

AMERICAN UNIVERSITY OF BEIRUT

THE IMPACT OF COVID-19 ON MENTAL HEALTH AND QUALITY OF LIFE  
AMONGST LEBANESE ADULTS:  
CROSS-SECTIONAL STUDY

by  
NINETTE ALBERT GEAGEA

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# AMERICAN UNIVERSITY OF BEIRUT

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# ABSTRACT OF THE THESIS OF

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Amongst Lebanese Adults: Cross-Sectional Study

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by SARS-CoV-2. This disease was first identified in Wuhan, Hubei province, China in December 2019 and has rapidly spread to most major cities and towns in the world, resulting in its designation as a global pandemic. Concerns have been raised about the potential negative impact of the pandemic (and its mitigation strategies) on mental health and quality of life in addition to the mounting death toll in numerous nations.

Therefore, this study aims to (1) determine the prevalence of depressive symptoms, anxiety symptoms, and stress among Lebanese adult population amid the COVID-19 pandemic; (2) explore sociodemographic, behavioral, and health-related predictors that might influence mental health outcomes and quality of life (QoL) during COVID-19. This cross-sectional study was conducted online between October and December 2022, using the snowball sampling technique. The final sample included 402 respondents.

Almost half of the study sample had negative impact of covid-19 on QoL (47%). Around two fifths had high anxiety (38%), just over a third had extreme fear of covid-19 (34%) and over a quarter had distress (28%). Based on adjusted multiple regression models, being self-employed (0.056(0.004-0.893) P=0.041), not exposed to violence (0.333(0.156-0.711) P=0.004), getting support from family and friends ((0.390 (0.162-0.941)) P=0.036), and sharing feelings with family and friends (0.244(0.081-0.732) P=0.012, 0.348(0.138-0.879) P=0.025) were associated with lower psychological distress. Likewise, lower anxiety was correlated with being self-employed (0.97(0.20-0.916) P=0.042), or full-time employed (0.084(0.10-0.749) P=0.026), not exposed to violence (0.385(0.187-0.791) P=0.009), having no mental illness (0.210(0.91-0.482)P=0.001), and sharing feelings with family and friends(0.463(0.219-0.980) P=0.044). On the other hand, high school graduates, and people who feared having no access to treatment were more likely to have higher fear of covid 19, but not following covid 19 news and having  $\geq 7$  rooms were linked to lower fear of covid 19. Additionally, higher impact of covid 19 on quality of life was linked to being female, having  $< 5$  rooms, fearing of having no access to treatment, having a worried family member, and having a mental illness. However, sharing feelings with family and friends was shown to decrease the impact of covid 19 on quality of life.

The Lebanese government and policymakers are encouraged to design and provide specific psychological promotion programs for adults with the aim of promoting their mental health and wellbeing. Findings from the present study also highlight the need to

improving access to treatment, social support, and wellness programs to improve resilience to future shocks and to enhance the mental health outcomes of the Lebanese population.

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# CHAPTER 1

## INTRODUCTION

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by SARS- CoV-2. This disease was first identified in Wuhan, Hubei province, China in December 2019 and has rapidly spread to most major cities and towns in the world, resulting in its designation as a global pandemic. Concerns have been raised about the potential negative impact of the pandemic (and its mitigation strategies) on mental health and quality of life in addition to the mounting death toll in numerous nations [1]. Previous large-scale health outbreaks suggest that this type of occasion has a vast impact not only on physical health, but also on mental health and quality of life in general [2]. This concerns the whole population, both healthy and vulnerable groups [3].

In the aim of controlling infectious diseases, confinement and isolation were found quite successful and were implied in the case of the recent COVID-19 pandemic [4].

Nevertheless, the psychological consequences of isolation and quarantine are complex, and they can have serious effects on people's mental health. Not only having to worry about physical symptoms linked to the infection, many individuals fear spreading the sickness to others. Add to that, the latter caused significant irritation and disturbance caused by the loss of accustomed routines and activities. In fact, according to earlier studies, the longer the isolation time, the higher the incidence of poor mental health, post-traumatic stress disorder, and avoidance [5]. Individuals under quarantine periods exceeding 10 days had higher psychological symptoms than those with shorter periods [6].

Previous research revealed that the risk of at least one mental health consequence was enhanced by factors like being female, spending more time online, having a friend or family member who has been diagnosed with a mental illness, and utilizing the internet. Increasing

age, an absence of work-related troubles and being married or being a cohabitant reduced such a probability [7, 8].

Given that many Lebanese worried and feared they wouldn't be able to support and take care of their family, the country's dire financial position served as a risk factor for a variety of psychological problems. Prior to the crisis, a recent cross-sectional study of Lebanese people revealed that almost one-third of them were experiencing mental discomfort [9]. Another study found that Lebanese adults' stress and anxiety levels rose when financial difficulty and pandemic-related worries coexisted [10]. To date, there are no studies that have investigated the impact of COVID-19 pandemic and economic crisis on mental health and quality of life of the general Lebanese population. Thus, the aim of the present study is to explore the impact of the COVID-19 and economic crisis on the mental health and quality of life (QoL) of the Lebanese adult population. In particular, the objectives are to:

1. determine the prevalence of depressive symptoms, anxiety symptoms, and stress among Lebanese adult population amid the COVID-19 pandemic;
2. explore sociodemographic, behavioral, and health-related predictors that might influence mental health outcomes and quality of life (QoL) during COVID-19.

Lockdown measures were adopted by all the countries each agreeing to their own rules and regulations with common grounds between all nations. Aiming to decrease the speed of disease spreading, severe actions were taken which in turn impacted the population as a whole. In fact, a study done in the UK in 2021 revealed that at lockdown, a significant increase in depressive symptoms and a decline in wellbeing was noted in a UK student sample. In comparison to 15% at baseline, more than a third of the sample may be classified as clinically depressed during lockdown [11]. Moreover, according to a cross-sectional

study conducted in Libya, the general population experienced alarmingly high levels of clinically significant anxiety when the country was under lockdown [12].

On February 21st, 2020, the first confirmed case of the new coronavirus 2019 (COVID-19) infection in Lebanon was reported [13]. Between March and June, restrictions were put in place to control the initial outbreak. Based on real-time incidence data, a nationwide lockdown proved successful in limiting the virus and reducing cases. However, the quantity of new illnesses drastically increased after the devastating explosion in Beirut in August. In reality, the COVID-19 outbreak has pioneered many challenges, including the increased fear of infection, extreme changes to people's lifestyle due to the lockdown measures, and a further emphasis on the existing economic problems in the country.

Lebanon is currently facing one of the biggest financial catastrophe and inflation in addition to the already existing political instability, so the pandemic intensified the crisis.

Unemployment has been escalating in the country and many Lebanese are living through unstable conditions due to economic insecurity which threatens their psychological wellbeing. With all of the above-mentioned motives, it is quite interesting to study how both Covid-19 and the ongoing

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1. Coronavirus: Overview

Coronavirus (Cov) is a major pathogen that primarily attacks the human respiratory system [1]. It belongs to a class of genetic diverse viruses found in various birds and mammals. The most common symptoms are fever, cough, muscle aches, and dyspnea. Some unusual symptoms were recorded, such as vomiting and diarrhea [2]. Previous coronavirus (CoV) outbreaks include the severe acute respiratory syndrome (SARS)-CoV and the Middle East respiratory syndrome (MERS)-CoV, both of which have been identified as agents posing a significant public health risk [1]. In Wuhan City, Hubei Province of China, a cluster of pneumonia cases with no known cause first surfaced in December 2019. Some of the initial cases claimed to have visited a wet seafood market where different wildlife species were sold [3]. Consequent virus isolation from human patients and further molecular analysis revealed that the pathogen was a new coronavirus (CoV), first named 2019-nCoV, and later renamed by World Health Organization (WHO) as COVID-19. The latter is now the seventh member of the Coronaviridae identified to infect humans. In the light of the sharp increase of confirmed cases, the WHO acknowledged this outbreak as a public health emergency of international concern (PHEIC) on January 30, 2020 [2]. Many reports exposed that person-to-person transmission is the most probable way for spreading COVID-19 infection. Moreover, the reported cases that occurred among people who did not visit the wet animal market in Wuhan clearly supports the previous [4, 5]. Person-to-person

transmission occurs mostly via direct contact or through sneeze/cough droplets spread by an infected individual [2]. Due to the fast spread of the virus and the increase of the cases worldwide, the WHO issued considerations for the quarantine of people in the context of containment for COVID-19 on the 29th of February 2020. This defined who should be quarantined and the minimum duration for quarantine to avoid the risk of additional transmission.

## **2.2. The Global Impact of COVID-19 Lockdown**

Aiming to slow the spread of the virus as well as to reduce the impact on healthcare organizations, many countries announced unique measures of home confinement necessitating individuals to stay at home and limit outdoor activities to the most compulsory purposes. [14] Two procedures that can stop or lessen the effects of infectious illness outbreaks are quarantine and isolation. Quarantine is the practice of isolating individuals (or populations) who have been exposed to an infectious disease. On the other hand, "isolation" refers to the separation of those who are known to be diseased [15]. Strict confinement and lockdown presented many positive effects along with some negative consequences. For instance, total lockdown measures contributed to the reduction of emissions upon the reduction of fossil fuels consumption. Add to that, a similar reduction in water pollutants and improvement in the overall water quality was recorded. Moreover, machineries and traffic activities were minimized decreasing by that the noise pollution worldwide [16]. Furthermore, the imposed lockdown measures promoted the work of many businesses; for example, Bitcoin market increased drastically, and video games increased by 100 billion game content broadcast hours. Applications like Zoom skyrocketed by 307%, and digital content increased by 134%.

Add to that, online streaming applications gained countless new subscribers [17]. On the other hand, restrictive confinement presented many negative outcomes targeting not only the general population but also each and every individual. According to survey data, in 2020 provisional unemployment was higher in 70 % of all countries for workers who had completed only a primary education.[18] In fact, the Bureau of Labor Statistics (BLS) stated on May 8, 2020, that 20 million Americans lost their jobs in April 2020 as a result of business lockdowns and confinement. Forecasts of a vaccine initially indicated an eventual end to the business lockdowns and social restrictions. However, a resurgence of infectious cases concerning new variants in Europe, Latin America, Russia, the United States, Japan, Brazil, India, and across much of Africa renewed appeals for lockdowns and threatened to delay a probable sustained economic recovery into late 2021 [19]. Besides the drastic economic effects of the lockdown, previous research showed an increased risk for negative psychological outcomes, such as anxiety and depression, through isolation [20]. A review conducted by Brooks et al. described an increase in negative psychological outcomes including post-traumatic stress symptoms, confusion, and anger in quarantined individuals [21]. In fact, according to a cross-sectional study by Orgilés et al. in 2020 comprising the Spanish and Italian youth projected that 85.7% of parents perceived changes in their children's emotional state and performances during quarantine. The most shared symptoms were difficulty concentrating (76.6%), boredom (52%), irritability (39%), restlessness (38.8%), nervousness (38%), feelings of loneliness (31.3%), uneasiness (30.4%), and worries (30.1%). [22] Moreover, another cross-sectional study performed in Austria in 2021 revealed that a moderate positive association exists between the number of restriction measures and loneliness noted by adults, also loneliness levels increased during

'lockdown' as compared to the consequent re-opening phase, predominantly amongst those who live alone [23]. An online study involving 2291 respondents in Italy exposed that 57.1% of participants reported poor sleep quality, 32.1% high anxiety, 41.8% high distress, and 7.6% described PTSD symptoms associated with COVID-19 [24]. According to an MDPI survey conducted across Greek cities upon the country's lockdown period in May 2020, 73.3% of respondents said that confinements and lockdowns drastically impacted them financially. Also, around 9% of participants experienced job losses and 18.6% were suspended from work because of the implications of COVID-19 [25].

### **2.3. Lebanon's Economic Meltdown**

Lebanon is nearly three years into one of the world's greatest economic and financial crises [26]. Hundreds of thousands of people took to the streets in October 2019 in demand of radical political change upon sensing an approaching crisis and becoming exasperated with the political class' complete lack of action. As a result, the cabinet resigned, which gave rise to a political catastrophe for the whole nation.

Certainly, capital inflows abruptly stopped, and a severe liquidity shortage forced banks, which were already bankrupt, to proclaim a "bank vacation" and impose strict withdrawal limitations. The country's currency, the lira, drastically declined because of the emergence of a black market in foreign currencies. Sequentially, the wages and purchasing power dropped as inflation shot up. This economic crisis was further aggravated by both the COVID-19 pandemic and the devastating 2020 Beirut port explosion [27]. According to a report in 2021 by the Middle East Institute, the Gross domestic product (GDP) is estimated to have dropped by 25% in 2020, with an

additional 10-15% forecasted decline for 2021. Having lost their bank savings, the Lebanese population is facing a major form of wealth destruction. At the moment, four out of every ten Lebanese have no job, and half of the population lives below the poverty line [27]. As a matter of fact, phone surveys conducted by the World Food Program in collaboration with the World Bank revealed that 61 percent of households reported challenges in accessing food and other basic needs, up from 41 percent in the same period in 2020. 64 percent adults reported restricting consumption of food in favor of children, and 52 percent described difficulties in accessing healthcare, up from 36 percent during the same period in 2020 [26]. The cost of fole or ful, a popular fava bean in the area, increased by 550% in March 2020 compared to the same month in 2019. While wheat, tea, rice, and cigarettes have all increased by approximately 100% during the same time span, sugar has increased by 670% [28]. In effect, Lebanon has seen a dramatic collapse in basic services. Acute fuel shortages for both the private and public utilities have caused severe electricity blackouts across the country, with the public utility, Électricité du Liban (EDL), supplying as little as 2 hours per day. Additionally, medications have been in significant shortages with the health services being severely impacted.

#### **2.4. COVID-19: The Lebanese Version**

In Lebanon, there have been 1,216,999 confirmed cases of COVID-19 with 10,688 deaths reported to WHO between 3 January 2020 and 17 October 2022. A total of 5,789,338 doses of vaccine have been given as of October 9, 2022 [29]. After the first confirmed case, the government issued a decision to close schools and universities on February 29<sup>th</sup>. On March 6<sup>th</sup>, all restaurants and tourist centers are closed. On March



10<sup>th</sup>, the first death was reported and on the next day, the first case to be fully recovered was reported as well. On March 15<sup>th</sup>, the government imposed a nationwide rigid lockdown enforced by the military and then on the 26<sup>th</sup> of March, the government announced a new curfew between seven in the evening and five in the morning. The arrival of Lebanese expatriates across the airport took place on April 5<sup>th</sup>. Later, On February 13 2021, the first batch of COVID-19 vaccines arrived to Lebanon. In comparison to other nations known to have successfully managed the pandemic, such as Germany and South Korea, the Lebanese government's lockdown procedures, with the exception of the time period surrounding the Beirut blast, were at least somewhat effective [30]. Despite the initial progress, the country witnessed a dramatic jump in cases after the Beirut blast, topping 680 daily cases by the end of August 2020. Every day in September, more than 1,000 cases were confirmed, exceeding the number of beds designated for the care of COVID-19 patients in the majority of institutions. As the year's conclusion drew near, illnesses spiraled out of control until they peaked in January 2021 with more than 6,000 daily cases [30]. The Ministry of Public Health (MOPH) effectively controlled the outbreak despite facing several political, financial, and economic obstacles. Throughout the pandemic, there were free examinations and financial assistance to rural communities lacking resources and to locations far from the cities. The Lebanese Red Cross, NGOs, and large hospitals mobilized and started widespread testing campaigns. In contrast, despite some attempts by the health authorities, management of the COVID-19 pandemic's impact on mental health remained insufficient.[30]

## **2.5. Mental Health Decline: The Case of Lebanon**

A variety of mental health disorders have been brought on by the long-term traumas of conflict and domestic instability experienced by the Lebanese population. Outlining the psychological impact of each recent catastrophe in Lebanon is multifaceted. The findings of a study by Salameh et al. (2020) revealed that financial hardship and pandemic-related fears together further exacerbated stress and anxiety, going above and beyond the effects of each hardship alone [31]. Moreover, according to a study by Grey et al., 2020, sixty percent of people in self-isolation described that their mental health depreciated since lockdown measures were imposed in Lebanon[32]. In fact, early findings from an international survey of children and adults in 21 countries conducted by United Nations International Children's Emergency Fund (UNICEF) and Gallup in 2021 revealed that an average of 1 in 5 young people aged 15–24 surveyed in Lebanon said they often have little interest in doing things or feel depressed [33]. Add to that, according to the NGO Embrace, who manages Lebanon's National Emotional Support and Suicide Hotline, calls to the hotline tripled in 2020 as compared to calls in 2019, in part because of all the detrimental issues in Lebanon as well as pressures triggered by the COVID-19 lockdown [34]. Furthermore, following the COVID-19 pandemic's progression in Lebanon was significantly linked to greater levels of stress, depression, obsessive-compulsive disorder, and anxiety [35]. A study tackling the mental health among the young population in Lebanon in 2021 noted that higher depression scores were associated with family income more than 500 USD ( $P=0.008$ ), status of being the only person working at home ( $P=0.01$ ), and contact with a confirmed COVID-19 case ( $P=0.01$ ) [36]. The findings of this study proved the significant impact of COVID-19 pandemic and lockdown on Lebanese young population's mental health

such as anxiety, depression and insomnia. The quality of life index issued by Numbeo for mid-2022 revealed that Beirut ranked 242nd out of 248 cities around the world for the “worst” quality of life [37]. According to reports from the United Nations, World Bank, UNICEF, and several international financial agencies, the situation has caused nearly 80% of the population to live below the poverty line. Moreover, the fundamentals of a decent life are almost totally absent, including water, electricity, health coverage and many more [37].

# CHAPTER 3

## METHODOLOGY

### 3.1. Type of Study

This is a descriptive, cross-sectional study. It measures all relative variables at a specific time and does not include any control group and aims to describe the situation of a known population at a specific time. A cross-sectional online survey was distributed to all participants using the snowball sampling technique (**social media Flyer in Appendix 1**). The survey link and information were posted on different social media platforms including Facebook Pages and WhatsApp groups, where participants were invited to the research. The invitation included the link to the survey and consent form (**Online Consent Form in Appendix 2 and Survey in Appendix 3**). The completion of the survey was completely voluntary and anonymous; no loss or penalties will take place. Moreover, participants were assured to ask any questions related to the study or request further clarification before agreeing to participate in the study. Furthermore, the study was ethically approved by the Institutional Review Board (IRB) at the AUB.

### 3.2. Inclusion and exclusion criteria

The inclusion criteria are (1) willingness to participate, (2) individuals over 18 years of age with access to the internet, and (3) residing in Lebanon at the time of the survey. The intended sample size is 625 respondents across the nation. The estimated sample size is based on an earlier study by Salameh et al. (2020) [31] where anxiety (mean score =16.09) and stress prevalence (mean score 15.30) were estimated in a representative sample of 500 Lebanese adults [31]. An additional 20% was added to the final sample size to account for potential dropouts and incomplete data.

### **3.3. Questionnaire**

The survey was divided into ten sections. The first section included questions related to their socio demographic characteristics including age; gender; marital status, educational level, occupation, income, nationality, region, living conditions and current household monthly income. The second section was composed of questions related to health-related variables including the presence of family members, friends, or colleagues with COVID-19, previous history of depression or anxiety, history of medication for depressive syndrome, and medical coverage. The third section was related to the behavioral factors including frequency of watching news about COVID-19, internet use, smoking and alcohol consumption. Last two sections included questions related to mental health scales: anxiety, stress and health-related quality of life. The questionnaire requires between 20 and 30 minutes to be completed. Moreover, participants were asked about:

#### ***3.3.1. Social and Family Support***

Participants were also asked to complete a set of five questions in this questionnaire to evaluate support from friends, support from family members, sharing feelings with other family members, sharing feelings with others, and caring for family members' feelings [6, 38]. The response options for these questions were as follows: much decreased, decreased, unchanged/same as before, increased, and much increased.

### **3.3.2. *The fear of COVID-19 scale***

This 7-item tool is used to measure the extent of fear of the COVID-19 in adult people. It is scored on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The total score is calculated by summing the answers to all questions and varies from 1 to 35. Higher scores indicate a greater fear of COVID-19. Participants scoring  $\geq 17.5$  were categorized as having extreme fear of COVID-19; whereas participants scoring below this threshold were categorized as having normal fear of COVID-19 [39]

### **3.3.3. *The Beirut Distress Scale-22 (BDS-22)***

The BDS-22 is a scale validated in Lebanon [40] measure the level of stress in the general Lebanese adult population. It consists of 22 questions exploring six domains: depressive symptoms, demotivation, psychosomatic symptoms, mood deterioration, intellectual inhibition, and anxiety. Responses are rated on a 4-point Likert-type scale from 0 (not at all) to 3 (all of the times), with higher scores indicating higher levels of stress. The global score ranges from 0 to 66 and is created by adding all the answers for respective items of the score. A score of 25 or more is indicative for high risk of psychological distress.

### ***3.3.4. The Lebanese Anxiety Scale-10 (LAS-10)***

The LAS-10 is a 10-item scale validated in Lebanon [41] used to screen for anxiety in the general Lebanese adult population. Questions 1 to 7 are scored on a 5- point Likert scale from 0 (not present) to 4 (very severe), while items 8-10 are graded on a 4-point Likert scale from 1 (never/almost never) to 4 (almost always), with higher scores indicating higher anxiety. People with scores above 13.5 be referred to a health care professional for further assessment [41].

### ***3.3.5. COVID-19 – Impact on Quality of Life (COVID-19-QoL)***

This tool is composed of 6 questions (score 1 → 5 from completely agree to completely disagree). The higher score, the greater impact on quality of life and related domains subjectively perceived by the participants. Scores could be displayed and analyzed for each item separately. It is recommended to generate a score by calculating the total score for each participant: summing the scores on all of the items and dividing that result by the number of items (i.e. 6). Hence, the total score will be the average of all the items. Then, average scores could be compared with the theoretical one for a five-point scale (which equals to 3).[42]

### ***3.3.6. Quality of Life (Choose one scale)***

To assess the HQoL, we included the generic EQ-5D-5L descriptive system [43]. The EQ-5D- 5L has become the most widely used measure of health status and it is the preferred measure of HRQoL for health technology assessment in many countries,

particularly in Europe, although it has also gained widespread use in North America, Asia and Australia. It comprises five dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels: no problems, slight problems, moderate problems, severe problems and extreme problems. The patient is asked to indicate his/her health state by ticking the box next to the most appropriate statement in each of the five dimensions. This decision results in a 1-digit number that expresses the level selected for that dimension. The digits for the five dimensions can be combined into a 5-digit number that describes the patient's health state.

### **3.4 Statistical Analysis**

Data from LimeSurvey was generated and collected on Excel sheets then transferred to IBM SPSS® software version 23.0 for further analysis. After that, computations of the different scores were done to categorize participants based on respective cut offs. For descriptive analysis, frequency and percentage were reported for all categorical variables. Furthermore, chi-square analysis was done between the different socio-demographic, health-related, covid19 related variables with the different dependent mental health outcomes (distress, anxiety, fear of covid 19, impact of covid 19 on quality of life). Significant associations were considered where p-value was  $< 0.05$ . After that, simple logistic regressions (bivariate analysis) were performed between the independent variables (socio-demographic, health-related, covid 19 related) and each dependent (distress, anxiety, fear of covid19, quality of life). Upon checking the significant associations, and to adjust for confounding factors among each group, the significant correlations (with a p-value $<0.05$ ) were put again in the bivariate model and the adjusted odds ratio was reported.



## CHAPTER 4

### RESULTS & DISCUSSION

Our survey received 739 responses, out of which 402 full responses and 337 partial responses. We have disregarded 337 responses. (n=402)

#### 4.1 Sociodemographic characteristics:

Table 1 below summarizes the characteristics of our population:

Characteristics	Frequency	Percent
<b>Gender</b>		
Male	125	31.1%
Female	250	62.2%
Prefer not to answer	27	6.7%
<b>Age</b>		
18- 24	122	34.0%
[25-29]	90	25.1%
[30-39]	74	20.6%
40-49	38	10.6%
>=50	35	9.7%
<b>Marital Status</b>		
Married	121	31.6%
Single	235	61.7%
Engaged	19	5%
Divorced/Widowed/Separated	7	1.8%

Education Level		
Pre-high school	20	5.2%
High school	59	15.3%
University undergraduate (BS, BA, technical, vocational, etc.)	142	36.8%
University graduate (MS, MBA, PhD, MD, etc.)	165	42.7%
Dwelling region		
Beirut	79	20.5%
Mount Lebanon	249	64.5%
South Lebanon	29	7.5%
Bekaa	5	1.3%
North Lebanon	24	6.2%
Employment Type		
Self-employed	49	12.9%
Full time employee	167	43.9%
Part-time employee/daily laborer	53	13.9%
Unemployed, not seeking employment (student, housewife,handicapped,retired...)	75	19.7%
Unemployed, actively seeking employment	26	6.8%
Other	10	2.6%

Most of the participants were females (62.2%), with majority being college students (18-24 years) (34%). The majority of the participants are single (61.7%) and most of them are university graduates (MS,MBA,PhD,MD etc). In addition, 43.9% of the studied population were full-time employees ,12.9% were self-employed, 13.9% were part-time employed, 19.7% were unemployed and 6.8% were unemployed, actively seeking employment. More than half of the participants stated residing in Mount Lebanon (64.5%).

#### 4.2 Prevalence of anxiety, distress, fear of covid 19 and negative impact of covid 19

Beirut Distress Score	Frequency	Percent
low risk of psychological distress	223	72.4%
high risk of psychological distress	85	27.6%
Total	308	100.0%

<i>Lebanese Anxiety Score</i>	<i>Frequency</i>	<i>Percent</i>
Less Anxious	212	62.2%
Higher anxiety	129	37.8%
Total	341	100.0%

on quality of life.

<i>Impact of Covid 19 on QOL</i>	<i>Frequency</i>	<i>Percent</i>
Low impact on quality of life	190	52.9%
Higher impact on quality of life	169	47.1%
Total	359	100.0%

Fear of Covid 19	Frequency	Percent
Normal fear of Covid19	246	65.6%
Extreme fear of Covid19	129	34.4%
Total	375	100.0%

According to the Beirut distress score scale, 27.6% scored 25 or higher meaning that they are at a higher risk of psychological distress. Moreover, 37.8% of the studied population scored above 13.5 on the Lebanese anxiety scale which indicates higher anxiety, and the need to be referred to a healthcare professional. On the other hand, around half of the participants scored 3 or more on the impact of COVID19 on quality

of life, i.e. meaning that covid-19 had high impact of their QoL (47.1% reported higher negative impact on their quality of life) According to the scale of fear of COVID19, 129 participants (34.4%) were found to have extreme fear of COVID 19 and its complications.

## **4.2. Chi-square Analysis**

### ***4.2.1. Indicators of high risk of psychological distress***

A Chi-square analysis revealed significant association between high risk of psychological distress and cigarette smoking ( $P=0.02$ ), violence at home ( $P=0.000$ ), having a mental illness ( $P=0.000$ ), having a friend with a mental illness ( $P=0.000$ ), having a family member diagnosed with a mental illness ( $P=0.022$ ), having a worried family member ( $P=0.014$ ), and the source of Covid 19 news ( $P=0.041$ ). Moreover, age was found to be associated with psychological distress ( $P=0.000$ ), education level ( $P=0.017$ ), employment type ( $P=0.026$ ), and income level ( $P=0.006$ ). Finally, the results noted significant associations between getting support from friends ( $P=0.012$ ), getting support from family ( $P=0.000$ ), sharing feeling with family ( $P=0.000$ ), and sharing feelings with others when in blue ( $P=0.006$ ).

### ***4.2.2. Indicators of high anxiety***

The Chi-square analysis showed that significant association is present between high anxiety and violence ( $P=0.000$ ), having a mental illness ( $P=0.000$ ). having a friend with mental illness( $P=0.000$ ), having a family member with mental illness( $P=0.025$ ), having

a worried family member( $P=0.01$ ), and type of source of information about Covid 19( $P=0.041$ ). Add to that, sharing feelings with family ( $P=0.007$ ), age ( $P=0.002$ ), and employment type ( $P=0.005$ ) were associated with higher anxiety.

#### ***4.2.3. Indicators of fear of covid 19***

Getting support from friends ( $P=0.019$ ), sharing feeling with family ( $P=0.004$ ), sharing feeling with other( $P=0.001$ ), getting treatment for chronic illness( $P=0.049$ ), and fear no access to treatment( $P=0.032$ ) were all found to be associated with fear of covid 19.

Moreover, being at risk of getting covid 19 ( $P=0.029$ ) and following up on covid 19 news( $P=0.000$ ) were also associated with fear of covid 19. Upon the socio-economic factors, only marital status ( $P=0.008$ ), education level ( $P=0.001$ ), and number of rooms ( $P=0.007$ ) were found to be correlated with fear of covid 19.

#### ***4.2.4. Indicators of the impact of covid 19 on quality of life***

Using chi-square analysis, gender ( $P=0.001$ ), getting support from friends( $P=0.024$ ), getting support from family( $P=0.015$ ), sharing feelings with family( $P=0.000$ ), and sharing feelings with others when in blue ( $P=0.000$ ) were correlated with the impact of covid 19 on quality of life. Moreover, the results showed an association between impact of covid 19 on quality of life with violence at home ( $P=0.002$ ), having a mental illness ( $P=0.001$ ), having a friend with mental illness( $P=0.014$ ), having a chronic illness( $P=0.009$ ), being treated for chronic illness( $P=0.013$ ), fear no access to treatment( $P=0.000$ ), having a family member with a chronic illness( $P=0.000$ ), and having a worries family member( $P=0.001$ ).

### **4.3. Logistic Regression Analysis**

#### ***4.3.1. Different factors associated with distress. (BDS-22)***

According to the Center for Disease and Prevention (CDC), “mental health includes our emotional, psychological, and social well-being. It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make healthy choices.”

Negative mental health outcomes can include anxiety, depression, psychological distress, and different types of addiction. Furthermore, according to a cross sectional study conducted by El Othman et al., 2021, a significant correlation between psychological stress, depression, anxiety, and obsessive-compulsive characteristics was noted during the COVID-19 pandemic.

Psychological distress refers to non-specific symptoms of anxiety, stress, and depression. Elevated levels of psychological distress are indicative of impaired mental health and may reflect common mental disorders, like depressive and anxiety disorders. [44] According to adjusted logistic models for socio-economic correlates of distress, the odds of having higher distress score is 94.4% less for self-employed participants as compared to those who reported other type of employment. 0.056(0.004-0.893) P=0.041 (Table 2). This was actually noted in a previous cross-sectional study conducted in Finland where people who are employed full-time experienced slightly less psychological distress than the rest of the studied population.[45] A stable job and a

regular income can provide a sense of security and financial stability, which can reduce stress levels. Full-time employment may also provide opportunities for social interaction and a sense of purpose or accomplishment, which can contribute to overall well-being. In addition, being unemployed was found to be protective of psychological distress in our study sample  $0.048(0.003-0.723)$   $P=0.028$ . A possible explanation would be that students, housewives, retirees may have more flexibility and control over their daily activities, which can help mitigate some of the negative effects of unemployment. Housewives, for instance, may have more time to pursue their hobbies outside of their caregiving responsibilities, while students may be able to focus more on their studies and personal development. Retirees may have more time to spend with family and friends, travel, or engage in other fulfilling activities which by turn decreases the risk of psychological distress.

In the unadjusted model, having a low income was found to significantly increase psychological distress amongst participants (Low <675,000 LBP (450USD)  $10.000(1.150-86.951)$   $P=0.037$ ). However, no significant association was noted in the adjusted model (Low <675,000 LBP (450USD)  $7.230(0.736-71.050)$   $P=0.090$ ) which may be due to the higher significance of other factors in relation to psychological distress.

Furthermore, the odds of having a higher distress score is lower by 67% for people who are not exposed to violence as compared to people who are exposed to physical, sexual, and verbal abuse.  $0.333(0.156-0.711)$   $P=0.004$ , (Table 1). The findings are consistent with previous research indicating that experiencing domestic violence can lead to mental health issues (Table 1) [46]. Add to that, results from the multiple logistic models for support variables showed that the odds of having a higher distress

score is 61% lower for individuals getting support from family same as before as compared with individuals with decreased support. (0.390 (0.162-0.941)) P=0.036 (Table 3) and the odds of having a higher distress score is 76% lower for individuals getting increased support from family as compared with individuals with decreased support. 0.244(0.081-0.732) P=0.012. Moreover, the odds of having a higher distress score is 66% lower for individuals sharing feelings with family same as before as compared to individuals with decreased sharing. 0.348(0.138-0.879) P=0.025. Previous research findings support this since receiving support from family members was found to improve mental well-being and thus lower susceptibility to psychological distress [47].

#### ***4.3.2. Different factors associated with anxiety***

According to the American Psychological Association (APA), anxiety is an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure. Based on the results, the odds of having higher anxiety is lower by 3% for self-employed employees as compared to other employment types. 0.97(0.20-0.916) P=0.042; however, the odds of having higher anxiety is lower by 92% for full time employees as compared to other employment types. 0.084(0.10-0.749) P=0.026 (Table 5). The latter difference in percentages can be explained by the stability provided by a fixed full-time job which in turn might lower anxiety. This was also noted by Won, G., et al., in 2019 where self-employment was found to be correlated to an increased risk of self-reported anxiety in South Korea[48]. The odds of having higher anxiety is lower by 62% for individuals with no violence at home as compared to individuals having physical, verbal, or other type of violence. 0.385(0.187-0.791)



P=0.009 (Table 4). Results showed lower odds of anxiety amongst participants with no mental illness (0.210(0.91-0.482) P= 0.001). Add to that, the odds of having higher anxiety is 4 times higher for individuals who preferred not to answer about having a friend with mental illness as compared to having a friend with mental illness 4.214(1.144-15.516) P=0.031. This can be explained by the fact that individuals who are more anxious may be more hesitant to disclose information about their personal life, including whether they have a friend with mental illness. Furthermore, the odds of having higher anxiety is 54% less for participants who reported sharing feeling with family same as before as compared to decreased. 0.463(0.219-0.980) P=0.044.(Table 6). In fact, a similar cross-sectional study by Salameh et al., 2020 reflected that higher family satisfaction resulted in lower stress and anxiety.

#### ***4.3.3. Different factors associated with the fear of COVID19***

The fear of COVID-19 is a psychological response to the ongoing COVID-19 pandemic. The fear of COVID-19 can manifest in many ways, such as fear of getting sick, fear of infecting loved ones, fear of hospitals, fear of dying, fear of job loss, fear of social isolation, and fear of the unknown. According to the results, the odds of having fear of COVID 19 is 4.4 times higher for high school graduates as compared to pre-high school participants. 4.457(1.179-16.856) P=0.028. Contrary to our findings, many studies reported that individuals with a greater educational attainment may utilize more effective coping mechanisms, resulting in lower stress and fear levels being reported.[49] Moreover, the odds of having fear of COVID 19 is 69% less for participants having  $\geq 7$  rooms as compared to participants having  $<5$  rooms. 0.470(0.222-0.995) P=0.048. This may be justified as the increased number of rooms

provides excess space for self-isolation and quarantine so family members of the same household may have a minimal fear of being infected with COVID19 when another member is feeling ill. On the other hand, the odds of having higher fear of COVID 19 is 86% higher for participants who reported having fear of no access treatment as compared to participants who do not. 1.865CI (1.072-3.243) P=0.027. This suggests that the availability and accessibility of treatment play a significant role in the level of fear and anxiety about the COVID-19 pandemic specially during the Lebanese economic crisis which caused major shortages in medications. Alternatively, the odds of having fear of COVID 19 is 69% lower for participants who reported not following COVID news as compared to those who chose NA. 0.319CI(0.202-0.506) P=0.000. This is ascertained by a similar cross-sectional study where respondents reported feeling more anxious and in fear upon checking COVID19 news on both social media and traditional news. [50]

#### ***4.3.4. Different factors associated with the impact of covid 19 on quality of life.***

Quality of life refers to the overall well-being and satisfaction that an individual or community experiences in different aspects of their lives, including physical health, mental and emotional well-being, social relationships, economic and environmental conditions, and personal fulfillment. Based on the results, there exists a significant association between gender and impact of covid 19 on quality of life where the odds of COVID 19 having a higher impact on quality of life is 2 times higher for females as compared to males. 2.239(1.386-3.618) P=0.001, Table 11. Besides gender related association, the odds of having higher impact of covid 19 on quality of life is 70% less

for participants who stated sharing feeling with family is same as before 0.308(0.135-0.705) P=0.005, Table 12 62% less for participants who stated increased sharing feeling with family 0.385(0.159-0.932) P=0.034, 54% less for participants who stated sharing feeling with others when in blue is same as before (0.464 CI(0.234-0.922)) P= 0.028 as before as compared to individuals with decreased sharing. These findings were found comparable with another study done in the MENA region, where more than half of the respondents indicated receiving more support from their family members and being more attentive to their family members' emotions during the pandemic. These favorable effects on mental well-being might have assisted participants in dealing with the pandemic's impact on quality of life [51]. Add to that, the odds of having a higher impact of covid 19 on quality of life is 61% less in individuals with no mental illness as compared to individuals with mental illness. 0.398(0.170-0.931) P=0.034. The findings are in line with the key findings of the World Health Organization (WHO)'s scientific brief of mental health 2022, individuals with pre-existing mental conditions are at an increased likelihood of experiencing severe illness and mortality from COVID-19, and as such, should be recognized as a high-risk population when diagnosed with infection. Additionally, the odds of having a higher impact of covid 19 on quality of life is 3 times higher for individuals who fear having no access to treatment as compared to not fearing. 3.032(1.578-5.828) P=0.001 and the odds of having a higher impact of covid 19 on quality of life is 2 times higher for participants who have a worried family member as compared to those who don't. 2.028(1.144-3.595)P=0.016. According to Salameh et al., fear of having no access to treatment and having a worried family member were found to be correlates of stress and anxiety amid Covid 19 pandemic [10]. Furthermore, the odds of COVID 19 having a higher impact on quality of life is 52% less for

participants who reported having  $\geq 7$  rooms as compared to  $< 5$  rooms. 0.482(0.355-0.910)  $P=0.024$ , this is logical because having more space decreases the chances of being in contact with an ill family member.

## CHAPTER V

### LIMITATIONS & CONCLUSION

The present study has several strengths that are worth mentioning. First, the psychological distress, anxiety, and fear of covid 19 scales were assessed using validated tools. Second, this study examined associations of several factors or correlates affecting psychological health of participants including social, economic, and health-related factors which allowed to gain in-depth understanding of high-risk populations affected by COVID-19, and reduced QoL as well as understanding protective factors. Another strength of our project was carrying out the survey in multiple languages (Arabic/English) aiming to achieve broader distribution. However, the above study presents several limitations. A major limitation is that the data was collected during 2022, whereby in Lebanon the cases of covid 19 were starting to decline and this might have changed the impact of covid 19 on quality of life and maybe lessened the fear due to covid 19. Another one is the use of a self-reported questionnaire, which may result in respondent bias or data misreporting. An additional potential limitation is the use of a snowball sampling technique, which does not adjust for population size in different countries. Additionally, the cross-sectional study design only provides a snapshot of psychological responses at a particular point in time, which may limit the generalizability of the findings. The study also relied on an online survey, which may

have excluded non-social media users and led to less generalizable results. However, the participants were guaranteed anonymity to reduce social desirability bias.

- **Conclusion**

The results of this study showed that covid 19 pandemic was associated with mental health outcomes among the Lebanese adults. As a result, the Lebanese government and policymakers are encouraged to design and provide specific psychological promotion programs for adults with the aim of promoting their mental health and wellbeing.

Findings from the present study also highlight the need to improving access to treatment, social support, and wellness programs to improve resilience to future shocks and to enhance the mental health outcomes of the Lebanese population.

## APPENDIX

### 1. Associations of health-related variables with psychological distress

<b>Beirut Distress Score</b>				
	<b>OR; 95% Confidence Interval for OR</b>	<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR**</b>	<b>Significance (p&lt;0.05)</b>
<b>Alcohol consumption</b>				
Previous				
None	0.154(0.014-1.647)	P=0.122		
Occasional	0.103(0.10-1.085)	P=0.058		
Regular	0.139(0.11-1.708)	P=0.123		
<b>Cigarette Smoking</b>				
Previous/None				
Occasional	1.512(0.742-3.081)	P=0.255	1.270(0.560-2.878)	P=0.567
Regular	2.296(1.241-4.246)	<b>P=0.008</b>	1.985(0.991-3.975)	P=0.053
<b>Waterpipe smoking</b>				
Previous/None				
Occasional	1.962(0.834-4.616)	P=0.123		
Regular	0.749(0.203-2.763)	P=0.664		

Violence at home					
Physical/Verbal/Other Violence					
No violence		0.201(0.076-0.529)	<b>P=0.001</b>	<b>0.333(0.156-0.711)</b>	<b>P=0.004</b>
Current health coverage					
No health coverage					
Private insurance		0.861(0.444-1.672)	P=0.807		
Social security		0.798(0.351-1.815)	P=0.929		
Other public coverage		0.657(0.208-2.075)	P=0.475		
Mental illness					
Do you have a mental illness?	Yes				
	No	0.296(0.156-0.562)	<b>P=0.000</b>	0.506(0.226-1.133)	P=0.098
	Prefer not to answer	0.800(0.191-3.347)	P=0.760	0.892(0.178-4.464)	P=0.889
Do you have a friend with a mental illness?	Yes				
	No	0.340(0.198-0.584)	<b>P=0.000</b>	0.587(0.293-1.177)	P=0.133
	Prefer not to answer	1.118(0.318-3.939)	P=0.862	1.074(0.235-4.913)	P=0.926
Do you have a family member diagnosed with a mental illness?	Yes				
	No	0.501(0.282-0.892)	<b>P=0.019</b>	1.105(0.527-2.316)	P=0.792
	Prefer not to answer	1.615(0.372-7.023)	P=0.522	1.739(0.287-10.557)	P=0.547



Chronic illness						
Do you have a chronic illness?	Yes					
	No	0.643(0.328-1.257)		P=0.196		
	Prefer not to answer	1.813(0.106-30.967)		P=0.106		
Treatment for chronic illness	Regular treatment					
	No regular treatment	0.648(0.278-1.509)		P=0.314		
	N/A	0.692(0.328-1.462)		P=0.335		
Fear no access to treatment.	No					
	Yes	1.146(0.497-2.642)		P=0.750		
	N/A	1.696(0.720-3.996)		P=0.227		
Do you have a family member diagnosed with a chronic illness?	No					
	Yes	1.476(0.874-2.492)		P=0.145		
	N/A	0.650(0.207-0.207)		P=0.460		
Worried family member						
No						
Yes		2.229(1.269-3.914)		<b>P=0.005</b>	1.820(0.965-3.431)	P=0.064
N/A		1.127(0.341-3.731)		P=0.844	1.161(0.315-4.271)	P=0.823
COVID-19						
Were you exposed to a person with COVID-19?	No	0.561(0.243-1.296)		P=0.176		
	Yes					
	N/A	0.836(0.015-47.391)		P=0.931		
Do you have a relative diagnosed with COVID-19?	No	1.545(0.705-3.382)		P=0.277		
	Yes					
	N/A	0.000(000- )		P=1.000		

Are you at risk of being infected with COVID-19?	No	0.801(0.401-1.600)	P=0.530		
	Yes				
	N/A	0.000(000- )	P=1.000		
Were you quarantined for 14 days?	No	1.430(0.678-3.015)	P=0.347		
	Yes				
	N/A	0.000(000- )	P=1.000		
Did you follow COVID news?	No	0.651(0.336-1.262)	P=0.204		
	Yes				
	N/A	0.000(000- )	P=1.000		
What is your main source of info?	Internet				
	Friends	2.625(1.209-5.700)	<b>P=0.015</b>	1.233(0.527-2.887)	P=0.629
	TV	1.320(0.612-2.845)	P=0.479		

2. Associations of socio-economic variables with psychological distress

	<b>Exp (B); 95% Confidence Interval for OR</b>	<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR**</b>	<b>Significance (p&lt;0.05)</b>
<b>Gender</b>				
Male	0.456 (0.160-1.301)	P=0.142		
Female	0.740 (0.277-1.977)	P=0.549		
Prefer not to answer				
<b>Age</b>				
18- 24	3.333(1.040-10.685)	<b>P=0.043</b>	3.334(0.824-13.485)	P=0.091
[25-29]	0.825(0.237-2.874)	P=0.763	1.012(0.229-4.464)	P=0.988
[30-39]	0.653(0.173-2.460)	P=0.529	0.669(0.140-3.204)	P=0.615
40-49	0.769(0.180-3.295)	P=0.724	0.843(0.149-4.769)	P=0.847
>=50				
<b>Marital Status</b>				
Married	2.266(0.259-19.830)	P=0.460		
Single	3.333(0.308-36.110)	P=0.322		
Engaged	1.233(0.136-11.217)	P=0.853		
Divorced/Widowed/Se parated				

<b>Education Level</b>				
Pre-high school	0.401(0.049-23.299)	P=0.395	0.547(0.057-5.299)	P=0.603
High school	2.806(1.383-5.692)	<b>P=0.004</b>	1.925(0.765-4.846)	P=0.164
University undergraduate (BS, BA, technical, vocational, etc.)	1.507(0.841-2.700)	P=0.168	1.155(0.577-2.312)	P=0.685
University graduate (MS, MBA, PhD, MD, etc.)				
<b>Primary Nationality</b>				
Lebanese	0.428(0.140-1.315)	P=0.138		
Prefer not to answer				
Other	1.167(0.059-22.937)	P=0.919		
<b>Employment Type</b>				
Self-employed	0.059(0.005-0.664)	<b>P=0.022</b>	<b>0.056(0.004-0.893)</b>	<b>P=0.041</b>
Full time employee	0.101(0.010-1.007)	P=0.051	0.142(0.011-1.907)	P=0.141
Part-time employee/daily laborer	0.192(0.018-2.018)	P=0.169	0.214(0.015-3.029)	P=0.254
Unemployed, not seeking employment (student, housewife,handicapped,retired...)	0.156(0.015-1.586)	P=0.116	0.048(0.003-0.723)	<b>P=0.028</b>
Unemployed, actively seeking employment	0.233(0.020-2.733)	P=0.246	0.151(0.009-2.647)	P=0.196
Other				

Dwelling region				
Beirut	1.242(0.211-7.320)	P=0.810		
Mount Lebanon	3.059(0.631-14.835)	P=0.165		
South Lebanon	0.729(0.092-5.811)	P=0.766		
Bekaa	2.494(0.124-50.224)	P=0.551		
North Lebanon				
Income Status				
No income	14.960(1.838-121.750)	<b>P=0.011</b>	13.49(0.348-134.972)	P=0.072
Low <675,000 LBP (450USD)	10.000(1.150-86.951)	<b>P=0.037</b>	7.230(0.736-71.050)	P=0.090
Moderate 675,000 - 1,500,000 LBP (450-1,000 USD)	5.426(0.665-44.256)	P=0.114	5.356(0.601-47.711)	P=0.133
Intermediate 1,500,000-3,000,000 LBP (1,000-2,000 USD)	4.554(0.560-37.027)	P=0.156	5.143(0.58-44.909)	P=0.139
High > 3,000,000 LBP (2,000 USD)	6.094(0.759-48.966)	P=0.089	7.369(0.832-65.271)	P=0.073
Prefer not to answer				
Household Size				
< 4 persons	1.061(0.435-2.588)	P=0.897		
4 persons	1.693(0.718-3.993)	P=0.229		
5 persons	1.228(0.501-3.013)	P=0.654		
>= 6 persons				
Number of rooms				
<5 rooms	1.269(0.464-3.472)	P=0.643		
5 rooms	1.160(0.374-3.604)	P=0.797		
6 rooms	0.876(0.280-2.737)	P=0.820		
>=7 rooms				

### 3. Associations of social support variables with psychological distress

<b>Beirut Distress Score</b>					
		<b>Exp (B); 95% Confidence Interval for OR</b>	<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR**</b>	<b>Significance (p&lt;0.05)</b>
		Please indicate in the next following statements how COVID-19 in Lebanon may have changed your social and family support:			
Getting support from friends	Decreased				
	Same as before	0.433(0.247-0.758)	<b>P=0.003</b>	0.669(0.349-1.285)	P=0.227
	Increased	0.562(0.251-1.256)	P=0.160	0.903(0.340-2.396)	P=0.838
Getting support from family	Decreased				
	Same as before	0.206(0.095-0.447)	<b>P=0.000</b>	0.390(0.162-0.941)	<b>P=0.036</b>
	Increased	0.159(0.068-0.374)	<b>P=0.000</b>	0.244(0.081-0.732)	<b>P=0.012</b>
Sharing feeling with family	Decreased				
	Same as before	0.214(0.105-0.437)	<b>P=0.000</b>	0.348(0.138-0.879)	<b>P=0.025</b>
	Increased	0.263(0.130-0.534)	<b>P=0.000</b>	0.441(0.152-1.282)	P=0.133
Sharing feeling with others when in blue	Decreased				
	Same as before	0.364(0.189-0.699)	<b>P=0.002</b>	0.946(0.399-2.241)	P=0.900
	Increased	0.681(0.348-1.333)	P=0.263	1.495(0.622-3.593)	P=0.368
Caring with family members' feelings	Decreased				
	Same as before	0.245(0.094-0.636)	<b>P=0.004</b>	0.516(0.169-1.572)	P=0.244
	Increased	0.268(0.105-0.683)	P=0.006	0.659(0.208-2.088)	P=0.479

4. Associations of health-related variables with anxiety.

<b>Lebanese Anxiety Score</b>					
	<b>OR; 95% Confidence Interval for OR</b>		<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR**</b>	<b>Significance (p&lt;0.05)</b>
<b>Alcohol consumption</b>					
Previous					
None	1.889(0.478-7.467)		P=0.364		
Occasional	1.538(0.393-6.021)		P=0.536		
Regular	1.556(0.354-6.844)		P=0.559		
<b>Cigarette Smoking</b>					
Previous					
None	1.911(0.388-9.427)		P=0.426		
Occasional	2.145(0.403-11.418)		P=0.371		
Regular	3.500(0.672-18.242)		P=0.137		
<b>Waterpipe smoking</b>					
Previous					
None	3.051(0.038-242.148)		P=0.617		
Occasional	5.422(0.059-496.31)		P=0.463		
Regular	2.748(0.029-261.265)		P=0.662		

Violence at home						
Physical/Verbal/Other Violence						
No violence			0.254(0.134-0.478)	<b>P=0.000</b>	0.385(0.187-0.791)	<b>P=0.009</b>
Current health coverage						
No health coverage						
Private insurance			1.450(0.634-3.314)	P=0.379		
Social security			1.300(0.520-3.254)	P=0.575		
Other public coverage			0.733(0.205-2.618)	P=0.632		
Mental illness						
Do you have a mental illness?	Yes					
	No		0.179(0.088-0.362)	<b>P=0.000</b>	0.210(0.91-0.482)	<b>P= 0.000</b>
	Prefer not to answer		0.145(0.025-0.852)	<b>P=0.033</b>	0.135(0.202-0.900)	<b>P=0.039</b>
Do you have a friend with a mental illness?	Yes					
	No		0.415(0.252-0.683)	<b>P=0.001</b>	0.954(0.511-1.781)	P=0.883
	Prefer not to answer		2.340(0.684-8.009)	P=0.176	4.214(1.144-15.516)	<b>P=0.031</b>
Do you have a family member diagnosed with a mental illness?	Yes					
	No		0.592(0.349-1.005)	P=0.052		
	Prefer not to answer		1.910(0.110-33.169)	P=0.237		



Chronic illness						
Do you have a chronic illness?	Yes					
	No		0.444(0.103-1.917)	P=0.142		
	Prefer not to answer		0.563(0.048-6.601)	P= 0.647		
Treatment for chronic illness	Regular treatment					
	No regular treatment		0.720(0.164-3.167)	P=0.664		
	N/A		0.724(0.150-3.492)	P=0.688		
Fear no access to treatment.	No					
	Yes		1.734(0.994-2.789)	P=0.053		
	N/A		1.270(0.796-2.264)	P=0.270		
Do you have a family member diagnosed with a chronic illness?	No					
	Yes		1.156(0.733-1.823)	P=0.532		
	N/A		0.640(0.237-1.727)	P=0.378		
Worried family member						
No						
Yes			2.027(1.257-3.268)	<b>P=0.004</b>	1.643(0.953-2.835)	P=0.074
N/A			1.071(0.408-2.810)	P=0.890	0.997(0.344-2.888)	P=0.995
COVID-19						
Were you exposed to a person with COVID-19?	No		0.621(0.304-1.268)	P=0.191		
	Yes					
	N/A		6.902(0.352-135)	P=0.203		
Do you have a relative diagnosed with COVID-19?	No		2.009(0.995-4.057)	P=0.201		
	Yes					
	N/A		1.083(0.003-419)	P=0.946		
	No		0.912(0.583-1.427)	P=0.687		
	Yes					

Are you at risk of being infected with COVID-19?	N/A		6.316(0.689-57.936)	P=0.103		
Were you quarantined for 14 days?	No		1.301(0.822-2.058)	P=0.261		
	Yes					
Did you follow COVID news?	N/A		0.000(0.000-)	P=1.000		
	No		1.495(0.554-4.031)	P=0.427		
	Yes					
What is your main source of info?	N/A		-	P=1.00		
	Internet					
	Friends		2.125(1.034-4.367)	<b>P=0.04</b>	1.694(0.746-3.846)	P=0.208
	TV		1.794(0.911-3.535)	P=0.09	1.853(0.884-3.884)	P=0.102

5. Associations of socio-economic variables with anxiety.

<b>Lebanese Anxiety Scale</b>					
	<b>Exp (B); 95% Confidence Interval for OR</b>		<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR**</b>	<b>Significance (p&lt;0.05)</b>
<b>Gender</b>					
Male	0.215(0.036-1.269)		P=0.067		
Female	0.594(0.108-3.280)		P=0.636		
Prefer not to answer					
<b>Age</b>					
18- 24	1.899(0.541-6.666)		P=0.317		
[25-29]	0.755(0.226-2.522)		P=0.648		
[30-39]	0.747(0.237-2.355)		P=0.618		
40-49	0.704(0.198-2.498)		P=0.587		
>=50					
<b>Marital Status</b>					
Married	1.856(0.274-12.553)		P=0.526		
Single	1.460(0.150-14.235)		P=0.745		
Engaged	1.303(0.209-8.132)		P=0.777		
Divorced/Widowed/Separated					

Education Level				
Pre-high school	3.744(0.876-16.001)	P=0.349	1.521(0.479-4.824)	P=0.477
High school	2.364(1.230-4.544)	<b>P=0.010</b>	1.787(0.877-3.641)	P=0.110
University undergraduate (BS, BA, technical, vocational, etc.)	1.601(0.656-2.362)	P=0.069	1.427(0.842-2.417)	P=0.187
University graduate (MS, MBA, PhD, MD, etc.)				
Primary Nationality				
Lebanese	0.609(0.223-1.667)	P=0.335		
Prefer not to answer	1.00(0.053-18.915)	P=1.000		
Other				
Employment Type				
Self-employed	0.100(0.011-0.940)	<b>P=0.044</b>	0.97(0.20-0.916)	<b>P=0.042</b>
Full time employee	0.087(0.010-0.768)	<b>P=0.028</b>	0.084(0.10-0.749)	<b>P=0.026</b>
Part-time employee/daily laborer	0.121(0.013-1.129)	P=0.064	0.113(0.012-1.063)	P=0.057
Unemployed, not seeking employment (student, housewife,handicapped,retired...)	0.241(0.027-2.184)	P=0.206	0.193(0.021-1.789)	P=0.148
Unemployed, actively seeking employment	0.133(0.013-1.318)	P=0.085	0.126(0.013-1.258)	P=0.078
Other				

Dwelling region				
Beirut	1.014(0.270-3.808)	P=0.983		
Mount Lebanon	1.334(0.403-4.419)	P=0.637		
South Lebanon	1.743(0.362-8.397)	P=0.489		
Bekaa	0.309(0.016-6.074)	P=0.440		
North Lebanon				
Income Status				
No income	2.084(0.519-8.369)	P=0.301		
Low <675,000 LBP (450USD)	0.988(0.243-4.020)	P=0.986		
Moderate 675,000 - 1,500,000 LBP (450-1,000 USD)	2.281(0.648-8.024)	P=0.199		
Intermediate 1,500,000-3,000,000 LBP (1,000-2,000 USD)	1.461(0.421-5.078)	P=0.550		
High > 3,000,000 LBP (2,000 USD)	1.448(0.413-5.081)	P=0.563		
Prefer not to answer				
Household Size				
< 4 persons	0.879(0.441-2.014)	P=0.879		
4 persons	1.617(1.147-7.897)	P=0.198		
5 persons	0.833(0.318-2.352)	P=0.651		
>= 6 persons				
Number of rooms				
<5 rooms	0.678(0.254-1.311)	P=0.213		
5 rooms	0.886(0.315-1.826)	P=0.734		
6 rooms	0.611(0.122-0.930)	P=0.198		
>=7 rooms				

6. Associations of social support variables with anxiety

Lebanese Anxiety Score					
		Exp (B); 95% Confidence Interval for OR	Significance (p<0.05)	Adjusted OR**	Significance (p<0.05)
Please indicate in the next following statements how COVID-19 in Lebanon may have changed your social and family support:					
Getting support from friends	Decreased				
	Same as before	0.573(0.348-0.944)	<b>P=0.029</b>	0.698(0.403-1.208)	P=0.199
	Increased	0.804(0.410-1.578)	P=0.527	1.086(0.505-2.338)	P=0.833
Getting support from family	Decreased				
	Same as before	0.576(0.297-1.117)	P=0.103	0.916(0.431-1.949)	P=0.820
	Increased	0.424(0.206-0.873)	<b>P=0.02</b>	0.518(0.212-1.268)	P=0.150
Sharing feeling with family	Decreased				
	Same as before	0.358(0.184-0.695)	<b>P=0.002</b>	0.463(0.219-0.980)	<b>P=0.044</b>
	Increased	0.420(0.217-0.811)	<b>P=0.01</b>	0.553(0.238-1.282)	P=0.167
Sharing feeling with others when in blue	Decreased				
	Same as before	1.044(0.505-2.158)	P=0.054		
	Increased	1.458(0.684-3.108)	P=0.684		
Caring with family members' feelings	Decreased				
	Same as before	0.346(0.137-0.872)	<b>P=0.024</b>	0.538(0.190-1.523)	P= 0.243
	Increased	0.446 (0.181-1.100)	P=0.08	0.812(0.282-2.343)	P=0.701

7. Association of health-related variables with fear of covid19

	<b>Fear of COVID 19</b>			
	<b>Exp (B); 95% Confidence Interval for OR</b>	<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR**</b>	<b>Significance (p&lt;0.05)</b>
<b>Alcohol consumption</b>				
Previous				
None	1.954(0.284-13.436)	P=0.496		
Occasional	1.200(0.176-8.197)	P=0.852		
Regular	0.914(0.111-7.506)	P=0.934		
<b>Cigarette Smoking</b>				
Previous				
None	0.627 (0.70-2.117)	P=0.452		
Occasional	0.510(0.066-1.901)	P=0.316		
Regular	0.655(0.133-2.370)	P=0.519		
<b>Waterpipe smoking</b>				
Previous				
None	3.178(0.378-26.743)	P=0.287		
Occasional	4.737(0.513-43.728)	P=0.170		
Regular	1.412(0.131-15.266)	P=0.776		

Violence at home						
Physical/Verbal/Other Violence						
No violence		1.268(0.677-2.377)		P=0.459		
Current health coverage						
No health coverage						
Private insurance		1.058(0.457-2.343)		P=0.856		
Social security		1.332(0.484-2.896)		P=0.422		
Other public coverage		2.100(0.700-7.797)		P=0.106		
Mental illness						
Do you have a mental illness?	Yes					
	No	0.625(0.248-1.571)		P=0.317		
	Prefer not to answer	0.519(0.069-3.878)		P=0.523		
Do you have a friend with a mental illness?	Yes					
	No	1.110(0.547-2.252)		P=0.772		
	Prefer not to answer	1.060(0.205-5.483)		P=0.944		
Do you have a family member diagnosed with a mental illness?	Yes					
	No	1.360(0.654-2.826)		P=0.410		
	Prefer not to answer	6.549(0.855-50.184)		P=0.071		



Chronic illness					
Do you have a chronic illness?	Yes				
	No	1.465(0.379-5.665)	P=0.580		
	Prefer not to answer	-	P=0.999		
Treatment for chronic illness	Regular treatment				
	No regular treatment	0.814(0.194-3.414)	P=0.779		
	N/A	0.355(0.075-1.681)	P=0.192		
Fear no access to treatment.	No				
	Yes	1.718(1.013--2.915)	<b>P=0.045</b>	1.865(1.072-3.243)	<b>P=0.027</b>
	N/A	0.818(0.481-1.391)	P=0.936		
Do you have a family member diagnosed with a chronic illness?	No				
	Yes	0.984(0.275-1.531)	P=0.942		
	N/A	0.459(0.057-1.286)	P=0.138		
Worried family member					
No					
Yes					
		1.519(1.405-2.394)	P=0.072		
		0.898(0.329-2.450)	P=0.834		
COVID-19					
Were you exposed to a person with COVID-19?	No	1.481(0.952-2.336)	P=0.081		
	Yes	3.465(0.567-21.187)	P=0.179		
	N/A				
Do you have a relative diagnosed with COVID-19?	No	0.774(0.477-1.161)	P=0.193		

Do you have a relative diagnosed with COVID-19?	No	0.774(0.477-1.161)	P=0.193		
	Yes	0.852(0.076-9.542)	P=0.897		
	N/A				
Are you at risk of being infected with COVID-19?	No	0.565(0.365-0.873)	P=0.010		
	Yes	1.426(0.196-10.376)	P=0.726		
	N/A				
Were you quarantined for 14 days?	No	0.692(0.361-1.327)	P=0.267		
	Yes	-	P=0.999		
	N/A				
Did you follow COVID news?	No	0.319(0.202-0.506)	<b>P=0.000</b>	0.296(0.184-0.476)	<b>P=0.000</b>
	Yes	1.191(0.073-19.315)	P=0.902		
	N/A				
What is your main source of info?	Internet				
	Friends	1.399(0.706-2.773)	P=0.337		
	TV	1.340(0.703-2.557)	P=0.374		

8. Association of socio-economic variables with fear of covid19

Participants					
		Exp (B); 95% Confidence Interval for OR		Significance (p<0.05)	
<b>Gender</b>					
Male					
Female	1.378(0.856-2.219)		P=0.186		
Prefer not to answer	1.868(0.749-4.658)		P=0.180		
<b>Age</b>					
18- 24					
[25-29]	1.251(0.679-2.305)		P=0.472		
[30-39]	1.600(0.843-3.034)		P=0.150		
40-49	2.016(0.921-4.410)		P=0.079		
>=50	2.867(1.217-6.463)		<b>P=0.011</b>	0.906(0.295-2.776)	P=0.862
<b>Marital Status</b>					
Married	2.101(1.302-3.389)		<b>P=0.002</b>	1.924(0.302-12.261)	P=0.489
Single					
Engaged	2.538(0.965-6.680)		P= 0.059		
Divorced/Widowed/Separated	1.015((0.192-5.366)		P=0.986		

Education Level					
Pre-high school					
High school	0.138(0.039-0.484)		<b>P=0.002</b>	4.457(1.179-16.856)	<b>P=0.028</b>
University undergraduate (BS, BA, technical, vocational, etc.)	0.182(0.056-0.588)		<b>P=0.004</b>	1.541(0.680-3.492)	P=0.300
University graduate (MS, MBA, PhD, MD, etc.)	0.125(0.039-0.404)		<b>P= 0.001</b>	1.531(0.879-2.667)	P=0.133
Primary Nationality					
Lebanese					
Prefer not to answer	0.631(0.242-1.641)		P=0.345		
Other	1.250(0.067-23.259)		P=0.881		
Employment Type					
Self-employed					
Full time employee	1.607(0.785-3.291)		P=0.194		
Part-time employee/daily laborer	1.121(0.465-2.702)		P=0.799		
Unemployed, not seeking employment (student, housewife,handicapped,retired...)	1.255(0.562-2.803)		P=0.579		
Unemployed, actively seeking employment	0.964(0.328-2.828)		P=0.946		
Other	7.846(1.400-43.958)		<b>P=0.019</b>	0.200(0.027-1.510)	P=0.119

Dwelling region					
Beirut					
Mount Lebanon	1.217(0.694-2.134)		P=0.492		
South Lebanon	1.208(0.483-3.022)		P=0.687		
Bekaa	-		P=0.999		
North Lebanon	1.159(0.431-3.120)		P=0.770		
Income Status					
No income					
Low <675,000 LBP (450USD)	1.182(0.474-2.944)		P=0.720		
Moderate 675,000 - 1,500,000 LBP (450-1,000 USD)	1.262(0.597-2.665)		P=0.543		
Intermediate 1,500,000-3,000,000 LBP (1,000-2,000 USD)	1.378(0.668-2.841)		P=0.385		
High > 3,000,000 LBP (2,000 USD)	1.647(0.820-3.307)		P=0.161		
Prefer not to answer	0.988(0.328-2.974)		P=0.983		
Household Size					
< 4 persons					
4 persons	1.018(0.580-1.786)		P=0.952		
5 persons	1.208(0.667-2.187)		P=0.533		
>= 6 persons	1.130(0.548-2.329)		P=0.740		
Number of rooms					
<5 rooms					
5 rooms	0.783(0.444-1.380)		P=0.398		
6 rooms	1.005(0.547-1.850)		P=0.986		
>=7 rooms	0.312(0.155-0.629)		<b>P=0.001</b>	0.470(0.222-0.995)	<b>P=0.048</b>

9. Associations of social support on fear of covid 19

		<b>Fear of COV 19</b>			
		<b>OR; 95% Confidence Interval for OR</b>	<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR**</b>	<b>Significance (p&lt;0.05)</b>
		Please indicate in the next following statements how COVID-19 in Lebanon may have changed your social and family support:			
Getting support from friends	Decreased				
	Same as before	0.640(0.391-1.048)	P=0.076		
	Increased	1.432(0.762-2.691)	P=0.265		
Getting support from family	Decreased				
	Same as before	0.965(0.488-1.911)	P=0.920		
	Increased	1.506(0.736-3.081)	P=0.262		
Sharing feeling with family	Decreased				
	Same as before	0.420(0.218-0.810)	<b>P=0.010</b>	0.533(0.252-1.131)	P=0.101
	Increased	0.859(0.455-1.622)	P=0.639		
Sharing feeling with others when in blue	Decreased				
	Same as before	0.526(0.296-0.937)	<b>P=0.029</b>	0.650(0.334-1.265)	P=0.204
	Increased	1.314(0.730-2.365)	P=0.363		
Caring with family members' feelings	Decreased				
	Same as before	0.613(0.350-2.808)	P=0.314		
	Increased	1.051(0.410-3.380)	P=0.915		

10. Association of health-related variables with the impact of covid 19 on quality of life.

COVID 19 Impact on Quality of Life					
	OR; 95% Confidence Interval for OR		Significance (p<0.05)	Adjusted OR**	Significance (p<0.05)
<b>Alcohol consumption</b>					
Previous					
None	1.437(0.289-7.152)		P=0.658		
Occasional	0.621(0.130-2.975)		P=0.551		
Regular	0.399(0.70-2.277)		P=0.301		
<b>Cigarette Smoking</b>					
Previous					
None	0.564(0.087-3.657)		P=0.548		
Occasional	0.784(0.107-5.772)		P=0.811		
Regular	1.021(0.251-4.146)		P=0.977		
<b>Waterpipe smoking</b>					
Previous					
None	2.960(0.181-48.426)		P=0.447		
Occasional	4.583(0.237-88.602)		P=0.314		
Regular	4.041(0.192-85.162)		P=0.369		

Violence at home					
Physical/Verbal/Other Violence					
No violence		0.363(0.192-0.686)	<b>P=0.002</b>	0.690(0.327-1.450)	P=0.331
Current health coverage					
No health coverage					
Private insurance		1.078(0.474-2.452)	P=0.857		
Social security		1.267(0.522-3.077)	P=0.601		
Other public coverage		0.522(0.153-1.776)	P=0.298		
Mental illness					
Do you have a mental illness?	Yes				
	No	0.343(0.175-0.671)	<b>P=0.002</b>	0.398(0.170-0.931)	<b>P=0.034</b>
	Prefer not to answer	1.581(0.291-8.596)	P=0.596	1.299(0.190-8.892)	P=0.790
Do you have a friend with a mental illness?	Yes				
	No	0.492(0.304-0.797)	<b>P=0.004</b>	0.856(0.437-1.679)	P=0.652
	Prefer not to answer	0.684(0.237-1.977)	P=0.483	0.608(0.150-2.464)	P=0.486
Do you have a family member diagnosed with a mental illness?	Yes				
	No	0.586(0.350-0.983)	<b>P=0.043</b>	1.173(0.600-2.292)	P=0.641
	Prefer not to answer	0.930(0.231-3.743)	P=0.919	0.751(0.108-5.202)	P=0.772



Chronic illness					
Do you have a chronic illness?	Yes				
	No	0.398(0.216-0.735)	<b>P=0.003</b>	0.888(0.279-2.825)	P=0.840
	Prefer not to answer	1.029(0.87-12.122)	P=0.982	-	P=0.999
Treatment for chronic illness	Regular treatment				
	No regular treatment	0.438(0.208-0.922)	<b>P=0.030</b>	0.686(0.199-2.365)	P=0.550
	N/A	0.371(0.189-0.729)	<b>P=0.004</b>	0.561(0.150-2.106)	P=0.392
Fear no access to treatment.	No				
	Yes	4.038(2.301-7.089)	<b>P=0.000</b>	3.032(1.578-5.828)	<b>P=0.001</b>
	N/A	1.352(0.668-2.736)	P=0.402	1.515(0.803-2.858)	P=0.200
Do you have a family member diagnosed with a chronic illness?	No				
	Yes	2.332(1.496-3.636)	<b>P=0.000</b>	1.447(0.843-2.483)	P=0.180
	N/A	0.239(0.051-1.125)	P=0.217	0.436(0.124-1.525)	P=0.194
Worried family member					
No					
Yes		3.214(2.031-5.086)	<b>P=0.000</b>	2.028(1.144-3.595)	<b>P=0.016</b>
N/A		1.375(0.320-5.912)	P=0.789	1.095(0.307-3.902)	P=0.889
COVID-19					
Were you exposed to a	No	0.856(0.441-1.660)	P=0.645		
	Yes				

person with COVID-19?	N/A	0.927(0.058-14.732)	P=0.957		
Do you have a relative diagnosed with COVID- 19?	No	1.741(0.876-3.461)	P=0.114		
	Yes				
	N/A	-	P=0.999		
Are you at risk of being infected with COVID-19?	No	0.576(0.310-1.072)	P=0.082		
	Yes				
	N/A	1.407(0.229-8.655)	P=0.712		
Were you quarantined for 14 days?	No	0.586(0.375-0.916)	<b>P=0.019</b>	0.635(0.376-1.071)	P=0.089
	Yes				
	N/A	-		-	P=0.999
Did you follow COVID news?	No	0.724(0.475-1.102)	P=0.132		
	Yes				
	N/A				
What is your main source of info?	Internet				
	Friends	1.331(0.502-3.528)	P=0.565		
	TV	0.936(0.384-2.2780)	P=0.883		

11. Association of socio-economic variables with the impact of covid 19 on quality of life

<b>Participants</b>				
	<b>Exp (B); 95% Confidence Interval for OR</b>	<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR***</b>	<b>Significance (p&lt;0.05)</b>
<b>Gender</b>				
Male				
Female	2.276(1.418-3.651)	<b>P=0.001</b>	2.239(1.386-3.618)	<b>P=0.001</b>
Prefer not to answer	2.928(1.148-7.471)	<b>P=0.025</b>	5.348(1.265-22.607)	P=0.23
<b>Age</b>				
18- 24				
[25-29]	0.864(0.471-2.028)	P=0.615		
[30-39]	0.886(0.233-1.344)	P=0.696		
40-49	0.351(0.127-1.304)	P=0.351		
>=50	1.000(0.230-2.499)	P=1.000		
<b>Marital Status</b>				
Single				
Married	2.298(0.870-6.068)	P=0.093		
Engaged	1.472(0.923-2.347)	P=0.104		
Divorced/Widowed/Separated	1.788(0.390-8.184)	P=0.454		

Education Level					
Pre-high school					
High school	1.972(0.605-6.433)	P=0.260			
University undergraduate (BS, BA, technical, vocational, etc.)	2.375(0.782-7.215)	P=0.127			
University graduate (MS, MBA, PhD, MD, etc.)	1.738(0.575-5.258)	P=0.328			
Primary Nationality					
Lebanese					
Prefer not to answer	1.146(0.071-18.475)	P=0.924			
Other	1.432(0.551-3.722)	P=0.461			
Employment Type					
Self-employed					
Full time employee	1.740(0.864-3.504)	P=0.121			
Part-time employee/daily laborer	1.243(0.526-2.936)	P=0.620			
Unemployed, not seeking employment (student, housewife,handicapped,retired...)	2.235(1.022-4.889)	P=0.044			
Unemployed, actively seeking employment	2.285(0.827-6.314)	P=0.111			
Other	3.222(0.676-15.352)	P=0.142			

Dwelling region				
Beirut				
Mount Lebanon	0.968(0.561-1.671)	P=0.907		
South Lebanon	0.667(0.272-1.635)	P=0.376		
Bekaa	0.687(0.108-4.378)	P=0.691		
North Lebanon	0.589(0.218-1.588)	P=0.295		
Income Status				
No income				
Low <675,000 LBP (450USD)	0.934(0.293-2.977)	P=0.497		
Moderate 675,000 - 1,500,000 LBP (450-1,000 USD)	0.507(0.171-1.502)	P=0.126		
Intermediate 1,500,000-3,000,000 LBP (1,000-2,000 USD)	0.583(0.209-1.628)	P=0.105		
High > 3,000,000 LBP (2,000 USD)	0.718(0.252-2.047)	P=0.323		
Prefer not to answer	0.282(0.074-1.072)	P=0.066		
Household Size				
< 4 persons				
4 persons	1.394(0.735-2.643)	P=0.208		
5 persons	1.063(0.519-2.177)	P=0.741		
>= 6 persons	0.750(0.314-1.795)	P=0.335		
Number of rooms				
<5 rooms				

5 rooms	1.167(0.661-2.058)	P=0.594	1.191(0.667-2.125)	P=0.554
6 rooms	1.110(0.614-2.005)	P=0.730	0.986(0.537-1.811)	P=0.964
>=7 rooms	0.484(0.261-0.899)	<b>P=0.022</b>	<b>0.482(0.355-0.910)</b>	<b>P=0.024</b>

12. Association of social support on the impact of covid 19 on quality of life

		<b>The Impact of COVID 19 on Quality of Life</b>			
		<b>OR; 95% Confidence Interval for OR</b>	<b>Significance (p&lt;0.05)</b>	<b>Adjusted OR**</b>	<b>Significance (p&lt;0.05)</b>
Please indicate in the next following statements how COVID-19 in Lebanon may have changed your social and family support:					
Getting support from friends	Decreased				
	Same as before	0.514 (0.318-0.831)	<b>P=0.007</b>	0.788(0.45-1.376)	P=0.402
	Increased	0.767(0.350-1.680)	P=0.190	0.795(0.365-1.729)	P=0.562
Getting support from family	Decreased				
	Same as before	0.399(0.198-0.803)	<b>P=0.010</b>	0.751(0.336-1.677)	P=0.484
	Increased	0.356(0.170-0.746)	<b>P=0.006</b>	0.556(0.217-1.426)	P=0.222
Sharing feeling with family	Decreased				
	Same as before	0.175(0.084-0.362)	<b>P=0.000</b>	<b>0.308(0.135-0.705)</b>	<b>P=0.005</b>
	Increased	0.266(0.129-0.574)	<b>P=0.000</b>	<b>0.385(0.159-0.932)</b>	<b>P=0.034</b>
Sharing feeling with others when in blue	Decreased				
	Same as before	0.256(0.143-0.458)	<b>P=0.000</b>	<b>0.464(0.234-0.922)</b>	<b>P=0.028</b>
	Increased	0.696(0.380-1.277)	P=0.242	1.248(0.601-2.593)	P=0.552
Caring with family members' feelings	Decreased				
	Same as before	1.799(0.592-5.471)	P=0.259		
	Increased	2.005(0.650-6.178)	P=0.435		

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