**Table 1 Characteristics of healthcare workers exposed to COVID-19**

**Characteristics**

**All MW**

**No PTSD**

**PTSD**

**P**

**PCL-5<33**

**PCL-5≥33**

**659**

**569**

**90**

**Gender (%)**

**Male**

 **62 (9.4)**

 **57 (10.0)**

 **5 (5.6)**

**0.249**

**Female**

 **597 (90.6)**

 **512 (90.0)**

 **85 (94.4)**

**Age (%)**

**18–30**

 **316 (48.0)**

 **279 (49.0)**

 **37 (41.1)**

**0.19**

**31–40**

 **223 (33.8)**

 **185 (32.5)**

 **38 (42.2)**

**>41**

 **120 (18.2)**

 **105 (18.5)**

 **15 (16.7)**

**Education level (%)**

**College diploma**

 **80 (12.1)**

 **69 (12.1)**

 **11 (12.2)**

**0.979**

**Bachelor**

 **509 (77.2)**

 **439 (77.2)**

 **70 (77.8)**

**Master and above**

 **70 (10.6)**

 **61 (10.7)**

 **9 (10.0)**

**Marital status (%)**

**Unmarried**

 **213 (32.3)**

 **186 (32.7)**

 **27 (30.0)**

**0.388**

**Married**

 **425 (64.5)**

 **363 (63.8)**

 **62 (68.9)**

**Divorced/widowed**

 **21 (3.2)**

 **20 (3.5)**

 **1 (1.1)**

**Occupation (%)**

**Doctor**

 **55 (8.3)**

 **50 (8.8)**

 **5 (5.6)**

**0.263**

**Nurse**

 **573 (86.9)**

 **490 (86.1)**

 **83 (92.2)**

**Non-clinical**

 **31 (4.7)**

 **29 (5.1)**

 **2 (2.2)**

**Position level (%)**

**Unrated**

 **34 (5.2)**

 **29 (5.1)**

 **5 (5.6)**

**0.653**

**Elementary**

 **377 (57.2)**

 **331 (58.2)**

 **46 (51.1)**

**Intermediate**

 **221 (33.5)**

 **186 (32.7)**

 **35 (38.9)**

**Advanced**

 **27 (4.1)**

 **23 (4.0)**

 **4 (4.4)**

**Suffered from chronic diseases (%)**

**No**

 **580 (88.0)**

 **510 (89.6)**

 **70 (77.8)**

**0.002**

**Yes**

 **79 (12.0)**

 **59 (10.4)**

 **20 (22.2)**

**The only child (%)**

**No**

 **466 (70.7)**

 **408 (71.7)**

 **58 (64.4)**

**0.2**

**Yes**

 **193 (29.3)**

 **161 (28.3)**

 **32 (35.6)**

**Time of work during the outbreak**

 **30 [15-60]**

 **30 [15-60]**

 **30 [15.25-60]**

**0.752**

**Experience in fighting other infectious diseases (%)**

**No**

 **601 (91.2)**

 **519 (91.2)**

 **82 (91.1)**

**1**

**Yes**

 **58 (8.8)**

 **50 (8.8)**

 **8 (8.9)**

**Direct care for COVID-19 patients (%)**

**No**

 **174 (26.4)**

 **151 (26.5)**

 **23 (25.6)**

**0.946**

**Yes**

 **485 (73.6)**

 **418 (73.5)**

 **67 (74.4)**

**Occupational exposure without protection (%)**

**No**

 **580 (88.0)**

 **508 (89.3)**

 **72 (80.0)**

**0.019**

**Yes**

 **79 (12.0)**

 **61 (10.7)**

 **18 (20.0)**

**Be infected (%)**

**No**

 **633 (96.1)**

 **547 (96.1)**

 **86 (95.6)**

**1**

**Yes**

 **26 (3.9)**

 **22 (3.9)**

 **4 (4.4)**

**Relatives or friends be infected (%)**

**No**

 **235 (35.7)**

 **210 (36.9)**

 **25 (27.8)**

**0.118**

**Yes**

 **424 (64.3)**

 **359 (63.1)**

 **65 (72.2)**

**Relatives or friends died of COVID-19 (%)**

**No**

 **506 (76.8)**

 **448 (78.7)**

 **58 (64.4)**

**0.004**

**Yes**

 **153 (23.2)**

 **121 (21.3)**

 **32 (35.6)**

**Experienced quarantine (%)**

**No**

 **340 (51.6)**

 **296 (52.0)**

 **44 (48.9)**

**0.661**

**Yes**

 **319 (48.4)**

 **273 (48.0)**

 **46 (51.1)**

**Time of quarantine**

**3 [3.00, 14.00]**

**3 [3.00, 14.00]**

**6 [3.00, 14.00]**

**0.436**

**Experienced social isolation (%)**

**No**

 **512 (77.7)**

 **458 (80.5)**

 **54 (60.0)**

**<0.001**

**Yes**

 **147 (22.3)**

 **111 (19.5)**

 **36 (40.0)**

**Received psychological assistance (%)**

**No**

 **563 (85.4)**

 **489 (85.9)**

 **74 (82.2)**

**0.442**

**Yes**

 **96 (14.6)**

 **80 (14.1)**

 **16 (17.8)**

**Awarded (%)**

**No**

 **438 (66.5)**

 **371 (65.2)**

 **67 (74.4)**

**0.108**

**Yes**

 **221 (33.5)**

 **198 (34.8)**

 **23 (25.6)**

**Frequency of obtaining COVID-19 related information**

**Rarely**

 **164 (24.9)**

 **133 (23.4)**

 **31 (34.4)**

**0.057**

**Sometimes**

 **235 (35.7)**

 **210 (36.9)**

 **25 (27.8)**

**Always**

 **260 (39.5)**

 **226 (39.7)**

 **34 (37.8)**

**Job satisfaction (%)**

**dissatisfied**

 **111 (16.8)**

 **79 (13.9)**

 **32 (35.6)**

**<0.001**

**Average**

 **353 (53.6)**

 **304 (53.4)**

 **49 (54.4)**

**Satisfied**

 **195 (29.6)**

 **186 (32.7)**

 **9 (10.0)**

**Department (%)**

**Outpatient /emergency**

 **101 (15.3)**

 **80 (14.1)**

 **21 (23.3)**

**0.027**

**ICU**

 **48 (7.3)**

 **37 (6.5)**

 **11 (12.2)**

**Infection ward**

 **100 (15.2)**

 **86 (15.1)**

 **14 (15.6)**

**Isolation ward**

 **155 (23.5)**

 **137 (24.1)**

 **18 (20.0)**

**Mobile cabin hospital**

 **255 (38.7)**

 **229 (40.2)**

 **26 (28.9)**

**Work experience (median [IQR])**

**8 [4.00, 15.00]**

**8 [4.00, 15.00]**

**9 [5.00, 15.00]**

**0.555**

**APGAR**

**8 [5.00, 10.00]**

**8 [5.00, 10.00]**

**5 [4.00, 8.00]**

**<0.001**

**Table2. Scores of each dimension of PTSD (median [IQR])**

**Dimensions**

**Scores**

**No PTSD**

**PTSD**

**P**

**PCL-5<33**

**PCL-5≥33**

**Intrusion**

 **0.80 [0.40, 1.20]**

 **0.80 [0.40, 1.20]**

 **1.60 [1.40, 2.00]**

**<0.001**

**Avoidance**

 **0.50 [0.00, 1.00]**

 **0.00 [0.00, 1.00]**

 **2.00 [1.00, 2.00]**

**<0.001**

**Negative affect**

 **1.00 [0.25, 1.25]**

 **0.75 [0.25, 1.00]**

 **2.00 [1.25, 2.00]**

**<0.001**

**Anhedonia**

 **1.00 [0.00, 1.67]**

 **1.00 [0.00, 1.33]**

 **2.00 [2.00, 2.67]**

**<0.001**

**Dysphoric arousal**

 **1.00 [0.25, 1.50]**

 **1.00 [0.00, 1.25]**

 **2.00 [1.75, 2.50]**

**<0.001**

**Anxious arousal**

 **1.00 [0.00, 2.00]**

 **1.00 [0.00, 1.00]**

 **2.00 [2.00, 2.50]**

**<0.001**

**PCL-5 total**

 **18.00 [8.00, 26.00]**

 **15.00 [7.00, 22.00]**

**37.00 [35.00, 41.00]**

**<0.001**

**Table 3. The impact of PTSD on healthcare workers**

**Characteristics**

**All MW**

**No PTSD**

**PTSD**

**P**

**PCL-5<33**

**PCL-5≥33**

**Seek psychological assistance**

**Need**

 **580 (88.0)**

 **530 (93.1)**

 **50 (55.6)**

**<0.001**

**Not need**

 **79 (12.0)**

 **39 (6.9)**

 **40 (44.4)**

**Sleeping time (%)**

**<5 h**

 **56 (8.5)**

 **41 (7.2)**

 **15 (16.7)**

**0.007**

**6-8 h**

 **544 (82.5)**

 **474 (83.3)**

 **70 (77.8)**

**> 8 h**

 **59 (9.0)**

 **54 (9.5)**

 **5 (5.6)**

**Frequency of feeling of loneliness (%)**

**Rarely**

 **348 (52.8)**

 **332 (58.3)**

 **16 (17.8)**

**<0.001**

**Sometimes**

 **245 (37.2)**

 **201 (35.3)**

 **44 (48.9)**

**Often**

 **66 (10.0)**

 **36 (6.3)**

 **30 (33.3)**

**Intention to resign (%)**

**No**

 **422 (64.0)**

 **387 (68.0)**

 **35 (38.9)**

**<0.001**

**Yes**

 **237 (36.0)**

 **182 (32.0)**

 **55 (61.1)**

**Panic**

 **4.00 [2-5]**

 **4.00 [2-5]**

 **5.00 [5-7]**

**<0.001**

**Quality of life**

**20 [18.00, 22.00]**

**20 [18.00, 23.00]**

**18 [16.00, 19.00]**

**<0.001**

**Table 4. Factors associated with PTSD**

**Predictive factors**

**OR**

**95%CI**

**P**

**Suffering from chronic diseases**

**Yes**

**2.19**

**1.11-4.24**

**0.02**

**Experience of social isolation**

**Yes**

**2.38**

**1.37-4.13**

**0.002**

**Frequency of obtaining COVID-19 related information**

**Sometimes**

**0.51**

**0.26-0.98**

**0.04**

**Department**

**Mobile cabin hospital**

**0.46**

**0.23-0.94**

**0.03**

**APGAR**

**Good function of family**

**0.27**

**0.16-0.46**

**<0.001**

**Job Satisfaction**

**Dissatisfied**

**4.92**

**1.30-6.23**

**0.012**