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Research Article

The Impact of the Stigma of Mental Illness among the Physicians on the Psychological Well-Being of COVID-19 Patients in the Isolation Rooms

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Keywords

- COVID-19
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Abstract

Objective: Several studies have demonstrated the stigma against patients with infectious diseases. Our aim is to investigate the existence of a relationship between doctors' stigma against mental illness, and the extent to which this causes depression among their patients with COVID-19 in the isolation rooms.

Methods: This cross-sectional study was conducted at the King Abdullah Medical City (KAMC) from the 1st of Jun 2020 till November 2020. PHQ-9 scale was done on 37 patients in the isolation rooms due to COVID-19 for 7 days or more. For every patient, we interviewed their 3 most responsible physicians from the primary team including the consultant. 67 physicians were recruited in this study. The physicians answered the socio-demographic questionnaire as well as the Mental Illness Clinicians' Attitude 4th version (MICA 4).

Results: Our results showed that patients who were in severe depression and moderately severe depression (mean of PHQ-9 was 21 points) had been under the supervision of three doctors with the highest mean MICA score (48.88 points). This relation happened when we correlate the patient with all of his/her 3 physicians. The p-value was significant (.000) for moderate depression if the correlation was done with all the three physicians, or two physicians, or only one physician for any patient.

Conclusion: The high results of MICA-4 of the responsible physicians have a relatively direct correlation with the high results of PHQ-9 of their COVID-19 patients in the isolation. Other studies with a bigger sample size could help to confirm this correlation.

INTRODUCTION

Isolation rooms in the hospitals are often an unpleasant experience for those who undergo it. Separation from loved ones, the loss of freedom, the suffering from the disease, uncertainty over disease status, and boredom can, on occasion, create unhealthy psychological effects. According to a Canadian study during the SARS outbreak, 29% of those quarantined showed signs of PTSD, and 31% had symptoms of depression following isolation [1]. An overwhelmed era, like the COVID-19 pandemic era, can cause a huge negative psychological effect on the population, even without any staying in the isolation rooms of the hospitals. An online survey study on 1210 persons from the public from 194 different cities in China during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) epidemic shows that about one-third of them have moderate-to-severe anxiety [2].

The stigma against the patients during the outbreaks, pandemics, and infectious diseases, in general, is well known. HIV, SARS, TB [3], Leprosy [4], and Ebola [5]. Even the stigmatizing attitude found between the medical staff who had been affected by the virus from other medical staff members during the outbreak of MERS in Saudi Arabia [6]. The stigma, specifically against mental illness, in Saudi Arabia is very prevalent according to other studies [7]. In addition to this, we did a cross-sectional study in King Abdullah Medical City in Makkah in Saudi Arabia (KAMC) in 2019 and the results indicate a high stigmatizing attitude among physicians toward patients with mental illnesses [8].

According to all the previous information and according to the well-known long-term negative effect of the stigma on the patients [9], in this study, we will try to fill the gap in the literature

about the negative psychological effect of the stigma from the physicians towards the isolated patients during this unusual era of history. We want to figure out if the high level of stigma against mental illness could have a negative effect on the psychological well-being of the isolated patients due to COVID-19. Another goal is to detect the prevalence of depression among the patients in the isolation rooms of KAMC.

SUBJECTS AND METHOD

Methods

Study design: This cross-sectional observational study aimed to detect the impact of the stigma among the physicians in (KAMC) on the psychological well-being of the isolated in-patients during the (COVID-19) Epidemic period. The other goals are to detect the prevalence of depression among the patients in the isolation rooms. In this study we used two scales, the first determinant scale in this study, was scored on the MICA-4, examining the physicians stigmatizing behaviors against people in isolation for COVID-19. The other scale is PHQ-9 for the patients to screen for the presence and severity of depression.

Study setting: The study was conducted at the King Abdullah Medical City (KAMC) from 1st of Jun 2020 till November 2020. KAMC is a nonprofit tertiary and quaternary health care organization. KAMC is the largest medical city in Saudi Arabia with a bed capacity of 1500 beds. It provides services to citizens, residents, and pilgrims who came to the holy city of Makkah.

Subjects: The main goal in our study was designed to have 3 physicians for each patient including the primary consultant. For our sample of the patients (37 patients), we should get seventy-seven physicians, however, not all physicians have been founded (due to changing their job to another hospital or were on vacation) and some doctors refused to participate. At last, we succeeded to interview sixty-seven physicians who participated in this study from the primary medical team for the participating patients in the isolation room. This included consultants, assistance consultants, specialists, and residents. For the patient part, we had thirty-seven patients who were involved in our study and were in isolation rooms for covid-19 stayed for 7 days or more.

Inclusion/ exclusion criteria: This study included any physician from the primary medical team who is treating the isolated patient and they are working at King Abdullah Medical City (KAMC).

Regarding the patients' sample, it included patients who have been admitted to one of the isolation rooms in KAMC during the period of the study. Patients who are older than 18 years, Arabic or English speakers, and accept participation in the study are all involved. Patients who were excluded in the study who reported to have moderate to severe neurocognitive impairment such as dementia and intellectual disability, also patients or physicians who declined to participate in the study and patients with obvious language barriers or delirious were excluded.

Sampling technique

The physician data and survey were collected personally by health care students. They explained the goal of the study and invited the physician to take part voluntarily. Data collectors verbally explained the scale to the physicians. The questionnaire and the scale were answered individually by physicians. The questionnaires had the name of the physician. The name will help us to avoid the repetition of the same interview again with the same physician if he or she is taking care of another isolated patient in the study.

The patient's data and survey were collected by a psychiatrist. The questionnaires were collected by phone to the isolated patient room after taking oral consent and explaining the goal and the way of the research pulse confidentiality of the information they will give.

Data collection

A) The patients: The study conductor, who is a psychiatrist, contacted the isolated patients in KAMC by phone any day after their 7th day in the isolation room. The contact by phone in purpose to decrease the risk of virus exposure between the patients and the staff. The interview started with explaining the study to the patient and taking the oral consent. After this, the interview continued by completing the semi-demographic sheet which consisted of general information like the age, gender, nationality, education, past or current psychiatric history, current diagnosis, how many days had been admitted to the hospital, and how many days the patient was in isolation.

The second half of this sheet included general questions about the patient's general satisfaction regarding the primary medical team, his general assessment about the quality of the communication between him/her and the team.

The other set of questionnaires included the Patient Health Questionnaire (PHQ-9) to screen for the presence and severity of depression. The Patient Health Questionnaire-9 (PHQ-9) is a nine-item questionnaire designed to screen for depression in primary care and other medical settings [10], with high validation [11], and Arabic version [12]. PHQ-9 total score for the nine items ranges from 0 to 27. Scores of 5, 10, 15, and 20 represent cut points for mild, moderate, moderately severe, and severe depression, respectively.

B) The physicians: Researchers/data collectors then approached the physicians of the primary medical team for the previously isolated patients at their offices or rooms, the idea was to have three doctors from the primary medical team of every patient included in the study, one of them should be the in-charge consultant for the patient and two of the other caring doctors from the team. We chose the other two physicians according to the one who mostly wrote the medical notes for the patient and by asking the patient about which doctors he/she was mostly seeing. We started the interview by explaining the aim of the study by giving them the information sheet of the study and asking them for verbal consent to complete 2 sets of questionnaires. The first set of questions consisted of a demographic information sheet including the name, age, gender, job, specialty, years of clinical practice, any psychiatric history or family history, any past COVID-19 history or previous history of isolation admission to the same person, and the site of the work.

The second set of questions was the Mental Illness: Clinicians' Attitudes (MICA-4) scale [13]. The MICA-4 Scale is created to measure stigmatizing attitudes of healthcare workers toward

patients with mental health illnesses. It contains 16 statements for which the participants are asked to rate their level of agreement about every statement. For scoring of MICA-4, items 3, 9, 10, 11, 12, and 16 were directly scored on a 6-point Likert scale (Strongly agree=1, Agree=2, Somewhat Agree=3, Somewhat disagree=4, Disagree=5, Strongly disagree=6). Items 1, 2, 4, 5, 6, 7, 8, 13, 14, 15 were reverse scored (Strongly agree=6, to Strongly disagree=1). A total score for each participant was calculated for each responder. The possible score ranged from 16-96. A high overall score indicates a more negative (stigmatizing) attitude. The MICA-4 scale has good internal consistency (Cronbach's alpha=0.79) with test-retest reliability (concordance) of 0.80 (95% CI: 0.68 to 0.91) [14]. The MICA-4 scale was found to be both reliable and valid [14].

Ethical approval and consent to participate

The purpose and nature of the study were explained by phone to all the isolated patients and personally to the physicians. Verbal consent was obtained, respecting participants' autonomy and anonymity. As we mentioned before, we had to get the name of the doctors so we can use the same scales he or she fills it for many isolated patients if the same physician is a part of the primary medical team for another isolated patient. The name will help us to avoid the repetition of the same interview again with the same physician about another isolated patient. A serial No. is given for each patient, but it does not refer to the identity of the patient. Ethical approval from the ethical committee at KAMC was obtained.

Statistical analysis

Data analysis is conducted using SPSS (IBM version 25.0). Categorical data were summarized as frequencies and percentages while continuous and ordinal variables were expressed as mean value ± standard deviation. The chi-square test or the Fisher's exact test was used to estimate the associations between categorical variables. Correlations among individual items were examined using Spearman's rho. The significance level for all tests was set to $\alpha = .05$, and all tests were 2-tailed.

RESULTS

The demographic of all physicians is exhibited in Table 1. The study questionnaire completion was excellent. Seventy-seven physicians were approached and invited to participate, sixty-seven completed the study for a response rate of 87%. The study sampling was successful in retrieving physicians from all adult age groups and genders. The age group of 33-40 years and more than 40 years constituted most of the study physicians (71.6%). Male comprised more than half (79.1%) of the study physicians and more than half of physicians (59.7%) had more than 10 years of work experience. Concerning job title, nearly two-thirds (77.6%) of the enrolled physicians are specialists and consultants. Almost all the physicians were in the medicine department (76.1%). Virtually, less than a quarter of physicians or any relatives to them were diagnosed with a mental health diagnosis or had been isolated in a hospital or a hotel during the COVID-19 pandemic. The overall MICA score ranged between 27 and 69 with a mean ± SD 45.35 ± 8.21 with a median of 44 points.

The patients' characteristics are displayed in a Table 2.

Table 1: Sociodemographic characteristics of physicians.

Variables	Participants (n=67)
Age	
18-25 years	-
26-32 years	18 (26.9%)
33-40 years	24 (35.8%)
More than 40 years	24 (35.8%)
Gender	
Male	53 (79.1%)
Female	14 (20.9%)
Job Title	
Consultant	22 (32.8%)
Specialist	30 (44.8%)
Resident	15 (22.4%)
Mental Health Diagnosis	
Yes	15 (22.4%)
Isolated during COVID-19 Pandemic	
Yes	16 (23.9%)
Work Experience	
less than 5 years	11 (16.4%)
5-10 years	16 (23.9%)
More than 10 years	40 (59.7%)
Department	
Medicine	51 (76.1%)
Surgery	14 (20.9%)
Psychiatry	1 (1.5%)

Table 2: Sociodemographic characteristics of patients.

Variables	Participants (n=37)
Age	
18-25 years	5 (13.5%)
26-32 years	2 (5.4%)
33-40 years	3 (8.1%)
More than 40 years	27 (73%)
Gender	
Male	18 (48.6%)
Female	19 (51.4%)
Nationality	
Saudi	23 (62.2%)
Other	14 (37.8%)
Educational level	
Uneducated	6 (16.2%)
Elementary	7 (18.9%)
Intermediate	2 (5.4%)
High School	9 (24.3%)
Postgraduate	13 (35.1%)
Marital Status	
Married	27 (73%)
Single	5 (13.5%)
Divorced	3 (8.1%)
Widow	2 (5.4%)
Number of isolation days	
7-10 days	21 (56.8%)
More than 10 days	16 (43.2%)
Numbers of consultants visit	
I do not know him/her	23 (62.2%)
Not once	9 (24.3%)
1-3	5 (13.5%)
4 or more	-
Times have of doctor visited during the last 4 days	
Not once	24 (64.9%)
1-2	8 (21.6%)
3-4	4 (10.8%)
4 or more	1 (2.7%)
Psychiatric diagnosis	
No	34 (91.9%)
Yes	2 (5.4%)

More than half (73%) of patients belonged to the age group that is more than 40 years. More than half of the participants were female, Saudi, and married (51.4%, 62.2%, 73% respectively). Concerning educational level, less than half (35.1%) of the enrolled patients had postgraduate degrees. More than half of the patients (56.8%) have been isolated between 7-10 days. Among them, when they were asked questions, about how many times the consultant who is responsible for your case came to your room and how many times did a doctor visit you in your room in isolation during the last 4 days? majority of them declared that they do not know their consultant and not once (62.2% and 64.9%) respectively. A majority (91.9%) of patients experienced no psychiatrist or psychiatric diagnosis.

The results of the level of patient's satisfaction in the Table 3 reported that the majority of patients are satisfied with the medical team and their communication (51.4%).

When we did the PHQ- 9 scale, the overall PHQ- 9 score ranged between .0 and 22 with a mean ± SD 9.37 ± 6.37 as shown in Table 4. Regarding the difficulty question in PHQ-9, The majority had some difficulty (37.8%).

Table 5 presents the correlation between the patients' PHQ level and the MICA's score of his/her closest physicians in the medical team which include the consultant. As we mentioned above in the methodology, we could not interview all our targeted physicians who were responsible for every patient in our study. We succeeded in collecting the MICA scores of the closest 3 physicians (including the consultant) to 23 patients of our whole sample (37 patients). Therefore, we separate the correlation between the MICA scores in PHQ-9 scores into 3 parts in the table.

As seen on the table, the correlation ratio yielded a strong positive correlation, that is +1 and the p-value is computed at .000, which is less than 0.05 which means significant. In Table 6, there is a correlation between the high PHQ-9 score of seven of the patients and the high MICA score of their three physicians. The mean MICA score was 48.88 points for the three physicians who were responsible for taking care of three patients who had severe depression (mean of PHQ-9 21 points). In the same way, the correlation happened again when the mean PHQ-9 points of four patients reflected moderate -severe depression (16.25 points) came with a high score of MICA of their three physicians (mean 48.83 points). Two correlations were found between two physicians and the total score of patients towards PHQ. The p-value is significant for moderately severe depression and moderate depression. Regarding the correlation between the patients' PHQ level and one physician, the correlation ratio yielded a strong positive correlation, that is +1 and the p-value is computed at 0.000, in moderately severe depression.

Table 3: Level of satisfaction.

Level of satisfaction	What is the percentage of your general satisfaction with the medical team?		What is the overall level of your satisfaction with the way the medical team communicates with you during their passage to you?	
	(F)	(%)	(F)	(%)
Very upset	4	(10.8%)	4	(10.8%)
Upset	4	(10.8%)	7	(18.9%)
Satisfied	19	(51.4%)	19	(51.4%)
Very satisfied	10	(27%)	7	(18.9%)
Total	**37**	**100%**	**37**	**100%**

Table 4: Patients (PHQ- 9) scale in frequencies and percentages.

Scale	Not once	A few days	More than half of days	Almost every day
PHQ- 9 (1)	12 (32.4%)	5 (13.5%)	13 (35.1%)	7 (18.9%)
PHQ- 9 (2)	8 (21.6%)	14 (37.8%)	5 (13.5%)	10 (27%)
PHQ- 9 (3)	11 (29.7%)	11 (29.7%)	8 (21.6%)	7 (18.9%)
PHQ- 9 (4)	9 (24.3%)	11 (29.7%)	12 (32.4%)	5 (13.5%)
PHQ- 9 (5)	13 (35.1%)	4 (10.8%)	10 (27%)	10 (27%)
PHQ- 9 (6)	24 (64.9%)	10 (27%)	1 (2.7%)	2 (5.4%)
PHQ- 9 (7)	16 (43.2%)	12 (32.4%)	7 (18.9%)	2 (5.4%)
PHQ- 9 (8)	20 (54.1%)	6 (16.2%)	8 (21.6%)	3 (8.1%)
PHQ- 9 (9)	32 (86.5%)	3 (8.1%)	1 (2.7%)	1 (2.7%)
The level of difficulties No difficulty Some difficulty Severe difficulty Extremely complex difficulties	12 (32.4%) 14 (37.8%) 8 (21.6%) 2 (5.4%)			

Table 5: Correlation between MICA score among the physicians and their Patients (PHQ- 9) scale.

PHQ- 9 group	MICA Mean	PHQ- 9 Mean	r	P- value
MICA score among 3 physicians and the (PHQ- 9) scale of their patients (n=23)				
Severe depression (n=3)	48.88	21	.432	.716
Moderately severe depression (n=4)	48.83	16.25	-.594	.406
Moderate depression (n=2)	42	11.50	1.000**	**.000**
Mild depression (n=8)	46.08	6.25	.010	.981
No depression (n=6)	45.27	1.50	-.084	.874
MICA score among 2 physicians and the (PHQ- 9) scale of their patients (n=10)				
Moderately severe depression (n=2)	41.75	15.50	1.000**	**.000**
Moderate depression (n=2)	48.75	12.50	1.000**	**.000**
Mild depression (n=3)	42.83	7.33	.941	.219
No depression (n=3)	46	2	.240	.846
MICA score among 1 physician and the (PHQ- 9) scale of their patients (n=4)				
Moderately severe depression (n=1)	41	18	1.000**	**.000**
Moderate depression (n=3)	42.33	11.66	-.936	.229

DISCUSSION

Quarantine is one of the methods used to limit the transmission of contagious diseases such as SARS in the epidemic period [1,15,16]. For the last two years, the covid-19 pandemic period has been a threat to people's lives worldwide [17]. Consequently, quarantine has been used to isolate patients who were confirmed with covid-19. However, the isolation and restriction of patient's freedom could have a dramatic effect on the mental and psychological health of the patients [18]. Additionally, the stigmatizing attitude of the health care workers towards these patients in quarantine could have a more adverse impact on their psychological health. Best of our knowledge, there is no paper that studies the impact of stigmatizing attitudes among physicians on the psychological well-being of isolated COVID-19 patients.

All patients participating in the survey spent more than ten days at the hospital in quarantine. During their stay, nearby 64.9% did not know the consultants who handled their cases. Moreover, 64.9% of the patients had not been seen by their doctors in the last four days before starting the survey (table 2). Approximately 37.8% faced various difficulties (table 4).

The results of this paper showed that the mean total score of the PHQ-9 scale for the patients was about 9.37. This value reflects that most of the cases joining the survey were suffering from moderate depression according to the cut-off of the PHQ-9 scale [10]. Furthermore, the mean total score of MICA-4 for physicians in our study was 45.35. So far, there is still no interpretation threshold of scores on MICA-4. However, the MICA-4 score varies from 16 to 96 in total. A high MICA-4 score indicates high stigmatizing attitudes. From our study, the MICA-4 score is considered high compared to other studies that used the same scale [19,20].

Our results showed that patients who were in severe depression and moderately severe depression had been under the supervision of three doctors with the highest mean MICA score (table 8). Moreover, patients with moderate depression had been seen by one or two doctors with a high MICA score. Therefore, depression among the patients in the isolation rooms could be strongly connected to the stigmatized attitude of physicians against mental illness. Abandoning patients and not giving them the care that they need from their physicians could cause a more negative psychological effect. Despite the previous numbers, what was interesting in our results was the high satisfaction percentages from the patients about the way of the medical team communication and the general satisfaction. About 70.3% of the patients are satisfied or very satisfied with the medical team's way of communication and 78.4% of them are in general satisfied or very satisfied with the medical team.

STRENGTH AND LIMITATION

One aspect that reduces the strength of our study is that the sample size was not large from both sides, the patients and the physicians. The precautionary measures to minimize the contact between the staff restrict our data collectors to interview the physicians. Likewise, the admitted COVID-19 patients to KAMC were mostly critical cases due to the nature of the hospital as a tertiary care hospital. It was not easy to find stable and not delirious patients to interview them through the phone. Another limitation in our study is that it would be more accurate if we did PHQ-9 to all our samples from the patients on the first day of their isolation so we can compare it later after the 7th day in the isolation room to test our hypothesis. Although the majority of our sample had not any past psychiatric history, with our method we can not rule out the risk of COVID-19 itself or other factors which could cause depressive symptoms far from the stigmatizing attitude of the physicians.

One of the most important strengths of this study is that, to our knowledge, it could be the first study that searches for the connection between the stigmatizing attitude of the physician against the mental illness and the psychological well-being of the patients in the isolation rooms.

CONCLUSION

The high results of MICA-4 of the responsible physicians have a relatively direct correlation with the high results of PHQ-9 of their COVID-19 patients in the isolation. The patients in quarantine who faced stigmatization attitudes from their physicians could have more risk to develop signs of depression. Other studies with a bigger sample size could help to confirm this correlation. Training workshops and education about the stigma could help to improve the attitudes of health workers towards the patients in isolation.

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Ethics approval

Ethical approval from the ethical committee at KAMC (IRB number is 20-628) was obtained at 12-05-2020.

Consent of publication

Obtained.

Authors' contributions

The main author: Dr. Sami Yahya Saad, conceived and designed the study.

Doaa Khalid Mohorjy, Data analysis.

Dr. Omniah Mohammedali Andijani, designed and wrote the methods.

Dr. Awatef Mohammed Alhattami, literature review.

All the authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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