40 years	81(54%)
	>than 40 years	69(46%)
Gender	Male	73(48.7%)
	Female	77(51.3%)
Education	Below graduation	67(44.7%)
	Graduation/ post-graduation	83(55.3%)
Relation to HCW	Spouse	78(52%)
	Parent	72(48%)
Designation of HCW	Medical	89(59.3%)
	Paramedical	61(40.7%)
Role in COVID-19 (of HCW)	Direct	98(65.3%)
	Administrative	52(34.7%)
Children in family	Yes	72(48%)
	No	78(52%)
Elderly in family (age more than 65 years)	Yes	32(21.3%)
	No	118(78.7%)
Number of Hours at work	Less than 48 hours/week	73(48.7%)
	More than 48 hours/week	77(51.3%)
Total		150(100%)

HCW – Healthcare Workers

Table 2. Prevalence of Psychological Problems (with Severity) and Resilience/Coping among Families of Frontline Health Care Workers (n = 150)

Perceived stress	n (%)	HADS Score	Anxiety symptoms n (%)	Depressive symptoms n (%)	Resilience	n (%)
Low stress (0-13)	36(24%)	Normal (0-7)	38(25.3%)	77(51.3%)	Low resilience (4-13)	80(53.3%)
Moderate stress (14-26)	78(52%)	Borderline abnormal (8- 10)	77(51.3%)	47(31.3%)	Moderate resilience (14-16)	43(28.7%)
High stress (27-40)	36(24%)	Abnormal (11-21)	35(23.3%)	26(17.3%)	High resilience (17-20)	27(18.0%)
Mean ±SD (PSS score 0-40)	18.63±6.71	Mean ±SD (HADS-A/D score 0-21)	9.79±2.37	8.63±2.76	Mean ±SD (BRCS score 4-20)	12.26±3.83

Table 3. Correlation between Perceived Stress Scale Scores, Hospital Anxiety and Depression Scale Scores and Brief Resilience Coping Scale Scores of Participants

Variable		PSS	HADS-A	HADS-D	BRCS
PSS	Pearson Correlation	1	0.707**	0.633**	-0.232**
	P value		< 0.001	< 0.001	0.004
	N	150	150	150	150
HADS A	Pearson Correlation	0.707**	1	0.628**	-0.207*
	P value	< 0.001		< 0.001	0.011

	N	150	150	150	150
HADS D	Pearson Correlation	0.633**	0.628**	1	-0.171*
	P value	< 0.001	< 0.001		0.037
	N	150	150	150	150
BRCS	Pearson Correlation	-0.232**	-0.207*	-0.171*	1
	P value	0.004	0.011	0.037	
	N	150	150	150	150

* Correlation is significant at 0.05 level

** Correlation is significant at 0.01 level

PSS - Perceived Stress Scale

HADS A - Hospital Anxiety and Depression Scale - Anxiety

HADS D - Hospital Anxiety and Depression Scale - Depression

BRCS- Brief Resilience Coping Scale

Table 4. Correlation of Socio-Demographic Variables with Perceived Stress Scale Scores, Hospital Anxiety and Depression Scale Scores and Brief Resilience Coping Scale Scores of Participants

Socio-demographic variable	PSS score Mean ± SD	P-value	HADS Anxiety score	P-value	HADS Depression score	P-value	BRCS score	P-value
Age	≤ than 40 years	18.81 ± 6.83	10.17 ± 2.58	0.030	9.12 ± 3.28	0.014	12.31 ± 3.56	0.867
	>than 40 years	18.42 ± 6.60	9.35 ± 2.02		8.06 ± 1.84		12.20 ± 4.15	
Gender	Male	16.79 ± 6.63	8.53 ± 1.74	< 0.001	8.04 ± 1.91	0.010	12.56 ± 3.93	0.350
	Female	20.38 ± 6.34	10.99 ± 2.28		9.19 ± 3.28		11.97 ± 3.73	
Education	Below graduation	19.13 ± 6.88	10.16 ± 2.48	0.085	9.06 ± 3.04	0.089	11.67 ± 4.15	0.091
	Graduation/postgraduation	18.23 ± 6.58	9.49 ± 2.24		8.29 ± 2.47		12.73 ± 3.51	
Relation to HCW	Spouse	18.35 ± 6.77	10.10 ± 2.58	0.097	8.91 ± 3.28	0.202	13.22 ± 3.09	0.001
	parent	18.94 ± 6.67	9.46 ± 2.08		8.33 ± 2.04		11.22 ± 4.29	
Designation of HCW	Medical	18.04 ± 7.25	9.56 ± 2.23	0.214	8.34 ± 2.20	0.179	12.48 ± 3.65	0.471
	Paramedical	19.26 ± 6.07	10.04 ± 2.49		8.95 ± 3.23		12.03 ± 4.02	
Role in COVID (of HCW)	Direct	21.83 ± 5.40	10.84 ± 2.1	< 0.001	9.51 ± 2.91	< 0.001	11.87 ± 3.37	0.08
	Administrative	12.62 ± 4.41	7.83 ± 1.3		6.98 ± 1.36		13.00 ± 4.52	
Children in family	Yes	19.62 ± 6.23	9.91 ± 2.60	0.998	9.33 ± 3.53	0.012	12.18 ± 3.43	0.854
	No	18.77 ± 6.40	9.91 ± 2.12		8.17 ± 1.83		12.06 ± 4.12	
Elderly in family	Yes	21.34 ± 5.69	10.00 ± 2.73	0.580	9.50 ± 1.77	0.045	10.03 ± 3.52	< 0.001
	No	17.90 ± 6.79	9.74 ± 2.27		8.40 ± 2.93		12.86 ± 3.70	
Duration of duty	More than 48 hours/week	19.43 ± 6.36	10.04 ± 2.68	0.117	9.10 ± 3.11	0.012	12.19 ± 3.61	0.791
	Less than 48 hours/week	17.48 ± 7.07	9.43 ± 1.77		7.95 ± 1.98		12.36 ± 4.18	

HCW – Healthcare Workers

SD – Standard Deviation

BRCS - Brief Resilience Coping Scale

PSS - Perceived Stress Scale

HADS - Hospital Anxiety and Depression Scale

Discussion

This study aimed to evaluate the psychological impact on families of HCWs involved in COVID-19 patient care. It tried to cover mental health considerations in form of stress faced by the family members, risk of developing anxiety and depression and how well they cope with this stress. We also assessed various factors associated with these mental health problems faced by families of frontline HCWs.

Families form the support system for most people, even more so during the pandemic. This is especially true for HCWs who are working long shifts under unprecedented pressure and fear. This fear and stress is reflected upon their families who care for wellbeing of their loved ones. This study showed that an overwhelming number of HCW families are stressed and suffer from clinically significant anxiety and depression. Moreover, around half of them were at considerable risk for anxiety and depressive disorders. This is further augmented by lack of resilience and coping skills in dealing with such an unprecedented situation.

The findings from this study are similar to a survey from China which found that 49.0% of family members of HCWs reported mild to severe symptoms of anxiety, and 12.2% had significant symptoms of depression, whereas 10.4% of the family members might have PTSD, and 8.3% of the family members had suicidal ideation (12). We found that perceived stress positively correlated with anxiety and depressive symptoms but inversely correlated with resilience, which is consistent with findings of the Chinese survey, except that it did not find correlation with mental resilience (12). However, another study among front line Healthcare workers found a negative relation between depression and anxiety, which were considered as negative emotions, and psychological resilience (13). It has been observed that people reported heightened negative emotions during the COVID-19 outbreak. These negative affective states might lead to various psychological problems (14). People have been more concerned about their health and family while less concerned with leisure and friends during the pandemic which could explain the unprecedented levels of stress among families of HCWs (14).

Multiple possible reasons can be attributed for higher levels of stress and psychological problems among family members of HCWs, ranging from concerns regarding wellbeing of HCWs to fear of contacting the virus (15, 16). COVID-19 comes with unprecedented threats to the work-family balance, which was already challenging for HCWs. Families consistently live in a state of panic realizing the high risk their spouse/children face due to COVID exposure, long working shifts, shortage of manpower and protective equipment—all with the background of excess official and legal responsibilities. Another factor that accounts for distress among families of HCWs is the social stigma, as they are considered a source of infection. There have

been studies/reports highlighting stigma and inhumane behavior faced by HCWs and their families (17).

Female family members below 40 years of age perceived more stress and psychological problems compared to their counterparts. They were also found to have low resilience levels. We could not find similar studies to extrapolate our findings. However, studies among HCWs, in general, have shown that females demonstrate greater reaction of emotional stress and lesser resilience than males (6, 18). Females tend to perceive events as more negative and uncontrollable. Their coping strategies focused on emotions are less effective in emergency situations (19, 20, and 21). Similarly, older HCWs have been observed to better manage themselves in this pandemic and to be psychologically more resilient (22).

Families with children and elderly at home were found to have more psychological issues and lower resilience as compared to their counterparts. This was also true that for HCWs working more than 48 hours a week and directly involved in COVID-19 patient care. Families living with children and elderly might have fear of having severe illness as the elderly population have more severe symptoms and fatality (23). High infectivity of the virus and direct exposure may instill fear in minds of families whose members are in direct contact with COVID patients (24).

Limitation

Our study is the first study in India and probably among the very few initial studies to address the mental health status of HCW families. There are a few limitations in this study which prevent generalization of the results. Our study sample was relatively small as we followed the systematic random sampling protocol and had to pick every 2nd consenting family member. Only one family member from each family was included in the study for practical purposes. The cross-sectional nature of the study prevented inferring causal relationship and also increased the probability of reporting and recall bias. Such shortcomings should be addressed through elaborate studies which may also target other existing deficits in knowledge.

Conclusion

These findings show that the families of HCWs were affected to a great extent in this pandemic. Majority perceived moderate to severe level of stress and developed various psychological issues. Most have low levels of resilience which make it difficult for them to handle stress. Females, age less than 40 years, families with children and elderly, HCWs involved in longer shifts with direct contact with COVID-19 patients were the main factors which affected mental health of families. HCWs can work more efficiently if they feel assured about health and safety of their family. Timely and effective interventions to prevent and treat mental health issues of HCW family members are

quintessential. Improving coping strategies, self-esteem and resilience of family members may help in dealing effectively with the stress involved during pandemics.

Acknowledgment

Sincere thanks to participants and health care workers for their cooperation

Conflict of Interest

None.

References

1. World Health Organization, 2020a. Health topics. Coronavirus. [Cited July 01, 2020]. Available from: https://www.who.int/health-topics/coronavirus#tab=tab_1.
2. Ministry of Health and Family Welfare |Home.accessed on May 30, 2021 Available from: <https://www.mohfw.gov.in/>
3. Romero CS, Delgado C, Catalá J, Ferrer C, Errando C, Iftimi A, et al. COVID-19 psychological impact in 3109 healthcare workers in Spain: The PSIMCOV group. *Psychol Med*. 2020;1-7.
4. Xiang YT, Yang Y, Li W, Zhang L, Zhang Q, Cheung T, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *Lancet Psychiatry*. 2020;7(3):228-9.
5. CluverL, LachmanJM, SherrL, et al. Parenting in a time of COVID-19. *Lancet* 2020;0.doi:10.1016/S0140-6736(20)30736-4.
6. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Netw Open*. 2020;3(3):e203976.
7. Selvaraj P, Muthukanagaraj P, Saluja B, Jeyaraman M, Anudeep TC, Gulati A, et al. Psychological impact of COVID-19 pandemic on health-care professionals in India—A multicentric cross-sectional study. *Indian J Med Sci*. 2020;72(3):141.
8. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav*. 1983;24(4):385-96.
9. Smith KJ, Rosenberg DL, Timothy Haight G. An assessment of the psychometric properties of the perceived stress scale-10 (PSS10) with business and accounting students. *Account Perspect* 2014;13:29-59.
10. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*. 1983;67(6):361-370.
11. Limonero JT, Tomás-Sábado J, Gómez-Romero MJ, Maté-Méndez J, Sinclair VG, Wallston KA, et al. Evidence for validity of the brief resilient coping scale in a young Spanish sample. *Span J Psychol*. 2014;17:E34.
12. Feng Z, Xu L, Cheng P, Zhang L, Li LJ, Li WH. The psychological impact of COVID-19 on the families of first-line rescuers. *Indian J Psychiatry*. 2020;62(Suppl 3):S438-s44.
13. Lin J, Ren YH, Gan HJ, Chen Y, Huang YF, You XM. Factors associated with resilience among non-local medical workers sent to Wuhan, China during the COVID-19 outbreak. *BMC Psychiatry*. 2020;20(1):417.
14. Li S, Wang Y, Xue J, Zhao N, Zhu T. The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users. *Int J Environ Res Public Health*. 2020;17(6):2032.
15. Souadka A, Essangri H, Benkabbou A, Amrani L, Majbar MA. COVID-19 and Healthcare worker's families: behind the scenes of frontline response. *EClinicalMedicine*. 2020;23:100373.
16. Lorenzo D, Carrisi C. COVID-19 exposure risk for family members of healthcare workers: An observational study. *Int J Infect Dis*. 2020;98:287-9.
17. Mostafa A, Sabry W, Mostafa NS. COVID-19-related stigmatization among a sample of Egyptian healthcare workers. *PLoS One*. 2020;15(12):e0244172.
18. Zhu J, Sun L, Zhang L, Wang H, Fan A, Yang B, et al. Prevalence and Influencing Factors of Anxiety and Depression Symptoms in the First-Line Medical Staff Fighting Against COVID-19 in Gansu. *Front Psychiatry*. 2020;11:386.
19. Matud MP. Gender differences in stress and coping styles. *Pers Individ Dif*. 2004;37(7):1401-15.
20. Matud MP, Bethencourt JM, Ibáñez I. Gender differences in psychological distress in Spain. *Int J Soc Psychiatry*. 2015;61(6):560-8.
21. Matud MP, García MC. Psychological Distress and Social Functioning in Elderly Spanish People: A Gender Analysis. *Int J Environ Res Public Health*. 2019;16(3).
22. Bozdağ F, Ergün N. Psychological Resilience of Healthcare Professionals During COVID-19 Pandemic [published online ahead of print, 2020 Oct 13]. *Psychol Rep*. 2020;33294120965477.
23. Wang L, He W, Yu X, Hu D, Bao M, Liu H, et al. Coronavirus disease 2019 in elderly patients: Characteristics and prognostic factors based on 4-week follow-up. *J Infect*. 2020;80(6):639-45.
24. Chen S, Xia M, Wen W, et al. Mental health status and coping strategy of medical workers in China during The COVID-19 outbreak. *medRxiv*; 2020.