
**PSYCHIATRIC PATIENTS' SYMPTOMS AND LEVEL OF AGGRESSION
BEFORE AND AFTER THE UTILIZATION OF COVID-19 PREVENTIVE
MEASURES: A MIXED METHOD STUDY**

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ABSTRACT

Background: Although numerous empirical researches corroborated the efficacious and prosperous impact of Coronavirus preventive measures, it may arouse non-deliberately negative communicative clues and feelings such as the feeling of ignorance, loneliness, exclusion from the community. **Aim:** The study aimed to compare patients' level of aggression and severity of symptoms before and after the utilization of covid-19 precautions. **Subjects and method:** **Design:** Triangulation mixed method design. **Setting:** Alhasa for mental health hospital, Saudi Arabia. **Subjects:** a total number of 125 patients and 72 nurses. **Tools of data collection:** Structured observational assessment sheets adopted from the Ministry of Health in Saudi Arabia as well as unstructured questionnaires with open questions developed by the researcher used to assess patients' symptoms and level of patients' aggression before and after corona pandemic. **Results:** Nurses confirmed that, patients' psychotic symptoms and level of aggression increased in rate after utilizing covid-19 precautions, while psychiatric patients exposed feelings of insecurity, sadness, and anger as consequences of utilizing these measures. **Conclusion:** Comparative results assessing patients' positive and negative symptoms as well as aggressive acts before the utilization of precautions and after applying it reflected statistically significant differences that nurses and other health team members should consider and scrutinize. **Recommendations:** Further researches designing a modified covid-19 preventive precautions manual for psychiatric patients is recommended.

Key words: Covid-19 preventive measures, Level of Aggression, Psychiatric Patients' Symptoms

INTRODUCTION

Since the inclusive outbreak of the Covid- 19 pandemic, abundant unprecedented health challenges transpired within different countries and consequently, stringent health policies and rigorous procedures have been released to constrict the predominance of infection among individuals. People with mental health problems could be more susceptible to infections and viruses due to hospital-congregated environment where patients have to share dining rooms, bathrooms, living rooms as well as therapy rooms (Xiang et al, 2020). Subsequently, psychiatric health teams encountered diversified challenges in order to maintain preventive precautions and deliver optimal care to patients. One of these noteworthy and salient challenges is patients' adherence to these health-related procedures (e.g. continuous hand washing and wearing a mask), which may contribute to poor COVID-19 outcomes if not pursued (Huang, Zhao, 2020; Xie, et al, 2020).

Although numerous experiments and empirical researches corroborated the efficacious and prosperous impact of Coronavirus preventive measures, it may arouse non-deliberately negative communicative clues and feelings such as the feeling of ignorance, loneliness, exclusion from the community. These negative feelings may be substantially manifested in psychotic patients, who have their illness-related concerns of stigmatization, isolation, and rejection (Wasserman, Gaag, Wise, 2020). In this context, O'Conner &Portizky, 2018 investigated the relationship between entrapment and suicide and concluded that suicidal patients are sentient to any signs or insinuations for rejection that may be misperceived during social distancing protocol.

On the other hand, Bojdani et al, 2020 in their study to assay the impact of the Coronavirus on psychiatric care they declared that some psychotic patients (paranoid patients) experienced further fear and suspiciousness when communicated with nurses wearing PPE (Persona; Protective Equipments). Moreover, they denounced that psychiatric hospitals' obligation of infection control restrictions may develop a more isolating context, which may be desirable and granular for some patients like depressed clients. In this context, Desroches, Ailey, Fisher & Sych,2021; Xiang, et al, 2020; Yao, Chen, & Xu, 2020,revealed through their diversified researches sundry challenges and assorted priorities for psychiatrists to regard and deem, and represented that psychosomatic symptoms may be worsened in patients due to pandemic stressors and stern precautions.

AIM OF THE STUDY

This study aimed to compare patients' level of aggression and severity of symptoms before and after the utilization of covid-19 precautions. Moreover, the researcher desiderates to identify patients' as well as nurses' perspectives towards these preventive measures.

Research question:

Are there any statistical significant differences in the mean scores of patients' level of aggression and psychotic symptoms before and after the utilization of corona precautions?

SUBJECTS AND METHOD

Technical Design

Design

Triangulation mixed method design was utilized (the validating quantitative data model); the first design followed for quantitative data utilizing the time-series analysis in which the measurements of variables obtained at two different times in order to measure the differences, data collected through the chart review and analysis in order to assess patients' severity of symptoms and level of aggression three months before the use of Covid-19 preventive measures (e.g. wearing a facial mask, hand washing, social distancing). Then the researcher analyzed nurses' daily assessment for the studied variables again three months after the utilization of Covid-19 preventive measures.

Setting

The study was conducted on Alhasa for mental health hospital, Saudi Arabia.

subjects

All hospitalized inpatients during the period January 2020 and June 2020 were included in this research (n= 134); nine patients were discharged during the study period; thus the study incorporated 125 psychiatric patients. On the other hand, 136 nurses working on Alhasa for mental health hospital also participated in this research. Patients with severe impairment in communication and thought processes were excluded from the research.

Tools of Data Collection

For attaining the study objective, the following tools were utilized in collection of data:

- 1- Patients' demographic and clinical data questionnaire developed by the researcher and included data such as age, sex, diagnosis and length of hospitalization.
- 2- Nurses' demographic and work- related characteristics developed by the researcher and elucidated data such as age, years of experience and unit.
- 3- Structured questionnaire assessing nurses' experiences concerning the preventive precautions of covid-19 was designed by the researcher. It contains information such as preventive measures followed by the nurses in the hospital and patients' responses nurses' perceptions of towards these measures.
- 4- Structured observational assessment sheet adopted from the Ministry of Health in Saudi Arabia and utilized by nurses working in the psychiatric hospitals, the sheet assess patients' symptoms on daily basis through the three shifts. It also states the level of patients' aggression.
- 5- Structured incident report issued by the Ministry of Health in Saudi Arabia and utilized by nurses working in the psychiatric hospitals was also used in order to assess types of aggressive behaviors, causes for aggression and its frequency.
- 6- Unstructured questionnaire with open questions assessing nurses' perspectives towards the utilization of covid-19 precautions with psychiatric patients was used.
- 7- Unstructured questionnaire with open questions assessing patients' feelings and perspectives towards the utilization of covid-19 precautions applied in the hospital.

Operational Design**Preparatory phase**

It included reviewing of related literature and theoretical knowledge of various aspects of the study using books, articles, internet periodicals and Journals to develop the tools for data collection.

A. Validity:

Content validity was conducted to test the tool for appropriateness, relevance, correction and clearance through a jury of 10 experts from nursing faculty staff and medicine faculty staff of

King Faisal University and Port Said University, their opinions were elicited regarding the tool format layout, consistency and scoring system.

Reliability:

Testing reliability of proposed tool was done by cronbach's alpha test. Cronbach alpha value was 0.82 for nurses' experiences questionnaire and a cronbach alpha value was 0.90 for nurses' structured observational sheet indicating reliability of the developed data collection tools. Regarding the unstructured questionnaires, for nurses' questionnaire the Cronbach alpha value was 0.88 and for patients' questionnaire it was 0.80.

B. Pilot study:

Prior to performing the actual study, a pilot study was carried out on 10% of nurses and 10% of patients to test the applicability, visibility, clarity of questionnaire and arrangement of items, and estimate the time needed for each sheet. The participants included in the pilot study were excluded from study. Some modifications were done to based on the pilot study and opinion of experts.

C. Field of Work

Before the utilization of this study, the researcher assessed the significance of the study problem; and based on the results summarized from patients' files and nurses' charts comments, the researcher assured the prominence of this research. Concerning chart analysis before utilizing Coronavirus precautions, the researcher reviewed patients' files separately; starting from January 2020 until March 2020. Based on the daily nurses' observational chart utilized at the hospital (A Template designed, reviewed, and issued by the Saudi Ministry of Health, a template is included in the appendix), the researcher designed a standardized data abstraction form in order to maintain validity, consistency, and reliability of data encoded; the form included both positive (e.g. delusions, bizarre behaviors) and negative (e.g. a-volition, disturbed affect) psychiatric symptoms as well as patients' aggressive behaviors (e.g. threatening verbal or physical violence). Then the researcher designed a software package that parallels the data abstraction instrument used (Microsoft excel). Assessment of variables was encoded on daily basis for each patient separately and through the three daily shifts. Patients' demographic and clinical data were collected based on a structured questionnaire developed by the researcher. As regards the assessment of variables after using covid-19 preventive measures, the researcher relied on the

structured data abstraction form designed by the researcher as well as nurses' daily sheet in order to report the daily assessment of the studied variables.

By adopting the validating quantitative data model, qualitative questionnaires developed to collect nurses' and patients' quotes in order to embellish the quantitative assessment findings. Thus, nurses' experiences regarding covid-19 precautions as well as nurses' evaluation for patients' level of aggression and severity of symptoms before the pandemic and after it were identified through a structured open-ended questionnaire designed by the researcher. The research also explored patients' feelings as well as perspectives regarding the application of Covid-19 preventive procedures. The researcher utilized one-to-one unstructured interviewed with participants for 30-40 minutes, in which the researcher asked questions and then recorded respondents' responses on a diary and/or use mobile recorder when the participant allow.

Administrative Design

An official letter has issued from the Faculty of Nursing, King Faisal University to the directors of Alhasa for mental health to obtain the permission to conduct the study.

Ethical Consideration:

After obtaining the official permission to conduct the study, the participants were informed with the aim and nature of the study. It was emphasized that the participation is voluntary and confidential and anonymity of the subject was assured through coding of data.

Data Analysis

All data obtained were extracted to Microsoft Excel, and then the quantitative data were imported to SPSS 26 for analysis. The quantitative data were used to produce descriptive statistics to summarize the relevant measurements of variables and reveal the differences in the mean scores. Nurses' record for the frequencies of patient positive and negative symptoms as well as aggressive acts for the three months before the utilization of covid-19 precautions were encoded on the SPSS and then summed up with the total mean scores of variables. Then, the studied variables' frequencies measurements for three months after were also encoded on SPSS the utilization of covid-19 precautions and summed up with the total mean scores. T-test was performed in order to measure the significant differences among the mean scores of variables.

The qualitative data was transcribed and the researcher re-read participants' responses and wrote initial ideas, consequently, the researcher started coding essential features of data to generate major themes as outlined by Braun and Clarke (2006). After reviewing the themes, the researcher applied an on-going analysis in order to refine and generate a thematic map of analysis and ended with generating a clear definition and name of themes. Examples of both nurses' and patients' quotes regarding their perspectives towards the utilization of covid-19 precautions were also presented.

RESULTS

Quantitative Study results

Table (1): presented that female patients as well as patients aged between 20-40 years old presented 52.8% of the participants. Also it represented that 44.8% of patients were hospitalized for 9 to 12 months before the study. Finally, the table reflected that 48.0% of patients were schizophrenic.

In relation to patients' psychotic positive and negative symptoms, **table 2** clarified that high statistically significant differences were obtained among the mean scores of hallucinations, bizarre behaviors, and speech disturbances before and after the utilization of preventive measures of Covid-19. Moreover, the table also reflects high statistically significant differences in the mean scores of mood disturbances, poor personal hygiene, impaired social interaction as well as sleep disturbances before and after the utilization of preventive measures of Covid-19. One of the striking results of this research is that the total scores of negative symptoms before and after the utilization of preventive measures of Covid-19 were statistically and significantly different while the total scores of positive symptoms were not. Eventually, the table displayed that a high statistically significant difference was obtained between the mean scores of aggression before and after the utilization of preventive measures of Covid-19.

In relation to nurses' demographic data, **table 3** showed, more than half of nurses (61.8%) were aged from 20- 25 years old. Moreover, 45.9% of nurses had work experience for about 6-8 years. Table 4 explicates nurses' experiences regarding the use of universal preventive precautions of COVID-19, as the table reflects; all nurses received training regarding Covid-19 precautions from the Ministry of health. Surprisingly, 82.3% of nurses stated that patients were not

conformed to these precautions; of which 98.0 % of them reported that social distancing was the most non-compliant procedure, followed by wearing a face mask (78.6%). On this context, the nurses relate patients' non-compliance with patients' reactions and feelings associated with the utilization of these measures (87.5% and 86.6% respectively).

In the same context, more than half of nurses (55.2%) were dissatisfied with using Covid-19 preventive measures with psychiatric patients. Finally, **table 4** represents nurses' work challenges during the Covid-19 pandemic, as the table shows, 51.5% of nurses listed patients' non-compliance as a challenge, followed by insufficient resources and increase in the number of cases particularly during the pandemic (46.3% for each), and finally, nurses mentioned that the difficulty in applying some measures (e.g. use of social distancing in meals rooms, bedrooms, group therapy) may be a great challenge for psychiatric nurses during the covid-19 pandemic.

Qualitative Study Results

Patients' feelings associated with the utilization of preventive precautions of Covid- 19 in the hospital

Patients' feelings associated with nurses' as well as departmental universal precautions for COVID- 19 were summed up and illustrated in **table 5**. As the table reveals, feelings of sadness and fear were associated with nurses' use of facemasks (71.2% and 68.0% respectively), furthermore, 70.4% of patients said that nurses wearing PPE caused them to feel frightened. Looking at nurses' use of social distancing, the table represents that patients felt anger, anxiety, and insecurity (80.0%, 79.2%, and 78.4% respectively) when nurses ask them to keep a physical distance.

In relation to departmental precautions, patients revealed that the use of social distancing in group therapies caused feelings of anger and disappointment (79.2% and 48.0 respectively). On the other hand, 80.0% of patients declared that they feel lonely and embarrassed when they are asked to have their meals in their bedrooms. Finally, decreasing the number of visitors and the intervals for visiting schedule or deleting it was very stressful for patients who reported feelings of insecurity, sadness, loneliness, and embarrassment (89.0% for each).

Patients' perspectives regarding the utilization of preventive precautions of Covid- 19 in the hospital. Themes of patients' answers are presented in **table 6**.

Question 1. From your perspective, how nurses' facemasks affect your relationship with the nurses?

Most of the patients viewed Covid-19 preventive measures as a barrier in their relationship with nurses and all medical staff. They revealed that wearing a mask communicates uncertainty that consequently prevents patients from intimacy and security feelings; which are an essential component in the relationship. In the same context, some patients disclosed that nurses' request to keep distancing sometimes is painful and embarrassing, psychiatric patients declared that their needs for support and care achieved through professional interventions such as nurses' therapeutic touch and empathy; which are inhibited through distancing. Other patients declared that nurses' use of these measures communicate their fear and anxiety which is consequently transmitted to them and increase their fears and obsessions.

Question 2. From your perspective, how nurses' use of social distancing affect your relationship with the nurses?

Most of the participants reported that nurses' non-verbal communication is more important than verbal communication; they assumed that facial expression is one of the most important communicative skills that is highly required when dealing with others; it is more honest. Thus, wearing a mask hinder it. Moreover, some patients declared that they felt obsessed when nurses request continuous hand washing. Restrictions during family visits were also viewed as another barrier to consider; even communication with families is limited for only verbal communication while keeping distancing.

Question 3. From your perspective, how limited activities and limited ward routines as mealtime as well as therapy sessions affected you?

Most of the participated patients proclaimed that all Covid-19 measures influenced all their live aspects such as the relationship with other patients, and medical staff, they admitted that they became more isolated.

Question 4. From your perspective, how limited family visits due to covid-19 affected you?

Most of patients stated that their families refused to visit them due to corona which enhances their feelings of rejection, stigmatization and loneliness.

Nurses' perspectives regarding the utilization of preventive precautions of Covid- 19 in the hospital. Themes of nurses' answers are presented in table 7.

Question. From your perspective, how these preventive precautions affected patients' condition?

Most of the nurses professed that through their continuous observation and daily assessment of patients; some symptoms increased in rate during the pandemic. Social isolation is one of the most reported by nurses, they announced that some depressed and schizophrenic patients preferred to sit in their rooms all day; they refused to participate in activities in comparison to before. Consequently, symptoms as hallucinations, irritability, and anxiety were observed frequently among patients. Moreover, some depressive symptoms increased in their severity as restricted activities, depressed mood, poor hygiene, and anger. Eventually, patients in acute phases experienced severe suspiciousness, in response to Covid-19 restrictions.

Almost all of the nurses conceded that patients' aggressive behaviors increased during the Covid-19 pandemic. They relate it with patients' levels of anxiety and irritability, patients' refusal of limits and restrictions, limited family visits, and decreased occupational activities. Also, nurses reported aggression as a consequence after asking patients to maintain distance from others. Nurses also viewed social distancing as the most challenging measure used with psychiatric patients.

Table (1): Demographic and clinical data of the psychiatric patients (N= 125).

Demographic and clinical nurses' data	Frequency N= (125)	%
<i>Age (in years)</i>		
<20	27	21.6
20<40	66	52.8
40<60	32	25.6
Range	14- 58	
<i>Sex</i>		
Male	66	52.8
Female	59	47.2
<i>Length of hospitalization (in Months)</i>		
<1	0	0.0
1<3	3	2.4
3<6	10	8.0
6<9	38	30.4
9<12	56	44.8
>12	18	14.4
<i>Ward</i>		
Male acute	21	16.8
Male chronic	45	36.0
Female acute	20	16.0
Female chronic	39	31.2
<i>Diagnosis</i>		
Schizophrenia	60	48.0
Depressive disorder	25	20.0
Bipolar disorder	13	10.4
Schizoaffective	27	21.6

Table (2): Psychiatric positive and negative symptoms as well as aggressive acts among the studied patients before and after the utilization of Covid-19 precautions (n=125)

Variables	Before		After		t	Sig. (2- tailed)
	M	SD	M	SD		
Positive symptoms:						
Disorders in content of thought	0.6720	0.47137	0.8080	0.39546	-2.333	.021*
Hallucinations	1.2080	1.16602	1.4240	0.99405	-5.587	0.000**
Bizarre behaviors	1.4560	1.20150	1.4720	1.47860	-5.625	0.000**
Speech disturbances	1.9280	0.78469	0.9360	1.34850	4.857	0.000**
Total score of positive symptoms	4.8000	2.77953	5.0960	1.91524	- 1.655	0.101
Negative symptoms :						
Affect disturbances	1.6400	1.45025	1.7700	1.45025	0.913	0.363
Mood disturbances	0.7120	0.85963	0.7321	0.85963	- 2.301	0.023*
Neglect of appearance & hygiene	2.5520	0.76681	2.6960	0.65036	-3.199	0.002**
Impaired Social interactions	1.8000	0.84242	1.8000	0.84242	- 7.845	0.000**
Disorientation	0.4800	0.50161	0.4160	0.49488	1.156	0.250
Impaired Consciousness	0.0000	0.00000	0.3040	0.79539	-4.273	0.000**
Impaired Insight	0.6000	0.49187	0.6160	0.48832	-.282	0.779
Sleep disturbances	0.7680	0.87193	1.0480	0.92332	-2.955	0.004**
Total score of negative symptoms	8.1920	2.46819	9.5440	2.62280	- 6.491	0.000**
Aggression :						
Total aggressive behaviors score	0.5040	0.50200	0.9280	0.25953	-9.256	0.000**
ed t-test was used						
stically significant at $P \leq 0.05$						
ghly statistically significant $P \leq 0.001$.						

Table (3): Psychiatric nurses' demographic and work- related data (N= 136).

Demographic and work- related data	Frequency N= (136)	%
<i>Age (in years)</i>		
20-25	84	61.8
25-30	32	23.5
30-35	20	14.7
35-40		
>40		
<i>Sex</i>		
Male	78	57.4
Female	58	42.6
<i>Years of experience</i>		
<1		
1-4	9	6.6
4-6	36	26.4
6-8	62	45.9
8-10	29	21.3
>10		
<i>Ward</i>		
Male acute	41	30.1
Male chronic	30	22.0
Female acute	36	26.5
Female chronic	29	21.3

Table (4): Data related to nurses' experiences regarding the use of universal preventive precautions of COVID-19 (N= 136).

Questions	N (=136)	%
Did you receive any training or protocol regarding preventive precautions of COVID-19?		
Yes	136	100
No	0	0.0
What are the sources of this protocol or training?		
Ministry of health	136	100
Hospital	0	0.0
Others (e.g. Media)	0	0.0
What are the preventive precautions you followed when dealing with patients? (Select all that apply)*		
Wearing mask	136	100
Continuous hand washing/ Hand rub	136	100
Wearing PPE	32	23.5
Social distancing	136	100
Others		
Did you inform the patients about reasons for using these precautions?		
Yes	96	70.6
No	40	29.4
What are the responses of patients towards these precautions?		
Agree / Comply	24	17.7
Do not comply	112	82.3
What are the procedures which patients do not follow? (n= 112)		
Wearing mask	88	78.6
Continuous hand washing/ Hand rub	32	28.8
Social distancing	110	98.0
From your perspective, what are the reasons of patients' incompliance?		
Patient's reveal of negative feelings (e.g. dissatisfaction, discomfort, uncertainty)	97	86.6
Patient's inappropriate reactions (e.g. hostility, anger, verbal aggression)	98	87.5
Patients' incompliance with all procedures and instructions	78	69.6
I do not know	38	33.9

Table (4)Cont. Data related to nurses' experiences regarding the use of universal preventive precautions of COVID-19

Questions	N (=136)	%
From your perspective, are you satisfied with using these precautions with psychiatric patients?		
Yes	61	44.8
No	75	55.2
May you kindly indicate the reasons for dissatisfaction?* (n= 75)		
Patients' reactions (e.g. aggression, hostility, social withdrawal)	75	100.0
Patients' feelings (e.g. anxiety, fear, insecurity, suspiciousness)	75	100.0
I think it affected my therapeutic communication process	35	46.7
I think it affected my trust relationship with my patients	9	12.0
I think it increased some symptoms of patients' disorders (e.g. depressed mood, withdrawal, paranoid thoughts)	66	88.0
I think it affected the therapeutic management and delivery of care for psychiatric patients	2	2.7
What are the challenges you face in applying these precautions?		
Its negative effects on patients	46	33.8
Patients in compliance with these precautions	70	51.5
Patients' initial reactions which may induce nurses' abuse	5	13.8
Insufficient resources	63	46.3
Difficulty of applying some precautions (e.g. use of social distancing in meals rooms, bed rooms, group therapy)	59	43.4
Increase of new cases affected by this pandemic	63	46.3
Family concerns (e.g. refusal of some families to visit their patients during the pandemic)	39	28.7
Nurses' concerns (e.g. psychological problems, stress)	5	3.7

Table (5): Patients' feelings regarding nurses' and departmental universal precautions for COVID- 19 as reported by the studied psychiatric patients (N= 125).

Questions	Accepting	Neutral	Fear	Insecurity	Anger	Sadness	Anxiety	Loneliness	Disappointment	Distance with others embarrass
<i>Please describe your feelings regarding the following precautions*</i>										
<i>Nurses' use of universal precautions</i>										
Nurses' use of face mask when communicating with you	69 (55.2)	90 (72.0)	85 (68.0)	49 (39.2)	0 (0.0)	89 (71.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Nurses' use of PPE when communicating with you	10 (8.0)	100 (80.0)	88 (70.4)	13 (10.3)	2 (1.6)	36 (28.8)	27 (21.6)	0 (0.0)	0 (0.0)	0 (0.0)
Nurses' use of social distancing when communicating with you	22 (17.6)	20 (16.0)	18 (14.4)	98 (78.4)	100 (80.0)	77 (61.6)	99 (79.2)	0 (0.0)	0 (0.0)	0 (0.0)
<i>Departmental universal precautions</i>										
Use of social distancing in group therapies	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	99 (79.2)	0 (0.0)	78 (62.4)	0 (0.0)	60 (48.0)	0 (0.0)
Eating meals in bed room instead of meal room	0 (0.0)	0 (0.0)	0 (0.0)	88 (70.4)	19 (15.2)	33 (26.4)	39 (31.2)	100 (80.0)	0 (0.0)	100 (80.0)
Decrease the number of visitors and the intervals for visiting schedule or deleting it	0 (0.0)	0 (0.0)	0 (0.0)	112 (89.6)	37 (29.6)	112 (89.6)	13 (10.4)	112 (89.6)	112 (89.6)	8 (6.4)

Table (6): Patients' perspectives regarding the utilization of preventive precautions of Covid- 19 in the hospital (N= 125).

Themes	Quotes
Question 1. From your perspective, how nurses' facemasks affect your relationship with the nurses?	
<i>Feeling of mistrust and suspiciousness</i>	" Yes I do, how come that I expect that she is a nurse here?, I cannot recognize them, also I do not trust people I cannot see their faces"
	"I keep telling nurse "S" to remove his face mask, but he refused, thus I won't talk with him again. How can he accept to hide his face and I talk with him, how can I know that it is not someone else came here to harm me?"
<i>Hinder communication process</i>	" You know, I cannot talk with someone I do not see. If you want me to keep talking with you remove your face mask first"
<i>Absence of non-verbal clues as facial expressions</i>	" Can I tell you my secret, when I talk with anyone, I always investigate his/her face expressions, I truly understand people's reactions through their faces, but this face mask prevent me from that"
<i>Unclear messages</i>	" in many times I could not hear nurses well because of face mask"
Question 2. From your perspective, how nurses' use of social distancing affect your relationship with the nurses?	
<i>Feeling of embarrassment</i>	"It really hurts, she asked me to stay away in front of other patients. I felt so bad.. so embarrassed"
	" yesterday when I was in the session of therapy, I wanted my doctor to see my new drawing but he said stay away do not come closer"
<i>Perception of being rejected and isolated</i>	" Yes, how come that she ask for that, how I can tell her my secrets?, I asked to whisper to her but she said stay away"
	"When the doctor "A" asked that, I felt so angry and I wanted to hit him for this reaction, it is not good for psychiatric patients to be treated with these behaviors, they are not infection Why...why?"
	" It is ok for me, I used that people interact with me with the same behavior, they always stayed away from me by themselves"
	" they keep saying corona, corona, do this for corona, do not do this for corona, but I my opinion they not care about us, they care about corona"
<i>Feeling of fear and anxiety transmitted through nurses'</i>	" I feel so worry, I feel anxious when they asked me for that, they transmit their fear to us"
Question 3. From your perspective, how limited activities and limited ward routines as mealtime as well as therapy sessions affected you?	
<i>Neutral reactions</i>	" It is good for me, I always want to be away from other patients.. They build spaces among us, I am happy with that."
<i>feeling of Sadness</i>	" I feel sad, so sad"

Table (6).Cont. Patients' perspectives regarding the utilization of preventive precautions of Covid- 19 in the hospital.

Themes	Quotes
Question 4. From your perspective, how limited family visits due to covid-19 affected you?	
<i>Feeling of anger and loneliness</i>	“ I hate this, they prevented me from hugging my child in the last visit. I felt so angry and then I hit the nurses there and told them that they are devils, after that, I stayed in my room and refused to go out. I hate those nurses”
	“ I have not see my family since April, do you believe that, is there a family leave their child for this long time, I let nurses called them, but they said we cannot come because of corona” patient cried
<i>Self blame</i>	“ They refused to come to me because I am sick, because I have been always fighting with them, they do not want me anymore”
<i>Patients' perception as it is punishment for them and others</i>	“ In my opinion, Coronavirus is a punishment from God to me and to all humans because of our faults”

Table (7).Nurses' perspectives regarding the utilization of preventive precautions of Covid- 19 in the hospital (N= 136).

Themes	Quotes
From your perspective, how these preventive precautions affected patients' condition?	
<i>Increase in severity of positive and negative symptoms</i>	" I believe so, through my observations, I noticed that patient "k" and patient "d" tend to isolate themselves on their rooms and refuse to go out, moreover, their hallucinations are also increased. but honestly I think also that it is our fault we make rigid restrictions in order to limit their interactions, I think these restrictions are not appropriate for all patients. Restrictions should consider patients' diagnosis"
	"social withdrawal, depressed mood, anxiety and irritability in my perspective are the most observed symptoms increased in severity"
	" sleep disturbances is the most prevalent symptoms as a consequence for corona preventive precautions, patients' cycle of sleep disturbed, all the day they are in their rooms and usually sleep in the morning for long hours, this caused sleep disturbances for them at night"
	" patients' psychotic symptoms are increased particularly now. Patients schedule for activities deleted for this month, group therapy sessions are also deleted and instead individual sessions structured with the doctor that not exceed 10 min. patients became more isolated and feel lonely"
<i>Increase in patients' aggressive behaviors</i>	"Yes, I think so, please refer to patients' files you can easily notice that. Onetime, my colleague asked the patient to keep distance with her, but the patient slapped her in her face. I think they refuse these actions, they might misperceive it as a way of rejection"
	" you know, I really wanted to have a research regarding this area, I noticed that some patients here in the department became more violent and aggressive when see us wearing masks, you know one patient forcefully removed a face mask from a nurse face which caused scratches on her face "
	"some patients refused to commit with these precautions, refuse to keep at least a distance with others, we really care about them, I am afraid that I might have corona and cause him to be infected. But they do not understand that, they keep telling that we do not accept them anymore or love them anymore. This consequently, caused their aggression, anxiety and irritability "
	"Verbal aggression is the most prevalent type of aggression, they shout with loud voice, they said bad words, and accused us that we are careless and devils"
<i>Increase in patients' inappropriate reactions</i>	" some patients screamed and shout..., others hit us and tried to scratch nurses' body"
	" some patients perceived us as careless"
<i>Cause of patients' negative feelings</i>	"Unfortunately, the number of nurses here decreased because of corona virus, this caused for us double loading, and sometimes I feel tired, exhausted, frightened, and anxious. All these causes I think prevented me to think about patients' needs and problems accurately , I focused on precautions only and how to limit infection"
	" No, I do not think that there is a problem with that. The patient accepted these measures, they just need time to adjust with these new regulations"

Table (7).Cont. Nurses' perspectives regarding the utilization of preventive precautions of Covid- 19 in the hospital.

Themes	Quotes
From your perspective, how these preventive precautions affected patients' condition?	
Cause family abstention for patients' visits	“regrettably, publics' are not aware of corona, families are so afraid and worried, some families refused to come for patient's visit and others came here and take their patients home, although their conditions were not stable”
Some measures are not appropriate for psychiatric patients	“In my opinions these measures should be modified for psychiatric patients, we have to find out other alternatives. Psychiatric patients are unique in their symptoms and therapy, I think some measures particularly social distancing and limited activities should not applied with those patients”

DISCUSSION

This study hypothesized that Covid-19 preventive measures have no association with patients' psychotic symptoms as well as the level of aggression. However, the results of both quantitative design and qualitative study reflected that both nurses and patients contradicted this hypothesis and claimed that Covid-19 precautions had negative consequences on patients' symptoms and aggressive behaviors.

Comparative results assessing patients' positive and negative symptoms as well as aggressive acts before the utilization of precautions and after applying it, reflected statistically significant differences. This result may be related to social restrictions such as limited interactions, activities, therapy sessions, and family visits; patients spent most of their day in their rooms, this may enhances their psychotic symptoms as hallucinations. Concerning negative symptoms, neglect of personal hygiene, social withdrawal, and sleep disturbances was highly observed after applying preventive measures in comparison to before. This study is in line with the results of Bojdani et al, 2020 who pronounced in their study that psychotic symptoms of psychiatric patients may be increased due to Coronavirus restrictive precautions. Moreover, Ciria &DíaSahún, 2021 studied the quarantine related psychotic symptoms and referred to the increase in the severity of symptoms as a consequence for covid-19 preventive measures.

Looking at the aggression level, the results revealed that nursing records and observational notes disclosed an increase in patients' aggressive acts during the pandemic, and they relate this to the utilization of Covid-19 precautions. Some nurses reported that most of these incidents were associated with patients' debate regarding nurses' use of

facemasks and social distance; moreover, nurses also proclaimed that patients' noncompliance may be also an indicator for this increase in patients' aggressive behaviors.

This study results showed that most of the patients have not complied with these precautions as reported by the studied nurses. When clarified from the nurses about causes for noncompliance, they admitted that the patient's inappropriate reactions (e.g. verbal aggression, hostility), as well as the reveal of negative feelings such as insecurity and anxiety, are the main causes from their perspective. Indeed, these precautions are new and not familiar to psychiatric patients whom always need a structured environment with no modifications. New regulations require adjustment and adaptation; patients may need time to adapt and accept it. This result is consistent with the results of Guan, Liang, Zhao, 2020 and Bartels, Baggett, Freudenreich, Bird, 2020 who reported in their study that patients' compliance with precautions for covid-19 is a challenge for healthcare workers.

More than half of nurses were dissatisfied with some precautions used with psychiatric patients, they linked that with patients' reactions, and feelings as well as their perspective that these precautions may increase patients' symptoms particularly depressed mood, social withdrawal, and suspiciousness. In this context, Fancourt, Steptoe, & Bu, 2020 in their prospective observational study mentioned that the levels of anxiety and depressive symptoms during quarantine increased dramatically among psychiatric patients in England.

When exploring patients' feelings associated with nurses' use of preventive measures of Covid-19, patients reported anger, anxiety, insecurity, and sadness were the highest reported feelings. Truly, this significant result may explain patients' behaviors that are controlled by those feelings, as well as patients' non-compliance with these measures due to their feeling of uncertainty.

The results also revealed that most of the patients pronounced that nurses' use of these measures affected their therapeutic relationship, communication process, and therapeutic care as a whole. Although nurses informed patients about these measures and their rationale for use, patients still viewed them as barriers. In addition, patients stated that nurses' facemask prevents them to see her reactions and facial expression and from their perspectives, it is block communication. Other patients viewed facemasks as a concealing method that increase their level of trepidation and mistrust and asked nurses to not follow. In the same context, patients announced that when nurses request them to

keep distancing they felt rejected, ashamed, and stigmatized, and consequently feel depressed, isolated, and lonely. Furthermore, limited family visits were reported by patients as one of the most disappointing consequences of the pandemic and declared that it caused them to feel more isolated and lonely. This result is convenient with the results of Xiang et al, 2020 who addressed in their study of revealing the China's experiences of mental health hospitals' challenges that the outbreak of Covid-19 caused increase in patients' isolation due to the forced quarantine of their families and consequently restricted family visits.

CONCLUSION

In summary, both the studied psychiatric nurses and patients pronounced that Covid-19 preventive measures might have negative consequences on patients' illness condition. Nurses confirmed through their observations that, psychiatric patients' psychotic symptoms and level of aggression increased in rate after utilizing covid-19 precautions especially social distancing and limited family visits. On the other hand, psychiatric patients exposed feelings of insecurity, sadness, and anger as consequences of utilizing these measures. Most of the patients preferred that nurses do not use a facemask or request social distancing while communicating with them.

RECOMMENDATION

Reckoning on this study results, the researcher recommends that healthcare workers request patients to adhere to Covid-19 precautions in calm, supporting, and motivating communication style. Moreover, nurses should explain to patients the reasons and consequences of non-compliance with these preventive measures as well as allow patients' expression of feelings and reflection of thoughts. Based on the study results, family refusal of patient visits affected patients' condition negatively, thus informing families through health teaching sessions about Coronavirus preventive measures followed in the hospital as well as patients' perceptions and feelings towards their refusal may encourage families to visit their patients. Further researches aiming at designing a modified covid-19 preventive precautions manual for psychiatric patients is recommended. Moreover, it is also recommended to design motivating programs and hospital recreational activities for patients in order to help in managing symptoms during this pandemic.

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أعراض المرضى النفسيين ومستوى العدوان قبل وبعد استخدام التدابير الوقائية لكوفيد 19:**دراسة طريقة مختلطة****سونيا محمد السيد الصياد**

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الخلاصة

على الرغم من أن العديد من التجارب والأبحاث التجريبية أكدت التأثير الفعال للتدابير الوقائية لفيروس كورونا ، إلا أنها قد تبعث برسائل سلبية غير متعمدة للمريض تعزز من الشعور بالوحدة والإقصاء من المجتمع. و لذا هدفت هذه الدراسة إلى مقارنة مستوى العدوانية لدى المرضى وشدة الأعراض النفسية قبل وبعد استخدام التدابير الوقائية ل كوفيد-19. و تم تطبيق الدراسة على 125 مريضاً و 72 ممرضاً و تم استخدام عدة أدوات لجمع البيانات مثل أوراق التقييم بالملاحظة المعتمدة من وزارة الصحة في المملكة العربية السعودية والاستبيانات غير المنظمة ذات الأسئلة المفتوحة و التي صممها الباحث لتقييم الأعراض المرضية ومستوى عدوانية المرضى قبل وبعد جائحة كورونا. و أشارت النتائج الى ان كلاً من الممرضات والمرضى النفسيين رأوا أن احتياطات كوفيد-19 قد يكون لها عواقب سلبية على حالة المرضى. وأكدت الممرضات أن الأعراض الذهانية لدى المرضى ومستوى العدوانية ازدادت بمعدل ملحوظ بعد استخدام احتياطات كوفيد-19. و خلصت الدراسة الى أن نتائج المقارنة لتقييم الأعراض الذهانية للمرضى بالإضافة إلى مستوى العدوانية قبل استخدام الاحتياطات وبعد تطبيقها تعكس الفروق ذات الدلالة الإحصائية التي يجب على الممرضات وأعضاء الفريق الصحي الآخرين مراعاتها والتدقيق فيها. و يوصى الباحث بإجراء مزيد من الأبحاث لتصميم دليل احتياطي وقائي معدل لفيروس كورونا، المرضى النفسيين خاصة .

الكلمات المرشدة: فيروس كورونا، الأعراض الذهانية، العنف