

# ONLINE SURVEY ABOUT DEPRESSION AND E- PSYCHOTHERAPY IN KOSOVO DURING THE COVID-19 OUTBREAK

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## ABSTRACT

The COVID-19 outbreak hit also Kosovo. Experts around the globe call for research and action in mental health field. Kosovo as one LMI country in Europe adapted its responses to those recommended in other countries affected by pandemics. The aim of this study was to understand the level of depression as a result of the COVID-19 situation, possible associations with sociodemographic variables and expectations regarding the e-psychotherapy. It's a cross-sectional study. The participants were 198 respondents recruited online in the period 20.03.20 until 23.04.20, who completed the Albanian version of PHQ-9. Mean score of depression resulted 9.46 (DS = 7.51). 65.2% of participants agreed that the situation has worsened their psychological state; 42.4% had a mild to severe form of depression and 25.3% had minimal symptoms. 18.7% of participants saw iCBT as helpful, 19.7% a little while 58.1% wanted to try it. Significantly higher depression resulted for females and participants with depression diagnosis before. The higher levels of depression correlated significantly with higher expectations of iCBT. Gender, age, education, marital status, previously diagnosed with depression, previously treated with depression and perception of worsened psychological state showed predictive abilities for depression. The situation with Covid-19 has increased depression levels and thus expectations for e-psychotherapy. There is a need to give more space to online treatments. Further studies are needed to better scientifically elaborate these findings.

**Keywords:** COVID-19, depression, PHQ-9, e-psychotherapy, Kosovo

## INTRODUCTION

The Coronavirus Disease 2019 (COVID-19) has impacted global health and challenged health systems worldwide in an unprecedented way. Data on the psychological impact of COVID-19 on the general population emerged from many parts of the world. Increased anxiety and poor wellbeing due to COVID-19

have been reported widely globally in USA [1], Asia [2] and Europe [3]. Similarly, worsened depression rates have been reported in UK [4], Greece [5], Italy [6], Spain [7] and China [8]. An actual systematic review of the literature [3] stated that global studies of the general population reveal worsening of psychological wellbeing and higher scores for anxiety and depression compared to the period previous to COVID-19.

Unfortunately, most countries including those with higher GDP were found unprepared in their response to the pandemic and the initial strategies did not include addressing mental health aspects [9]. Subsequently, government and health organization strategies included in recommendations provisions and promotion of digital interventions [9].

The first case with COVID-19 in Kosovo was identified on 13 March 2020 and three days later a Public Health Emergency was announced with strict lockdown restrictions put in place. At the end of survey (23.04.2020) there were 669 identified cases and 19 deaths. As of 21.04.2020, 12 doctors and 16 nurses in the workplace have also been infected.

Kosovo, like many other post-war societies, experienced many challenges, including economic stagnation, widespread poverty, high unemployment, the movement of population from rural to urban areas, and poor quality of life [10]. Mental health services in Kosovo were providing limited psychological interventions during the COVID-19 outbreak. While community mental health centers were focusing in supporting patients with severe mental health problems in the community, face to face support for milder cases was restricted. However, four Community Mental Health Centres in the towns of Prizren, Prishtina, Mitrovica and Gjilan offered online therapy for depression (iCBT) as part of an ongoing research project called Implementall, which is funded by European Commission, Horizon 2020 framework.

Studies conducted in Kosovo that provide data on depression levels are scarce. In a study which assessed a sample of 249 respondents (17-70 years old,  $M_{age} = 36, 6$ ) from the general population of the Drenica region using Beck Depression Inventory and found depression at the clinical level in 10, 7% [11]. There is a dearth of evidence regarding prevalence rates for common mental health problems in Kosovo. The few studies that have been conducted so far are small, non-representative, have methodologic limitations and none of the assessments used have been validated for the population.

The aim of this study is to present rates of depression during the COVID-19 pandemic in Kosovo and explore possible associations with sociodemographic variables. Secondary objectives were (a) to test the feasibility of conducting online mental health research in Kosovo, (b) to evaluate opinions about the impact of the pandemic in mental health and (c) to investigate perceptions about internet supported mental health interventions (e-psychotherapy).

## MATERIALS AND METHODS

A cross-sectional design was utilized and a snowball recruitment strategy was applied. Participants were recruited through a web-based survey disseminated through several online channels including Facebook, the webpage of Prizren Center for Mental Health, the Albanian IFightDepression page and the announcements on some online portals (Indeksonline.net; 040online.info; Komuna e Prizrenit). Participants gave online consent to assure that their participation was voluntary, confidential and unidentifiable. The questionnaire was delivered and collected through Google Forms. The data were processed during a 35-day period (20.03-23.04.2020). Socio-demographic information was obtained regarding age, gender, place of residence, marital status, employment status, socioeconomic status, level of education, previous diagnosis and treatment of any mental illness or depression, and expectations regarding e-psychotherapy. Participants also completed the Albanian version of the Patient Health Questionnaire (PHQ-9) [12] translated and back-translated by the authors of this paper. The PHQ-9 scale is a self-reporting tool designed to measure nine depressive symptoms that occurred in the past 2 weeks, based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition—DSM-IV diagnostic criteria. The responses were summed to total score ranging from 0 to 27. PHQ-9 seems to be a useful tool to recognize not only major depression but also subthreshold depressive disorder in the general population (Martin et al, 2006). Psychometric properties for the PHQ-9 have been shown to be good, with internal consistency in the Cronbach's range  $\alpha = .86 - .89$  and a test-retest reliability of  $r = .84$  (22). Based on previous known guidance, depressive symptoms were classified by severity, into minimal (scores of 0-4), mild (5-9), moderate (10-14), and severe (15-27). To evaluate opinions about the impact of the pandemic in mental health, the question formulated by the authors was used (Do you think that this coronavirus pandemic situation has worsened your mental state?) Which allowed the possibility of the answer (Yes) or (No) to the deterioration of psychological state. To investigate perceptions about internet supported mental health interventions (e-psychotherapy) the question formulated by the authors was used (What are your expectations for help from psychotherapy through the internet?).

Approval for this research was obtained from the Ethical-Professional Committee of the University Clinical Hospital Service of Kosovo, no. 836, dated 05.05.2020. Data processing was performed with SPSS 21.0 and Microsoft Excel 2007.

## RESULTS

We recruited 198 participants (149 females or 75.3%, 47 males or 23.7% and two missing information or 1%), who were between 18 and 64 years old with average age of 27.04 years ( $SD = 10.81$ ). Mean overall depression score was 9.46 ( $SD = 7.51$ ), 10.30 for women and 6.87 for men. Prevalence of depression (PHQ-9  $\geq 10$ ) was reported by 42.4% of the participants and 25.3% had minimal

depressive symptoms. Most of participants (80.8%) had not been previously diagnosed with any mental health problems, 19.2% had been previously diagnosed with depression and 14.5% had received treatment for depression

Mann-Whitney test revealed significant gender differences of depression scores ( $Md_{females}=9$ ,  $N=149$ ;  $Md_{males}=6$ ,  $N=47$ ;  $Z=-2.570$ ,  $p<.01$ ). Significant gender differences were found for both somatic ( $Md_{females}=5$ ,  $N=148$ ;  $Md_{males}=3$ ,  $N=46$ ;  $Z=-2.378$ ,  $p<.01$ ) and cognitive/affective ( $Md_{females}=4$ ,  $N=148$ ;  $Md_{males}=3$ ,  $N=47$ ;  $Z=-2.399$ ,  $p<.01$ ) subscales.

We found no difference in depression levels between those who were previously treated for mental health problems and those who were not. Individuals who were diagnosed with depression but had not received treatment had higher depression levels than those who had not been diagnosed with depression ( $Md_{dgyes}=29$ ,  $N=36$ ;  $Md_{dgn0}=23.5$ ,  $N=154$ ;  $Z=-2.131$ ,  $p<.03$ ).

Kruskal-Wallis analysis revealed significant differences by levels of education,  $X^2(4, n=194) = 10.799$ ,  $p<.02$ ; whereas respondents with masters ( $Md=33.5$ ) had the highest depression scores as compared to elementary levels ( $Md=33$ ) bachelors ( $Md=26$ ) and secondary high levels ( $Md=18$ ).

Sixty-five percent of the participants agreed that COVID-19 situation had impaired their mental health. Participants who thought that the COVID-19 had worsened their mental health had significantly higher levels of depression than those who reported the opposite ( $Md_{yes}=25$ ,  $N=124$ ;  $Mdn_0=23.5$ ,  $N=64$ ;  $Z=-3.760$ ,  $p<.00$ ).

A limited proportion of participants thought that e-psychotherapy can be helpful ranging from 18.7% who thought it certainly can be helpful to 19.7% who reported that it may be a little helpful. However, 58.1% of the participants stated that they would want to try e-psychotherapy, should they need therapy. Significant differences by expectations regarding e-psychotherapy were noted,  $X^2(3, n=194) = 14.227$ ,  $p<.02$ ; whereas group respondents who answered e-psychotherapy will me help little ( $Md=10$ ) had the higher depression scores compared to the group who would like to try it ( $Md=8$ ), those who thought that it would help very much ( $Md=7$ ) and those who believed it would absolutely not help ( $Md=0$ ). The Mann-Whitney test showed that significant differences of depression scores were only between group who did not believe e-psychotherapy would help at all and each of three others groups. There has also been a positive significant correlation between expectations regarding e-psychotherapy and levels of depression ( $r=.158$ ;  $p<.026$ ). Cross-tabs showed no significant association between levels of expectations regarding e-psychotherapy and gender, age-group, level of education, marital status, employment status and socio-economic status.

Kruskal-Wallis analysis revealed no significant differences by marital status, employment status, socio-economic status and age-group.

A multiple standard regression analysis was run to predict depression from gender, age, education, marital status, employment, socio-economic status, previous treatment for mental health problems, previously diagnosed with depression, previously treated for depression, perception of worsened psychological state from COVID-19 situation and expectations for help from e-psychotherapy. All the independent (or predictor) variables are entered into the equation simultaneously. The model as whole reaches significance,  $F(11, 183) = 4.569$ ,  $p < .000$ ,  $R^2 = .226$ ; and the total variance explained by the model as a whole was 22.6%. Aside from employment, socio-economic status, previous treatment for mental health problems and expectations for help from e-psychotherapy; all other variables added statistical significance to the prediction,  $p < .05$  (Table 1).

**Table 1.** Multiple Regression Analysis Summary for variables and Depression (PHQ-9)

Variable	B	SEB	Beta	Sig.
Age	.187	.075	.269	.014*
Gender	3.386	1.281	.193	.009*
Education	-2.209	.748	-.228	.004*
Marital status	-3.218	1.165	-.263	.006*
Socio-economic status	-1.500	.967	-.113	.122
Employment	-.533	.713	-.063	.456
Previous treatment for mental health problems others than depression	1.999	1.967	.075	.311
Previously diagnosed with depression	4.620	1.974	.243	.020*
Previously treated with depression	-4.909	2.295	-.233	.034*
Perception of worsened psychological state from COVID-19 situation	3.879	1.094	.245	.001*
Expectations for help from e-psychotherapy	.436	.629	.048	.489
Constant	5.759	3.970		.149

<sup>a</sup>Dependent variable=PHQ-9 sum score

## DISCUSSION

This study recruited online 198 participants, from the general population in Kosovo, within thirty-five days. The participants gave online informed consent and completed questionnaires as well as demographic data. The questionnaires were fully completed, and we had no missing data, 1/3 of participants (N=67) did not provide their email, although they had internet access. This is one of the first studies in Kosovo that has been conducted online and it indicates that this method is feasible and acceptable by the general population. Caution should be taken when email addresses are required, such as in cohort studies, as this approach may largely limit the number of potential participants.

A considerable majority of participants in Kosovo (65%) believe that COVID-19 situation has impaired their psychological health. This result is significantly higher than reports in USA - 36% [1] and China - 35% [2]. With 42.4% of the participants reporting depression symptoms the level of depression in this sample is more than triple of the reported average lifetime and 12-month prevalence estimates of major depression in low and middle-income countries 11.1% and 5.9% respectively [13].

Our findings are also nearly double higher than the results of similar global studies that have used PHQ-9 and were conducted during the pandemic, such as the study in Albanian students (25.2% - 25.6%) [14] and a study in the UK (22.12%) [4].

Our findings are higher than a online survey with 217 students in China [2] found that 35.5% of participants were in a state of depression; but it is comparable as in study [8] which reports prevalence at 48.3%.

The finding that women are significantly more affected by depression than men is in line with established evidence about gender differences in depression. Participants who were previously diagnosed with depression (but not received treatment) had higher levels of depression than those who had no history of depression. This supports the hypothesis that the situation caused by COVID-19 may be exacerbating the condition of people with pre-existing disorders. It is interesting to note that both extreme levels of schooling indicate higher levels of depression. In this sample depression is predicted from gender, age, education, marital status, previous depression diagnosis, previous depression treatment and perception of worsened mental health due to COVID-19. No significant differences in the levels of depression relating to marital status, employment and socio-economic status were found. This result can be explained in part by the fact that we may be facing reactive type depression due to the challenging life circumstances.

Considering the growing importance of e-psychotherapy during lockdown and social distancing we tested participants' acceptance of this approach; in this study we have found that 38.4% thought e-psychotherapy can be somehow helpful and 58.1% were willing to try it. This is considered particularly positive given that depression causes feelings of hopelessness and negatively impacts help-seeking behavior. It is also in line with the suggestions a shift towards online prevention, treatment, and care for depression is warranted [15].

### **Limitations**

We should mention here some limitations of this study. Firstly, the cross-sectional design does not allow for any assumptions to be made regarding the causal relationship of the variables. Conducting an online study may also result in bias regarding respondents who are affected by the digital divide and it excludes

those who do not have access, skills or finances to utilize technology. Our sample is very young and older people above 64 years of age are not represented. As such our findings may not be representative of the wider Kosovar society. Another shortcoming may be the source of recruitment was the webpage of the main author who is a psychiatrist and may be followed by individuals who may have concerns about their mental health, as such our sample may be disproportionately affected by depression compared to the general population. We have measured the prevalence of depression only a month after the pandemic outbreak, and this could be a limitation due to being too early into the pandemic. Furthermore, this study used self-reported questionnaires to measure psychiatric symptoms and clinical diagnosis were made.

## CONCLUSION

In Kosovo the emergence of new mental health problems and the worsening of psychiatric disorders such as depression are becoming more evident, and larger and longitudinal studies are required to establish further evidence. High prevalence of depression in this sample is concerning, especially because the mental health services provided reduced support during the pandemic. Kosovo is a middle-income country, with underfunded mental health services and where the treatment gap for mental health problems before the pandemic was estimated to be around 80%. There are real concerns that this gap substantially increased during COVID-19 response due to reduced service provisions and increased need for treatment. As such, mental health should be included in government's health response strategies and further funding should be dedicated to mental health services. There is a clear need for introducing innovative services including digital interventions, alongside traditional approaches, and this study demonstrates that these solutions are acceptable and valued by the target population.

This study indicates that online mental health research in general population in Kosovo is feasible, but caution needs to be taken when email addresses are required as a limited number of individuals utilize them. The use of social media seems to be considerably higher than email usage, therefore we would recommend considering these limitations in future online research or digital interventions.

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