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Letter to the Editor

Psychological impact of 'Lockdown' due to COVID-19 pandemic in Nepal: An online survey

Sir,

COVID-19 has led to significant anxiety and fear (Tandon, 2020). Nepal could not escape from the clutches of COVID-19 pandemic that has caused significant anxiety and fear. Reports from other parts of the world suggest increase in the prevalence of mental disorders or mental distress in the form of depression, anxiety and stress (Geldsetzer, 2020; Kang et al., 2020; Roy et al., 2020; Xiang et al., 2020). The negative psychological impact has been seen in general public and health care workers too (Grover et al., 2020; Kang et al., 2020; Li et al., 2020; Tan et al., 2020). In this background, this study was planned to evaluate the psychological impact of lockdown on people in Nepal, facing the pandemic.

It was an online survey conducted by using the Survey Monkey platform, through which a survey link was generated and then circulated among the various social media platforms using the Whatsapp/ Facebook. The survey questionnaire consisted of the Patient Health Questionnaire-9 (Kroenke et al., 2001) and Generalized Anxiety Disorder – 7 (GAD -7) Scale (Spitzer et al., 2006). Perceived Stress Scale (PSS) (Cohen et al., 1983) was used to assess the perception of stress. 142 responses were analysed.The mean GAD-7 score for the study participants was 3.36 (SD-4.33) and about one-tenth of the participants (9.9 %) could be categorised to have moderate level of anxiety. The mean PHQ-9 score for the participants was 2.85 (SD-3.65) with 18.3 % having mild depressive symptoms and a small proportion of the participants reported moderate (7.0 %) level of depressive symptoms (Table 1). The mean PSS score for the study participants was 17.54 (SD-6.22) and about 80 % of the participants reported moderate level of stress. In view of slightly more than half of the responders being HCWs (56.3 %), when the HCWs were compared with those in other professions (non-HCWs), it was seen that non-HCWs had significantly higher anxiety (Chi-square test value = 5.969 ; p-value-0.015) (Table 1).

Higher level of stress, depression and anxiety correlated positively with each other but no significant association was seen between the perceived stress, severity of depression and anxiety scores with the duration of lockdown period.

This survey suggests that about one-fourth of the responders had prominent anxiety (25.4 %) and 7% of responders reported depressive symptoms (as per GAD-7 and PHQ-9 cut off scores respectively). The National Mental Health Survey data of Nepal (n = 1647) (Jha et al., 2019) found prevalence of mental disorders to be 13.2 % (in which the prevalence of major depression was 3.4 %, generalised anxiety disorder was 1.4 % and other anxiety disorders was about 3.6 %). Another nationwide cross-sectional study from Nepal, which evaluated the psychiatric morbidity in a study sample of 2100 subjects, showed that the point prevalence of anxiety, depression and co-morbid anxiety and depression to be 16.1 %, 4.2 % and 5.9 % respectively (Risal et al., 2016). Thus, the prevalence of anxiety and depression in the present study is about twice that reported for the general population. Although the sample size and instruments/methodology used in the present study are different from previous more methodologically sound studies, yet the findings of the current study, conducted by using self-report screening instruments with high sensitivity and specificity against the diagnosis made by mental health professionals(Levis et al., 2019), cannot be completely dismissed on the methodological grounds. Hence, it can be said that lockdown and the COVID-19 pandemic has led to increase in the mental morbidity in the general public which is likely to progress more as the number of cases of COVID-19 increase and subsequent extension of lockdown.

When the findings of the present survey are compared with similar surveys done in China (Ahmed et al., 2020; Wang et al., 2020) and India (Grover et al., 2020), the prevalence of depression and anxiety in the present study are lower. This difference could be due to the fact, in China the survey was done close to the peak of epidemic. The difference in the prevalence of mental morbidity compared to the study from India, which was done, almost at the similar time, could possibly be attributed to higher number of cases and mortalityNepal in India, compared to (Grover et al., 2020; Roy et al., 2020).

The higher prevalence of anxiety and depression during the pandemic suggest that while preparing for the medical emergencies, the government should develop plans to address the ensuing psychological morbidity, which is going to come with increase in the number of cases of COVID-19, after the lockdown in lifted.

However, we are aware of our limitations too. Despite attempts to circulate widely in all possible social media platforms, participation was lower than expected, possibly due to poor snowballing effect. More than half of the participants were doctors, and this may not be representative of the whole population. Further, the survey was limited to those, who had access to a smart phone device. Hence, it can be said that the study participants may not be representative of people from various strata/ educational status of the country. However, considering the lockdown situation, this was the possible best methodology to reach to the people to understand the psychological impact.

To conclude, the present survey suggests that more than one-fourth of the Nepalese participants are experiencing predominant anxiety and 7% are experiencing depression, due to lockdown and the prevailing COVID-19 pandemic. This finding suggests that there is a need of expanding the mental health services to everyone in the Nepalese society at large on a priority basis to provide psychological first aid.

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Declaration of Competing Interest

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Table 1
Depression, Anxiety and Perceived Stress in the study participants (n = 142).

Variables	Whole sample (n = 142) Mean(SD)/ Frequency (%)	Non-HCWs (n = 62)	HCWs (n = 80)	t-test/Mann-Whitney U value/ Chi-square test (P-value)
Mean PSS-10 score	17.54 (6.22); Range - 0 – 27	17.06 (6.09)	17.92 (6.32)	−0.817 (0.416)
Severity of stress	22 (15.5 %)	13 (21.0 %)	9 (11.3 %)	2.590 (0.274)
Low stress (0 – 13)				
Moderate stress (14 – 26)	117 (82.4 %)	48 (77.4 %)	69 (86.3 %)	
Severe stress (> 27)	3 (2.1 %)	1 (1.6 %)	2 (2.5 %)	
Mean GAD-7 score	3.36 (4.33); Range : 0 – 21	4.53 (5.19)	2.46 (3.27)	U = 2030.00 (0.053)
Severity of Anxiety				
Normal (0 – 5)	106(74.6 %)	40 (64.5 %)	66 (82.5 %)	8.809 (0.032)*
Mild (5 – 9)	20 (14.1 %)	10 (16.1 %)	10 (12.5 %)	
Moderate (10 – 14)	14 (9.9 %)	10 (16.1 %)	4 (5.0 %)	
Severe (≥15)	2 (1.4 %)	2 (3.2 %)	0	
Mean PHQ-9 score	2.85 (3.65); Range : 0 – 14	3.37 (3.85)	2.46 (3.45)	U = 2156.00 (0.167)
Severity of depression				
Minimal (1 – 4)	106 (74.6 %)	41 (66.1 %)	65 (81.3 %)	4.611 (0.100)
Mild (5 – 9)	26 (18.3 %)	16 (25.8 %)	10 (12.5 %)	
Moderate (10 – 14)	10 (7.0 %)	5 (8.1 %)	5 (6.3 %)	
Moderate severe (15 – 19)	0	0	0	
Severe (≥20)	0	0	0	
Overall prevalence				
% of responders reporting GAD score > 5	**36** (25.4 %)	**22** (35.5 %)	**14** (17.5 %)	**5.969 (0.015)***
% of responders reporting PHQ-9 score > 10	**8** (5.6 %)	**4** (6.5 %)	**4** (5.0 %)	**F = 0.729**
% of responders reporting only GAD score > 5 but PHQ-9 < 10	**31** (21.8 %)	**19** (30.6 %)	**12** (15.0 %)	**5.010 (0.025)***
% of responders reporting PHQ-9 score > 10 but GAD-7 < 5	**3** (2.1 %)	**1** (1.6 %)	**2** (2.5 %)	**F = 1.000**
% of responders reporting both GAD score > 5 + PHQ-9 score > 10	**5** (3.5 %)	**3** (4.8 %)	**2** (2.5 %)	**F = 0.653**

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CONTRIBUTIONS FROM INDIVIDUAL AUTHORS:

I, Dr. Anoop Krishna Gupta, translated the questionnaire from English to Nepali, circulating the message through social media, drafting and proof reading the manuscript.

Dr. Swapnajeet Sahoo was involved in data analysing and drafting the manuscript.

Dr Aseem Mehra was involved in data interpretation and proof-reading manuscript.

Professor D. Sandeep Grover was involved in conceptualization the study, designing methodology, data interpretation, intellectual inputs, supervising and modification of the draft.

References

Ahmed, M.Z., Ahmed, O., Aibao, Z., Hanbin, S., Siyu, L., Ahmad, A., 2020. Epidemic of COVID-19 in China and associated psychological problems. Asian J. Psychiatry 51, 102092. https://doi.org/10.1016/j.ajp.2020.102092.

Cohen, S., Kamarck, T., Mermelstein, R., 1983. A global measure of perceived stress. J. Health Soc. Behav. 24, 385–396.

Geldsetzer, P., 2020. Use of rapid online surveys to assess people's perceptions during infectious disease outbreaks: a cross-sectional survey on COVID-19. J. Med. Internet Res. 22https://doi.org/10.2196/18790. e18790.

Grover, S., Sahoo, S., Mehra, A., Avasthi, A., Subramanyan, A., 2020. Psychological impact of COVID-19 lockdown: an online survey from India. Indian J. Psychiatry.

Jha, A.K., Ojha, S.P., Dahal, S., Sharma, P., Pant, S.B., Labh, S., Marahatta, K., Shakya, S., Adhikari, R.P., Joshi, D., Luitel, N.P., Dhimal, M., 2019. Prevalence of mental disorders in Nepal: findings from the pilot study. J. Nepal Health Res. Counc. 17, 141–147. https://doi.org/10.33314/jnhrc.v0i0.1960.

Kang, L., Li, Y., Hu, S., Chen, M., Yang, C., Yang, B.X., Wang, Y., Hu, J., Lai, J., Ma, X., Chen, J., Guan, L., Wang, G., Ma, H., Liu, Z., 2020. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. Lancet Psychiatry 7, e14. https://doi.org/10.1016/S2215-0366(20)30047-X.

Kroenke, K., Spitzer, R.L., Williams, J.B.W., 2001. The PHQ-9. J. Gen. Intern. Med. 16, 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x.

Levis, B., Benedetti, A., Thombs, B.D., 2019. Accuracy of Patient Health Questionnaire-9 (PHQ-9) for screening to detect major depression: individual participant data meta-analysis. BMJ 365. https://doi.org/10.1136/bmj.l1476.

Li, Z., Ge, J., Yang, M., Feng, J., Qiao, M., Jiang, R., Bi, J., Zhan, G., Xu, X., Wang, L., Zhou, Q., Zhou, C., Pan, Y., Liu, S., Zhan, G.H., Yang, J., Zhu, B., Hu, Y., Hashimoto, K., Jia, Y., Wang, H., Wang, R., Liu, C., Yang, C., 2020. Vicarious traumatization in the general public, members, and non-members of medical teams aiding in COVID-19 control. Brain Behav. Immun. https://doi.org/10.1016/j.bbi.2020.03.007. S0889159120303093.

Risal, A., Manandhar, K., Linde, M., Steiner, T.J., Holen, A., 2016. Anxiety and depression in Nepal: prevalence, comorbidity and associations. BMC Psychiatry 16, 102. https://doi.org/10.1186/s12888-016-0810-0.

Roy, D., Tripathy, S., Kar, S.K., Sharma, N., Verma, S.K., Kaushal, V., 2020. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. Asian J. Psychiatry 51https://doi.org/10.1016/j.ajp.2020.102083. 102083.

Spitzer, R.L., Kroenke, K., Williams, J.B.W., Löwe, B., 2006. A brief measure for assessing generalized anxiety disorder: the GAD-7. Arch. Intern. Med. 166, 1092–1097. https://doi.org/10.1001/archinte.166.10.1092.

Tan, B.Y.Q., Chew, N.W.S., Lee, G.K.H., Jing, M., Goh, Y., Yeo, L.L.L., Zhang, K., Chin, H.-K., Ahmad, A., Khan, F.A., Shanmugam, G.N., Chan, B.P.L., Sunny, S., Chandra, B., Ong, J.J.Y., Paliwal, P.R., Wong, L.Y.H., Sagayanathan, R., Chen, J.T., Ying Ng, A.Y., Teoh, H.L., Ho, C.S., Ho, R.C., Sharma, V.K., 2020. Psychological impact of the COVID-19 pandemic on health care workers in Singapore. Ann. Intern. Med. https://doi.org/10.7326/M20-1083.

Tandon, R., 2020. The COVID-19 pandemic, personal reflections on editorial responsibility. Asian J. Psychiatr. 50, 102100. https://doi.org/10.1016/j.ajp.2020.102100.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C.S., Ho, R.C., 2020. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. Int. J. Environ. Res. Public Health 17. https://doi.org/10.3390/ijerph17051729.

Xiang, Y.-T., Yang, Y., Li, W., Zhang, L., Zhang, Q., Cheung, T., Ng, C.H., 2020. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. Lancet Psychiatry 7, 228–229. https://doi.org/10.1016/S2215-0366(20)30046-8.

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