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ASSESSING THE IMPACT OF COVID-19 AND LOCKDOWN ON FINANCIAL WELL-BEING AND MENTAL HEALTH

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ABSTRACT

Objective: To identify the relationship between financial well-being, demographic variables and mental health problems (depression, anxiety, and stress) and its severity level in psychiatric out and in-patients as a result of COVID-19 and lockdown.

Methodology: A cross-sectional study was conducted at Department of Psychiatry, Lady Reading Hospital, Peshawar, Pakistan, from 2020 to 21 to find the association between financial well-being and mental health including (depression, anxiety, and stress) during COVID-19 ipandemic and the lockdown policies introduced in March 2020. A convenient sampling technique was used. Depression, Anxiety, and Stress Scale (DASS-21) and financial well-being scale was used for data collection.

Results: A total of 261 study cases included in this study, with mean age of 27.86+8.94. Financial status of 63.6% patients were low. The prevalence of mental health issues, with 230 (88.12%) reporting depression, 225 (86.21%) anxiety, and 196 (75.10%) stress. A significant difference was found between lower financial status with depression (OR = 4.0, $p < 0.001$) and stress (OR = 8.0, $p < 0.001$), whereas there was no statistically significant association was found between anxiety and lower financial status (OR = 2.0, $p = 0.068$). There was a positive association observed between gender and anxiety ($p = 0.028$).

Conclusion: Findings highlight the significant effects that COVID-19 and the ensuing lockdown measures had on people's mental and financial health. People with lower financial status had four times higher likelihood of experiencing depression, anxiety two times higher and stress eight times higher in individuals and gender differences were observed in anxiety and stress. Results underscore the interdependence of these two domains and the necessity of focused efforts to deal with the challenges the pandemic has brought forth.

Keywords: Financial Well-being; Mental Health; Depression; Anxiety; Stress; COVID-19

INTRODUCTION

The new corona (virus severe acute respiratory syndrome coronavirus 2 - SARS-CoV-2), which is the cause of Covid-19, first appeared in late 2019 and has since spread throughout the world.¹ On 18 March, 2021, the infection rate increased at 8%. There have been over 600,000 cases to date, and this number is predicted to rise as a result of the increasing infection rate and the emergence of new viral variants.² To prevent, control, and mitigate the spread of the virus, develop Standard operating procedures (SOPs) including maintaining social distancing and lockdown.³ That decline in daily business and leads to many business closures and job losses. In the first two months, developed countries like the USA have registered 35 million job losses. Due to job loss, it was expected that half a billion people might slip below the poverty line. Both employers and employees have started worrying about their businesses and jobs, with the gradual increase in

cases and closure of businesses. Five hundred million individuals were expected to become impoverished. Because of the rising infection rate and business closures, employers and employees are beginning to worry about their jobs and businesses closure. Because of lockdowns during COVID-19 evidence shows that people of Pakistan experienced an unprecedented shock.² According to the Pakistan Dialogue report that, between the pre-lockdown and first lockdown wave periods 34.1% unemployment rate increased and 42% mean income fell by over 42%. In urban areas, 42% & 38% in the rural areas unemployment rate increased.⁴

Data consistently indicate a relationship between financial well-being and mental health situations.⁵ In general, financial well-being refers to a person's ability to manage the current situation and also ongoing financial obligations. It is how people feel secure about their financial matters at present or in the future, as the financial ability to make selections for them to enjoy life.⁶

Up to 10% of Pakistanis suffer from mental illnesses, which affect about 20 million people in the country.⁷ People who are poor, homeless, or unemployed have a higher risk of having mental problems.⁸ Due to the increase in the unemployment rate, socioeconomic status significantly influences the prevalence of depressive symptoms during the COVID-19 crisis.⁹ Competing time demands and financial concerns were generated by social isolation,¹⁰ job losses, working from home, and home-schooling, which also led to decreased productivity as evidence on previous pandemics suggests, during which individuals experienced increased depression, anxiety, and social distancing.¹¹

Socioeconomic status was conversely associated with mental health,¹² emotional and psychological stress,^{10,13} depression,⁹ anxiety, and sleep-related problems in adolescents and adults increased due to financial loss during COVID-19.¹³ A risk factor for major depression has been linked to financial hardship.¹⁴ Statistically significant variations have been identified in the relationship between financial threat, economic hardship, depression, and anxiety.¹⁵ Economic crises are associated with increased depressive symptoms. Financial crises tend to have a corrosive impact on mental well-being.⁵

In this study, we aim to analyze the link between financial well-being and depression, anxiety, and stress as a consequence of the COVID-19 pandemic and the lockdown policies introduced in March 2020. Because there has been no previous research in this field studying financial concerns in association with mental illness during COVID-19 pandemic in Pakistan, the current findings have been used as a base for future studies in this area in Khyber Pakhtunkhwa. Also find the diversity of these relationships across gender, marital status, family system, number of earning and dependent members, and economic status among patients. This study also proves to be an impetus to

conduct further researches in this regard and will be helpful for future policy making of lockdown for any pandemic keeping in view at its impact on financial and mental health well-being.

METHODOLOGY

In this study cross sectional design was used. Purposive sampling technique was used. Total of (n=261) patients were taken consecutively. The sample size was calculated by WHO sample size calculator software using 10% prevalence for mental illness.⁷ Data were collected during COVID-19 pandemic (2020-21). Sample were taken from out-patient and in-inpatient Department of Psychiatry, Lady Reading Hospital, Peshawar, Pakistan. To identify relationship between financial well-being and depression, anxiety, and stress in psychiatric patients & their relationship with other demographic variables. First, permission was granted by the Lady Reading Hospital's Ethical Review Board and Psychiatry Department Chairman for the screening and referral patients for study participation. Informed consent was taken from study participants. First of all demographic information (including age, gender, marital status, siblings, birth order, education, occupation, number of dependent members, and earning member) was taken from psychiatric patients. Depression, Anxiety, and Stress Scale (DASS-21) was used.

The DASS-21 scale's Cronbach's alpha was 0.74. It has 21 items that consist of 3 self-reported sub-scales that assess emotional states of depression, stress, and anxiety. Each subscale has seven items and is based on a "Did not apply to me at all" was presented as 0 on Likert scale 0-3, and 3 represents "Applied to me very much at most of the time." Presented as 3 Total scores are calculated as the sum of the relevant items from the stress, anxiety, and depression subscales. The cutoff score for depression, anxiety, and stress is 9, 7, and

14 respectively.¹⁶ Level of financial well-being was measured by Consumer Financial Protection Bureau CFPB Financial Well-Being Scale. The scale has 10 questions. This scale can be used to find changes in an individual's financial well-being over time. The scoring process was divided into two steps. First, find the raw total, or total response value. Use scoring worksheets to convert the overall response value to a CFPB Financial Well-Being Scale score in step two. An Item Response Theory (IRT) analysis is the basis for the score on the CFPB Financial Well-Being Scale. Vector Psychometrics uses Item Response Theory methods statistical analysis used to develop the scale and scoring procedures. A standardized value between 0 and 100 indicates the respondent's underlying degree of financial well-being on the CFPB Financial Well-Being Scale. There is no specific cut-off point for what constitutes a "good" or "bad" financial well-being score; rather, a higher number denotes a higher level of measurable financial well-being⁶ Individual (age range 18-50 years) directly affected by covid-19 and subjected to lockdown measures, with varied socioeconomic backgrounds and employment statuses and presence of both pre-existing mental health conditions and those without included in the study. Patients diagnosed with psychotic disorders, learning disability, substance abuse and neurological factors were ruled out (that are stroke, head injury, epilepsy, or dementia were excluded. Those with unrelated severe health conditions influencing financial well-being or mental health. Lack of consent or unwillingness to participate in the study and inability to communicate effectively due to language barriers or cognitive impairment excluded. Data were analyzed by using Statistical Package for social science (SPSS) version 22. For analysis of basic demographic variables, descriptive statistics was used for analysis of frequencies and percentages. Using univariate analysis, P-values less than 0.05 were considered significant.

RESULTS

A total of 261 study cases includes in this study, 137 (52.5%) were male and 124 (47.5%) female patients. Among study cases, 123 (47.1%) were below 25 years of age with mean age 27.86 ± 8.94 , and 62.5% were unmarried. Among study cases, 57.1% were living in a joint family system and 49.8% of participants were the only earning member of their family and number of dependent members were found (11 to 20 persons) 34.5%. Financial status of 63.6% patients were low (Table1).

The prevalence of mental health issues among the participants was notable, with 230 (88.12%) reporting depression, 225 (86.21%) experiencing anxiety, and 196 (75.10%) reporting stress. Mild depression, anxiety, and stress were found in 41.8%, 40.2%, and 38.3% of patients respectively. Moderate to severe depression (28.7% to 17.6%), anxiety (32.2% to 13.8%), and stress were reported in 28% to 8.8% of patients (Table 2).

Gender differences were found in anxiety (OR = 0.436, $p=.028$) (Table 4) and stress (OR = 1.800, $p=.041$), most of the male patients reported anxiety and stress as compared to female patients (Table 5).

On the other hand, a significant positive association (p -value = 0.028) was observed between gender and the occurrence of anxiety (Table 4). Univariate analysis indicated that individuals with lower financial status were significantly more likely to experience depression (OR = 4.0, $p < 0.001$). People with lower financial status had a four times higher likelihood of experiencing depression.

While anxiety was not statistically significant for lower financial status (OR = 2.0, $p = 0.068$), the likelihood of anxiety was found to be two times higher in individuals with a lower financial status.

Table 1: Baseline characteristics of study cases

Characteristics		Frequency	Percentage
Gender	Male	137	52.5
	Female	124	47.5
Age Group	<25	123	47.1
	26 – 35	94	36.0
	36 – 45	29	11.1
	46 – 55	14	5.4
	>55	1	0.4
Marital Status	Single	163	62.5
	Married	98	37.5
Education Status	Educated	184	70.5
	Non-Educated	77	29.5
Occupation	Jobless	81	31.0
	Government Job	12	4.6
	Private Job	8	3.1
	Business	24	9.2
	Student	104	39.8
	House wife	32	12.3
Sibling	≤ 3	44	16.9
	4 – 6	142	54.4
	≥ 7	75	28.7
Birth Order	First	32	12.3
	Middle	205	78.5
	Last	24	9.2
Family System	Joint family	149	57.1
	Nuclear family	112	42.9
No of Dependent members	<10	146	55.9
	11-20	90	34.5
	21-30	23	8.8
	>31	2	0.8
Source of Income	Self	48	18.4
	Other family members	213	81.6
Number of earning members	1	130	49.8
	2	102	39.1
	3	25	9.6
	4	4	1.5
Financial wellbeing status	Low	166	63.6
	High	95	36.4

Univariate analysis indicated that individuals with lower financial status were significantly more likely to experience stress (OR = 8.0, $p < 0.001$). Stress was found eight times higher in individuals with a lower fi-

nancial status and found a positive significant association during COVID-19 pandemic and lockdown (Table 6).

Table 2. Severity of mental illness (depression, anxiety and stress) among study cases

Characteristics		Frequency	Percentage
Depression	Yes	231	88.5
	No	30	11.5
Severity of Depression	Normal	30	11.5
	Mild	109	41.8
	Moderate	76	29.1
	Severe	46	17.6
Anxiety	Yes	225	86.2
	No	36	13.8
Severity of Anxiety	Normal	36	13.8
	Mild	105	40.2
	Moderate	84	32.2
	Severe	36	13.8
Stress	Yes	196	75.1
	No	65	24.9
Severity of Stress	Normal	65	24.9
	Mild	100	38.3
	Moderate	73	28.0
	Severe	23	8.8

Table 3: Using univariate analysis on depression against different characteristics of study cases

Characteristics		Depression		95% confidence interval	Odd ratio	P-value
		Present	Not Present			
Gender	Male	121	16	0.449 - 2.063	0.963	0.992
	Female	110	14			
Age (years)	≤ 25 years	114	13	0.592 - 2.743	1.274	0.566
	≥ 25 years	117	17			
Education Status	Educated	164	20	0.544 - 2.753	1.224	0.625
	Non-educated	67	10			
Marital Status	Single	147	16	0.712 - 3.293	1.531	0.273
	Married	84	14			
Family System	Joint	128	21	0.234-1.213	0.533	0.129
	Nuclear	103	9			

Table 4: Using univariate analysis on Anxiety against different characteristics of study cases

Characteristics		Anxiety		95% confidence interval	Odd ratio	P-value
		Present	Not Present			
Gender	Male	112	25	0.205-0.929	0.436	0.028
	Female	113	11			
Age (years)	≤ 25 years	112	15	0.681-2.829	1.388	0.366
	≥ 25 years	113	21			

DISCUSSION

According to the findings of this study during COVID-19 and lockdown, 63.6% of study participants reported low financial well-being a decrease in their household income. As found in another study conducted by Tran et al in (2020) which showed this rate as 66.9%.¹⁷ Finding of the present study on the other hand is higher than the findings of study conducted in India (45.6%)¹⁸ and is lower than the findings of a study conducted in Bangladesh which show high level of impact on household income i.e. 96.3% of the study cases.¹⁹ The disparity could be attributable to differences in family, economic and social structures of the people of different countries. According to this study, a decline in household income was linked to the level of education, as in this area working from home/online is lower as compared with other part of the world, having jobs lost as most private companies or organization don't support their workers during this time as they also face problems during this time. Depression, anxiety, and stress found more in educated people as compared to not formerly educated people. As a result of the current pandemic many people and families have experienced economic loss. And due to that reasons most of the people suffered from depression, anxiety, and stress as reported in this study with mild to severe symptoms.

According to the findings of this study Gender differences were found in patients, anxiety was reported in more female patients as compared to male as also suggested in a study conducted on Gender and Age-Related Differences in Depression, Anxiety and Stress during the COVID-19 Pandemic²⁰ and stress was found in most of the male patients as compared to female patients these differences was found in a study conducted by Yan. et al (2021)²¹ and Men were less likely than women to have significant level of anxiety.²² Depression, anxiety, and stress found more individual living in joint family as

Education Status	Educated	157	27	0.344-1.724	0.770	0.524
	Non-educat-ed	68	9			
Marital Status	Single	136	27	0.229-1.134	0.509	0.094
	Married	89	9			
Family System	Joint	130	19	0.604-2.480	1.224	0.574
	Nuclear	95	17			

Table 5: Using univariate analysis on stress against different characteristics of study cases

Characteristics		Stress		95% confidence interval	Odd ratio	P-value
		Present	Not Present			
Gender	Male	110	27	1.020-3.178	1.800	0.041
	Female	86	38			
Age (years)	≤ 25 years	92	35	0.432-1.331	0.758	0.334
	≥ 25 years	104	30			
Education Status	Educated	121	42	0.493-1.585	0.883	0.678
	Non-educat-ed	75	23			
Marital Status	Single	121	42	0.493-1.585	0.883	0.678
	Married	75	23			
Family System	Joint	111	38	0.525-1.638	0.928	0.796
	Nuclear	85	27			

Table 6: Using univariate analysis on Depression, Anxiety, and stress and Financial well-being

		Financial wellbeing		95% confidence interval	Odd ratio	P-value
		Low	High			
Depression	Yes	156	75	1.855-9.328	4.160	0.000
	No	10	20			
Anxiety	Yes	148	77	0.946-3.906	1.922	0.068
	No	18	18			
Stress	Yes	148	48	4.274-15.167	8.051	0.000
	No	18	47			

compared to nuclear family as also reported in a study conducted during COVID-19 pandemic.^{23,24} On the other hand, previous research has connected depression to living in nuclear families. As one of the reasons supporting our finding is that in which families number of earning member is one and dependent members were more than 10 mostly in joint families due to financial crises during COVID pandemic and lockdown their mental health were mostly effected. As found

in this study that level of stress and anxiety was high in those patients who were the only earning members of their families.

Our study's findings indicated that unmarried individuals reported higher levels of depression and anxiety, consistent with similar studies conducted by Xiong et al., Ta VP et al., and Nkire NJ et al.²⁵⁻²⁷ People who are single are clearly more vulnerable to the negative consequences of loneliness

and isolation than married couples, potentially contributing to their consistently elevated levels of stress, anxiety, and depression. Research also suggests a positive correlation between singlehood and perceived stress and anxiety, particularly related to feelings of loneliness, social obligations, and economic circumstances, as observed in our study as well.^{26,27} These findings imply that being in a relationship of any kind reduces the likelihood of experiencing symptoms of anxiety, depression, or stress during the COVID-19 pandemic. This is unsurprising, as having companionship facilitates social interaction, especially given the restrictions on socializing implemented at various points during the pandemic.

The findings of previous studies are consistent with our findings, which revealed that those who had a comparatively low financial well-being had a higher likelihood of being experienced psychiatric issues.²⁸⁻³⁰ A similar study found that older people with lower incomes had a 2.35 times higher likelihood of experiencing depressive symptoms than older people with higher incomes.³¹ The ORs for anxiety and depressed symptoms were again considerably higher among respondents whose financial situation did not support their family.³¹ Findings of the present study suggest that depression and stress were more prevalent among respondents who had lower or no source of income. These results also in line with some other studies which point out the similar findings in other developing nations, as the lockdown measures implemented due to the COVID-19 outbreak have significantly disrupted employment status.^{30,31} The current study investigated the relationship between financial difficulties and mental disorders. The results revealed a strong and significant correlation between symptoms of anxiety and depression and the challenge of coping with financial problems.

It is expected that this finding will help in the development of pertinent policies. Last-

ly, it is important to note that mental health issues have been connected to the upcoming financial crisis, which was a stressor for earners as well. The fact that the impacts of financial loss are long-lasting means that this important finding has implications for managing mental health crises in the future.

CONCLUSIONS

Findings highlight the significant effects that COVID-19 and the ensuing lockdown measures had on people's mental and financial health. People with lower financial status had a four times higher likelihood of experiencing depression, anxiety two times higher and stress eight times higher in individuals with lower financial status, and gender differences were observed in anxiety and stress. The results underscore the interdependence of these two domains and the necessity of focused efforts to deal with the challenges the pandemic has brought forth. To support mental health in both individuals and communities and lessen the pandemic's long-term effects, policymakers, healthcare professionals, and community organizations must work together in the future.

LIMITATION AND SUGGESTIONS

This study has been conducted in a tertiary care hospital so its results cannot be generalized to the community. For the community impact, a larger sample size with an appropriate study design may be considered.

Make use of longitudinal data to monitor changes over time and record short- and long-term effects on mental health and financial well-being.

Compare data from different regions or countries to identify variations in responses to lockdown measures, considering cultural, economic, and healthcare system differences.

Evaluate how well government policies and assistance programs are working to lessen the negative effects on finances and mental health, providing information that may be used to develop future crisis management plans.

Need to develop evidence-based intervention plans based on study findings to enhance mental health and financial well-being outcomes in the post-pandemic period.

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Author's Contribution

FR conceived the idea and designed the study. SM helped in designing the study, performed data analysis and helped in the write up of the manuscript. ZN, MHA and AS helped in the write up of the manuscript. All authors made substantial intellectual contributions to the study.

Conflict of Interest

Authors declared no conflict of interest

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None

Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.