

Impact of COVID-19 outbreak on the negative emotional response in Taiwan's hospital nurses using structure equation model

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Background and objective

COVID-19, a new coronavirus strain, has been reported to have first revealed in humans in December 2019. With the ever-growing number of confirmed and suspected cases, the workload of healthcare workers (HCWs) has been overwhelming. The study is to investigate the impact of COVID-19 outbreak on the negative emotional response in Taiwan's hospital nurses.

Methods/intervention

421 nurses voluntarily

fill out the questionnaire

impact of COVID-19

workload

job characteristics

Depression Anxiety Stress Scales (DASS)

burnout

using **Structure equation model**

demographics, workload and job support, burnout and impact of COVID-19 on negative emotional response

using **hieratical regression**

elaborate the association between negative emotional response with impact of COVID-19, workload, and burnout among hospital nurses

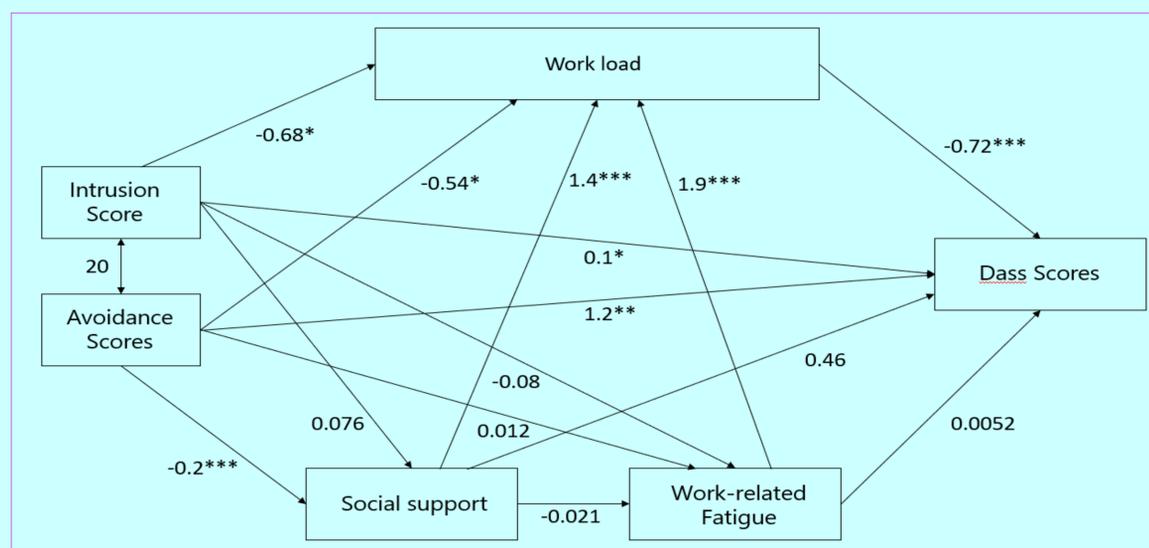
Results

Group with high mental score affected by covariate variable in four model using multivariate logistic regression after adjusted for divisions in hospital, age, education, marital status

Using Structural Equation model to Explore the Effects of Workload and Individual Variables on DASS Scores

	Odds Ratio (95%CI)	Odds Ratio (95%CI)
Intrusion scores		
Low (≤19)	1	1
Medium (20-23)	0.87(0.41-1.89)	0.93(0.42-2.06)
High (≥24)	1.7(0.75-3.84)	1.73(0.74-4.05)
Avoidance scores		
Low (≤23)	1	1
Medium (24-28)	4.28**(1.98-9.24)	4.79**(2.16-10.65)
High (≥29)	12.69**(5.17-31.16)	15.41**(6.00-39.55)
Personal Fatigue		
Low (≤65)	1	1
Medium (66-79)	1.37(0.72-2.62)	1.25(0.6-2.6)
High (≥80)	1.32(0.57-3.06)	0.97(0.37-2.57)
Work-related Fatigue		
Low (≤70)	1	1
Medium(71-85)	1.12(0.58-2.16)	1.49(0.7-3.2)
High (≥86)	1.34(0.55-3.28)	2.35(0.81-6.82)
Customer-related Fatigue		
Low (≤80)	1	1
Medium (>81-95)	0.62(0.37-1.07)	0.43*(0.22-0.81)
High (≥96)	0.56(0.29-1.07)	0.37*(0.17-0.84)
Over-commitment		
Low (≤70)	1	1
Medium (70-90)	0.76(0.45-1.28)	0.64(0.34-1.21)
High (≥91)	0.69(0.38-1.27)	0.6(0.29-1.22)
Social Support		
Low (≤23)	1	1
Medium (23-24)	0.88(0.5-1.54)	1.01(0.23-1.94)
High (≥25)	1.2(0.66-2.19)	1.37(0.66-2.83)
Work load		
Low (≤14)	1	1
Medium (15-17)	1.35(0.84-2.17)	1.19(0.65-2.17)
High (≥18)	1.14(0.66-1.98)	1.19(0.59-2.38)

Model 1
Model 2
Model 3
Model 4



Conclusion

In this study, hospital nurses faced to impact of COVID-19 event reported severe and extremely severe experience negative emotional levels. Further studies should focus on the combined use of intervention program and psychological resilience. Overall, our findings demonstrate the necessity of special emergence programs for the impact of event with emerging infectious disease to promote mental health for healthcare workers.