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Assessing the psychological impact of COVID-19 outbreak and its related factors on Lebanese individuals with physical disabilities

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ABSTRACT

Background: In February 2020, the Lebanese authorities announced the first Coronavirus 2019 (COVID-19) case. Since then, the cases increased significantly, but information on the public's psychological status and specifically individuals with physical disabilities is still limited.

Purpose: The study aims to assess the psychological impact of the COVID-19 outbreak on Lebanese individuals with physical disabilities and study the associated factors.

Materials and methods: This is a cross-sectional study involving 118 individuals with physical disabilities. Each filled out an online survey with three sections: a personal questionnaire, the Arabic versions of the Hopkins Symptom Checklist-25 and the Fear of COVID-19 scale. Data regarding participants' baseline characteristics, fear, anxiety, and depression were collected and analyzed using the Chi-square test and regressions models.

Results: Individuals with physical disabilities exhibited mild fear of COVID-19, with fear being correlated with age, educational level, and employment status. Furthermore, 22.9% of the population was found to be anxious, and 31.5% were depressed. Anxiety was associated with both marital status and employment status. Finally, depression was proved to be influenced by marital status, employment, and educational level.

Conclusion: Results extracted showed that individuals with physical disabilities require substantial attention in order to manage their psychological state during pandemics.

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Introduction

The Coronavirus Disease-2019 (COVID-19) is a transmissible infectious disease caused by SARS-Cov-2, with an incubation period of 1–14 days in most entities.¹ Its most reported clinical symptoms include fever, fatigue, pain, dry cough, and dyspnea.² The implementation of effective preventive measures is thought to be the exclusive option to control its spread; such measures included social reactions, quarantine, and distancing.^{3,4} By May 2020, around 1,844,863 cases were confirmed, with 117,021 reported deaths from at least 213 countries.⁵ It is safe to say that the worldwide emergence of COVID-19 is currently menacing the well-being of individuals all over the world.

Previous studies showed that infection outbreaks induced a

profound and wide range of psychological and psychosocial consequences on individuals across different communities.^{6,7} During the COVID-19 pandemic, it has been perceived that mental health problems are increasing among general and vulnerable populations.⁸ Anxiety, depression and stress,^{8,9} along with accelerated levels of fear³ are some of the problems reported during this outbreak. Few studies aimed to assess the psychological outcomes of the COVID-19 pandemic and their impact on the social response.^{10–12} A study conducted in China reported high levels of negative emotional indicators (anxiety and depression) among 17,865 individuals, which lead in turn to ameliorated social risk judgement and deteriorated life satisfaction.¹² Another Canadian study indicated that the anxiety manifested among people influenced their thinking, behaviors and abilities in making decisions within the outbreak.¹⁰ These examples indicate the cruciality of evaluating the psychological impacts of the COVID-19 outbreak, given the negative sequela it may have on the community.

As mentioned, limited studies estimated the psychological impact of COVID-19 among the public,^{10,12–14} healthcare

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professionals,^{15,16} and vulnerable populations, including elderly patients,¹⁷ homeless individuals,¹⁸ and pregnant women.¹⁹ Evidence is limited regarding the psychological effect of COVID-19 on individuals with physical disabilities.²⁰ At baseline, these individuals may be more susceptible to mental health distress or have comorbid underlying mental health conditions that increase their vulnerability during this time.^{21–24} Correspondingly, they will face more difficulties in developing and applying appropriate coping strategies.⁸ Therefore, this study aims to evaluate the psychological consequences of COVID-19 on Lebanese individuals with physical disabilities and discuss the influencing factors. The results of this study might provide important insight into this vulnerable population's state of mind during this stressful time; it may also serve as an encouraging factor to further establish strategies that boost the Lebanese population's psyche.

Materials and methods

Participants and procedure

A cross-sectional online survey was carried out between April 2020 and June 2020 to assess the psychological state of subjects with physical disabilities during the epidemic of COVID-19. Subjects were recruited from three rehabilitation centers that are affiliated with the Lebanese Ministry of Social Affairs. The centers were located in three different districts across Lebanon. Eligible subjects were selectively chosen based on data (medical files, neurocognitive and physical assessments) taken from the centers' record-based archives. Inclusion criteria covered any person aged above 18, having good comprehensive skills, and living with a physical disability due to an established medical diagnosis (traumatic brain injury, spinal cord injury, amputation, and other medical consideration) while disregarding the date of onset. Physical disabilities were categorized into Tetraplegia, Paraplegia, Hemiplegia, Paresis and Amputation. Hence, any patient below 18 years or suffering from any intellectual disorder or cognitive delay was excluded from the study.

After extracting the required data, 163 eligible subjects were contacted to introduce them to the study's aims and take their preliminary approval in participating. Out of all those contacted, 25 refused to enroll in the study. An online survey including a personal questionnaire, the Arabic versions of the Hopkins Symptom Checklist - 25, and the Fear of COVID-19 Scale was sent to the 138 participants. This was done either by mail or phone, depending on their preference. However, a total of 118 subjects signed the written consent form and completed the survey. Therefore, the present study included a convenient sample of 118 participants with physical disabilities.

Study measurements

Along with the measurement scales, an Arabic written socio-demographic questionnaire was prepared. The questionnaire conveyed three main categories reflecting the general personal information, socioeconomic status, and medical history of participants. The measurement scales used were the Arabic versions of the Hopkins Symptom Checklist - 25 and the Fear of COVID-19 Scale.

The Arabic fear of COVID-19 scale (A-FCV-19S)

The Fear of COVID-19 Scale (FCV-19S) was first established in March 2020 by Ahorsu et al. its foremost purpose was to evaluate fear resulting from the spread of COVID-19.²⁵ It includes seven statements; the individual is asked to precisely determine the level of his/her agreement or disagreement based on a five-point Likert

scale (Appendix I). The total score is obtained by summing up the responses and ranges between 7 and 35. The higher the score, the greater the fear of COVID-19.²⁵ The scale portrayed strong psychometric properties and stable unidimensional structure upon assessing fear originating from COVID-19 within the Iranian population.²⁵ Furthermore, the FCV-19S was translated and validated among diverse countries, including Italy, Eastern Europe, Bangladesh, Saudi Arabia, and Turkey.^{26–30} This study used the Lebanese validated Arabic version of the FCV-19S (A-FCV-19S) (Zein et al., submitted). The A-FCV-19S validated among the Lebanese population showed high internal consistency with an alpha coefficient of 0.849. The scale extracted 2 factors demonstrating good fit with the data ($\chi^2/df = 3.760$, root-mean-square error of approximation = 0.048 (95% CI of 0.043–0.080), comparative Fit Index = 0.963, Goodness-of-Fit Index = 0.973, Adjusted Goodness-of-Fit Index = 0.941). Factor 1 expressed "fear and worry" and Factor 2 expressed "somatic symptoms of fear". Moreover, fear was positively correlated with anxiety and depression ($r = 0.550$ and 0.452 respectively, p -value < 0.0001 for both), indicating good criterion validity (Zein et al., submitted).

Hopkins symptom checklist –25 (HSCL-25)

The Hopkins Symptom Checklist (HSCL) aims to evaluate the patients' psychoneurotic complaints.³¹ The scale is available in multiple versions, in which the number of items ranges between 25 and 90.³² The HSCL-25 was used within this study; it is a brief self-report screening test that validates the presence of anxiety and depression symptoms.³³ This shortened version has been validated within several populations and translated into several languages, including Arabic.³⁴ The checklist consists of 25 questions, with four response selections for each item (1 = not at all, 2 = a little, 3 = quite a bit, and 4 = extremely). The total score of the scale is obtained by summing up the 25 responses and averaging them together. A separated sub score for anxiety symptoms can be obtained by summing up and averaging the first 10 items. As for the score of depression symptoms, it is obtained by summing up and averaging the last 15 items.³⁵ The initial authors reported that the cutoff for the total score of the HSCL-25 is 1.75.³⁵ However, for the Lebanese population, a cutoff of 2 was conveyed for the anxiety subscale and 2.1 for the depression subscale.³⁴ It is important to note that, the Lebanese Arabic validated version of the HSCL-25 was used within this study.

Ethical considerations

This study was approved by the Institutional Review Board of the Health, Rehabilitation, Integration, and Research Center (HRIR). Each participant was asked to confirm his approval before participating in the study. The study was conducted based on the Helsinki Declarations for medical research.

Statistical analysis

Data entry and analysis were conducted using the IBM SPSS Statistics version 22.0. Descriptive statistics were calculated for the sociodemographic characteristics, socioeconomic variables, medical history information, and participants' psychological symptoms. Means and Standard deviations (SD) were used to describe the A-FCV-19S score, a continuous variable. At the same time, categorical variables were presented by frequency and percentages. In order to estimate the univariate associations between demographic variables and fear of COVID-19, Poisson regressions were launched. However, to assess the correlation between the different baseline characteristics of the participants and anxiety or depression, multiple logistic regressions were run. For this aim, the sample was

divided into two groups: anxiety and non-anxiety groups based on the cut off value of the HSCL-anxiety subscale. And according to the cutoff proposed for the HSCL-depression subscale, the sample was divided into depression and non-depression groups. For assessing the relationship between categorical variables and anxiety or depression, a Chi-square test was used. All statistical tests were two-sided, and a p-value less than 0.05 was considered statistically significant.

Results

Sample characteristics

The population included 118 participants with physical disabilities. Males constituted the majority of 88.1% of the total sample. The average age of the participants was 37.75 ± 11.33 years, with 65.3% aging between 20 and 40 years and 34.7% aged between 41 and 68 years. Out of the total sample, 87.3% were married, and 12.7% were unmarried. Regarding the employment status, 66.1% were unemployed, while 33.9% had a financially productive job. As for the educational level, 76.3% of the sample were college-educated, and 23.7% were not. Consequently, subjects were recruited from different Lebanese districts, where 52.5% were from Beirut and Mount Lebanon districts, 39.8% were from the South, 6.8% were from the Bekaa and 0.8% were from the North. Finally, concerning the participants' outcome scores on the different psychological measures, they scored a mean of 15.77 ± 6.87 on the A-FCV-19S reflecting mild fear of COVID-19 among the total sample. In addition to that, the population had a mean score of 1.62 ± 0.68 on the HSCL-25, 1.57 ± 0.69 on the HSCL-anxiety and 1.77 ± 0.77 on the HSCL-depression.

Somatic and emotional symptoms

In terms of somatic symptoms, results extracted from the A-FCV-19S showed that 9.3% of the participants exhibited an increase in heart rate and 6.8% complained of having wet hands whenever thinking about the COVID-19 virus. Moreover, 8.5% expressed that they were suffering from insomnia due to being afraid of infection. Consequently, the data taken out of the HSCL-25 revealed the appearance of several somatic symptoms within this population during the outbreak. 5.1% exhibited dizziness, 8.5% reported having a tremor in their whole body, 16.1% expressed being physically agitated, 21.2% had headaches and 14.4% felt tired.

As for the emotional symptoms, the A-FCV-19S revealed that during the outbreak 30.5% of the subjects felt afraid, 32.2% were annoyed, and 23.7% felt stressed. Additional symptoms were extracted from the HSCL-25, where 33.9% expressed feeling angry, 20.3% felt anxious and 31.4% reported sadness.

Associations between baseline characteristics of participants and fear of COVID-19

Table 1 depicts the associations between the different related variables and fear originating from COVID-19. Since the A-FCV-19S does not have a cutoff, its total score was taken as a continuous variable, and therefore Poisson regression model was launched. The regression model showed a significant correlation of fear with age, educational level, and employment status. Participants whose ages were above 40 years presented higher fear levels than participants aging between 20 and 40 ($W_T = 2.565$, p-value = 0.032). Older participants were 2.096 times (1.980–2.227) as likely to experience fear compared to younger ones. Reaching college was associated with lower levels of fear as compared to the group who didn't attend college ($W_T = 15.036$, p-value = <0.0001). The risk of

developing fear among participants who weren't college-educated was 1.774 times (95% CI 1.681 to 1.881) that of college-educated participants. Furthermore, unemployed participants demonstrated elevated levels of fear ($W_T = 1.129$, p-value = 0.013), with a risk of 2.155 times (95% CI 2.030 to 2.294) than those employed.

Associations between the baseline characteristics of participants and anxiety and depression

Based on the HSCL-anxiety, 91 (77.1%) participants were classified in the non-anxiety group, whereas, 27 (22.9%) were classified in the anxiety group. The Chi-square test results, along with the multiple logistic regressions are reported in table 2. Chi-square tests showed a significant association between anxiety and marital status ($X^2 = 5.099$, p-value = 0.025); the anxiety ratio was higher for the married group. Moreover, the anxiety was higher for unemployed participants than the employed group ($X^2 = 2.130$, p-value = 0.036). For the multiple logistic regression analysis, the employment status was correlated with anxiety. It was reported that the risk of anxiety among the unemployed group was 2.088 times that of employed participants (95% CI 0.767 to 5.685).

Based on the HSCL-depression, 81 (68.6%) participants were in the non-depression group, whereas 37 (31.4%) were in the depression group. The analysis and correlation of the different demographics with depression are presented in Table 3. The results of the Chi-square test were significant for the marital status, educational level and employment status of participants (p-values = 0.022, 0.038, 0.027 respectively). In the multiple logistic regression analysis, the marital status, educational level and employment status also showed significant correlations with depression. The risk of depression among the married group was 3.346 times higher than the unmarried group (95% CI 0.715 to 15.661). Participants who weren't college-educated had a greater depression risk of 2.538 times (95% CI 0.880 to 7.318) than that of the college educated group. Compared with the employed group, unemployed participants had a risk of 2.367 (95% CI 0.962 to 5.826).

Discussion

Different studies have proposed that subjects with physical disabilities can be considered a susceptible population for mental health disorders.^{21,22,24} Along with such suggestions, the emergence of a pandemic can accelerate the risk of developing mental health disorders expressed by depression, anxiety, fear, and worry among this vulnerable population.⁸ The current COVID-19 outbreak has imposed extra safety and preventive measures that have frustrated the different populations worldwide.^{3,4} During these times, comprehending and evaluating the psychological state of individuals with physical disabilities during the COVID-19 emergence can be regarded as highly crucial. Provided with such information, the different governments can establish the appropriate strategies not only to control the viral spread, but also, to ensure good mental health for individuals with physical disabilities.

The present study aimed to evaluate the psychological consequences of a pandemic among individuals with physical disabilities and study the associated factors influencing their mental health. The survey, along with the administered assessment tools indicated that the sample exhibited mild fear of COVID-19, with 22.9% suffering from anxiety and 31.5% having depression. In the current outbreak, the fast transmission of COVID-19 and its tremendous impact or threat imposed on the global healthcare systems induced a "public panic" resulting in elevated stress levels among the different populations.³⁶ As a response to stress, humans usually demonstrate physiological, emotional, and behavioral alterations.³⁶ Within this study, the physiological responses of the participants

Table 1
Association between baseline characteristics of individuals with physical disabilities and fear emanated from COVID-19 outbreak.

Fear of COVID-19 (n = 118)			Poisson regression		
Factors	Frequency n (%)	Mean (SD*)	Wald Chi-square	p-value	OR ^a (95% confidence Interval)
<i>Gender</i>	14 (11.9)	16.35 (5.22)	0.001	0.981	
Female	104 (88.1)	15.68 (7.08)	–	–	
Male					
<i>Age</i>	77 (65.3)	14.80 (6.65)	-	-	Reference
20–40	41 (34.7)	17.56 (6.99)	2.565	0.032*	2.096 (1.980 to 2.227)
≥41					
<i>Marital Status</i>	15 (12.7)	13.26 (6.23)	2.437	0.118	
Unmarried	103 (87.3)	16.12 (6.91)	–	–	
Married					
<i>Education level</i>	90 (76.3)	16.73 (7.15)	15.036	<0.0001*	1.774 (1.681 to 1.881)
< College	28 (23.7)	12.64 (4.76)	-	-	Reference
≥ College					
<i>Employment status</i>	78 (66.1)	16.67 (7.18)	1.129	0.013*	2.155 (2.030 to 2.294)
Unemployed	40 (33.9)	13.97 (5.90)	-	-	Reference
Employed					
<i>Physical disability</i>	5 (4.2)	14.40 (5.17)	1.241	0.265	
Tetraplegia	12 (10.2)	16.41 (8.31)	4.205	0.070	
Paraplegia	19 (16.1)	15.57 (6.74)	2.378	0.112	
Hemiplegia	51 (43.2)	16.05 (7.10)	0.006	0.940	
Paresis	31 (26.3)	15.35 (6.56)	–	–	
Amputation					

^a Odds Ratio; p-value < 0.05 is considered significant.

were manifested by increased heart rate in 9.3% of the subjects, wet hands in 6.8% of the subjects, insomnia in 8.5% of the subjects, dizziness in 5.1% of the subjects, headaches in 21.2% of the subjects and tremor in 8.5% of the subjects. In terms of emotional responses, 30.5% of the participants reported being afraid of COVID-19, 32.2% were annoyed, 23.7% were more stressed than usual, 20.3% were anxious, and 31.4% felt sad and unhappy. As for the behavioral responses, 33.9% were angry more than usual, and 16.1% reported physical agitation and restlessness. All the mentioned emotional and somatic reactions are viewed as defensive mechanisms by the body in response to the exerted psychological distress stimulating the human's determination to fight and thrive against the COVID-

19 pandemic.³⁶ However, if they exceeded appropriateness, such symptoms might intensify, seriously affecting individuals' mental health.³⁶ Therefore, evaluating and monitoring such symptoms in individuals with physical disabilities is highly recommended during the COVID-19 outbreak.

This study indicated that age, educational level and employment status are associated with fear of COVID-19 in individuals with physical disabilities. Participants aged 40 and above presented higher fear levels than the younger ones ($W_T = 2.565$, p-value = 0.032). This correlation might be explained by the contribution of age to mortality in older patients with COVID-19.³⁷ Moreover, participants with low educational levels exhibited a

Table 2
Association between baseline characteristics of individuals with physical disabilities and anxiety during COVID-19 outbreak.

Factors	Anxiety (n = 118)		Chi-square test		Multiple logistic regression analysis	
	Non-anxiety group n (%)	Anxiety group n (%)	X ²	p-value	OR ^a (95% confidence Interval)	p-value
<i>Gender</i>	12 (85.7)	2 (14.3)	0.665	0.415		
Female	79 (76)	25 ²⁴				
Male						
<i>Age</i>	61 (79.2)	16 (20.8)	0.555	0.456		
20–40	30 (73.2)	11 (26.8)				
≥41						
<i>Marital Status</i>	15 (100)	0 (0)	5.099	0.025*		
Unmarried	76 (73.8)	27 (26.2)				
Married						
<i>Education level</i>	67 (74.4)	23 (25.6)	1.537	0.215		
< College	24 (85.7)	4 (14.3)				
≥ College						
<i>Employment status</i>	57 (73.1)	21 (26.9)	2.130	0.036*	2.088 (0.767 to 5.685)	0.040*
Unemployed	34 (85)	6 ¹⁵			Reference	
Employed						
<i>Physical disability</i>	4 (80)	1 ²⁰	1.818	0.769		
Tetraplegia	10 (83.3)	2 (16.7)				
Paraplegia	14 (73.7)	5 (26.3)				
Hemiplegia	37 (72.5)	14 (27.5)				
Paresis	26 (83.9)	5 (16.1)				
Amputation						

^a Odds Ratio; p-value < 0.05 is considered significant.

Table 3
Association between baseline characteristics of individuals with physical disabilities and Depression during COVID-19 outbreak.

Factors	Depression (n = 118)		Chi-square test		Multiple logistic regression analysis	
	Non-depression group n (%)	Depression group n (%)	X ²	p-value	OR ^a (95% confidence Interval)	p-value
<i>Gender</i>	11 (78.6)	3 (21.4)	0.727	0.394		
Female	70 (67.3)	34 (32.7)				
Male						
<i>Age</i>	54 (70.1)	23 (29.9)	0.227	0.634		
20–40	27 (65.9)	14 (34.1)				
≥41						
<i>Marital Status</i>	13 (86.7)	2 (13.3)	2.593	0.022*	Reference	0.041*
Unmarried	68 (66)	35 ³⁴			3.346 (0.715 to 15.661)	
Married						
<i>Education level</i>	58 (64.4)	32 (35.6)	3.108	0.038*	2.538 (0.880 to 7.318)	0.012*
< College	23 (82.1)	5 (17.9)			Reference	
≥ College						
<i>Employment status</i>	49 (62.8)	29 (37.2)	3.626	0.027*	2.367 (0.962 to 5.826)	0.034*
Unemployed	32 (80)	8 ²⁰			Reference	
Employed						
<i>Physical disability</i>	3 (60)	2 ⁴⁰	1.068	0.899		
Tetraplegia	9 (75)	3 ²⁵				
Paraplegia	14 (73.7)	5 (26.3)				
Hemiplegia	33 (64.7)	18 (35.3)				
Paresis	22 (71)	9 ²⁹				
Amputation						

^a Odds Ratio; p-value < 0.05 is considered significant.

higher risk of fear than participants with high educational levels ($W_T = 15.036$, p-value = <0.0001). This can be explained by the fact that highly educated subjects are habituated to demanding work and might have a more stable monthly income enabling them to be more comfortable delivering their families' needs. Furthermore, unemployed participants were more prone to developing fear of COVID-19 ($W_T = 1.129$, p-value = 0.013). In Lebanon, citizens with physical disabilities don't benefit from the government's financial support or health insurance. Thus, they have neither a stable monthly income nor medical coverage unless they are employed. During the current pandemic, the costs of COVID-19 testing and the prescribed medications or vitamins are paid by Lebanese citizens, constituting a burden on individuals who don't have a stable monthly income.

Furthermore, the anxiety state of the participants was significantly associated with both marital status ($X^2 = 5.099$, p-value = 0.025) and employment status ($X^2 = 2.130$, p-value = 0.036). In the logistic regression model, the risk of anxiety among the unemployed group was proved to be 2.088 times more than that of employed participants (95% CI 0.767 to 5.685, p-value = 0.040). Limited research about the association between employment status and anxiety exists, especially within participants living with physical disabilities. However, the findings observed within this study are consistent with researches highlighting the strong links between anxiety and employment status within the general population.³⁸ The study conducted by Sunderland in 2013 reported that unemployment is not only correlated with anxiety, but it can also be considered a significant predictor for its diagnosis,³⁸ which emphasizes the importance of early identification and control of anxiety.³⁹ Nevertheless, when evaluated within a specific physically disabled population due to traumatic brain injuries, results revealed no relation was verified between anxiety and employment.⁴⁰ Such difference in findings can be explained by the fact that the population enrolled in this study had different medical diagnoses or backgrounds.

As for the depression state, the Chi-square results showed that it was linked to the marital status of the individuals (p-

values = 0.022), with the risk of developing depression being 3.346 times more within the group of married when compared to the unmarried group (95% CI 0.715 to 15.661, p-value = 0.041). This can be explained by the fact that married persons living with physical disabilities are more likely to exhibit feelings of unproductivity, which intensifies the risk of developing depression.⁴¹ The educational level was also reported as an associated factor to depression (p-values = 0.038). Those who weren't college-educated had a 2.538 more risk of developing depression than those who achieved a higher educational level (95% CI 0.880 to 7.318, p-value = 0.012). This is because individuals with high education are more likely to display protective mechanisms against the development of depressive symptoms, as they exhibit a sense of mastery associated with higher levels of self-esteem. Finally, the employment status of participants with physical disabilities was also related to depression (p-values = 0.027), where the unemployed group had a risk of 2.367 (95% CI 0.962 to 5.826, p-value = 0.034).

To our knowledge, this is the first study conducted in Lebanon to assess the psychological status of individuals with physical disabilities and to discuss the influencing factors during a pandemic. In Lebanon, such studies are limited and there is a significant lack of available information on the mental health issues confronted by individuals with physical disabilities. This study's importance can be highlighted by the fact that it can provide supportive and imperative information about a marginalized population during an infectious outbreak. Thus, as the COVID-19 is spreading, this study will encourage establishing the appropriate strategies to support and manage psychological problems and amend mental health in individuals with physical disabilities. As an urgent step, the Lebanese health authorities need to identify individuals with physical disabilities as a high-risk group for psychological distress during this pandemic and apply the required interventions. The targeted management strategies should be adapted to meet this population's needs while considering the different social distancing measures. It is plausible that online psychological approaches can be provided.

As for the limitations, the sampling procedure was not random,

and a convenient sample was chosen. The recruitment procedure was confined to participants enrolled in therapeutic programs within specific rehabilitation centers. It is important to note that these are a lack of population-based data in Lebanon and registers on individuals with physical disabilities. Thus, this might restrict the ability to generalize the findings, as this sample might not reflect the actual demographics of all Lebanese individuals with physical disabilities. This study's results were grounded on self-reported levels of fear, anxiety, and depression, which proposes the likelihood that the responses may be influenced by the participants' social or personal aspects. Moreover, information on the participants' psychological state at baseline was not available; thus, potential confounding factors could not be controlled. On the other hand, this study provides prominent information about the initial psychological response of Lebanese individuals with physical disabilities during the COVID-19 outbreak.

Consequently, this study can be considered an exploratory one and a preliminary resource for upcoming studies targeting this population, especially that studies concerning the impacts of COVID-19 on people with physical disabilities are limited worldwide and are null in the Arab world.²⁰ Therefore, the findings extracted from this study serve as a call for the different countries worldwide to develop public health measures specific to this population's needs, especially during pandemics. On the other hand, governments and social associations should collaborate in helping people with physical disabilities overcome the barriers that might alter their coping ability during pandemics. Finally, what is mostly important about the present study is that it alerts the different Arabic authorities about the importance of developing appropriate psychological management plans to lessen the psychological consequences of the COVID-19 outbreak. This includes fear, anxiety, and depression in populations living with physical disabilities. It also alerts these authorities about the cruciality of further monitoring these individuals during the ongoing pandemic.

Conclusion

The findings of this study advance the understanding of the initial psychological response of Lebanese individuals with physical disabilities during the crucial period of the COVID-19 pandemic. Findings should encourage the governments of Arab countries and specifically the Lebanese government to resource more information on mental health issues confronted by individuals with physical disabilities and consequently implement the appropriate psychological management approaches.

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Declaration of competing interest

No conflict of interest was declared.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.dhjo.2021.101073>.

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