

Psychological Resilience and Mental Health among Patients With COVID-19 Pandemic

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Abstract

Background: The corona virus disease 2019 (COVID-19) caused by the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) has devastated the world's population. On 14 February Egypt reported its first COVID-19 case according Egypt scaled up measures of prevention. While most COVID-19 patients reported experiencing mild respiratory symptoms, severe illness or even death has been recorded a significant number of healthy individuals. **Aim:** This study aimed to determine the association between psychological resilience and mental health among patients with COVID-19 pandemic. **Design:** A descriptive correlational design was used to achieve the aim of this study. **Setting:** The study was conducted in Outpatient Thorax Clinic at Benha University Hospital Governorate. **Methods:** Subject in this study 100 patients were selected using a purposive sample with COVID-19 during recovery stage was included from the above settings for conduction of this study. **Tools:** Three tools used for data collection. Tool (I):- A structured interviewing questionnaire was used to collect data about socio-demographic and clinical data of the studied sample. Tool (II): Resilience Scale. Tool (III): Mental health scale. **Results:** More than two thirds of studied sample had moderate level of resilience and less than three quarter of studied sample had good mental health. This mean positive correlation between total level of psychological resilience and mental health. **Conclusion:** The current study revealed that there was a highly statistically significantly positive correlation between total level of psychological resilience and mental health. This mean when level of resilience become high, mental health become good and when level of resilience become low, mental health become poor. **Recommendation:** Providing psycho-social support programs for COVID-19 patients during recovery stage may be effective to alleviate negative psychological effects and to enhance mental health for them.

Keywords: Resilience, Mental health, COVID-19.

Corona viruses are very contagious and potentially fatal viruses. Its rates of morbidity and mortality are rapidly increasing each day. The COVID-19 virus and its effects had a profound effect on people all over the world. The epidemic has had a significant influence on people's relationships with one another, as well as on financial and physical health. A epidemic is very stressful event and while it's reasonable to feel stress, anxiety and depression, it's also prevalent for people to display high resilience during crisis (Senger, 2023).

Moreover, the COVID-19 pandemic had likely brought many changes to how individual live, along with uncertainty, altered daily routines, financial pressures and social isolation. Hence, the pandemic may also create heavy psychological and emotional burdens for the general population. A pandemic is very stressful event and while it's reasonable to feel stress and anxiety, it's also prevalent for people to display high resilience during crisis. As people face an onslaught of stressors related to the disruptions in their lives caused by pandemic, they should rely on each other for

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connection and coping strategies to ease the weight of the public health crisis on their mental health (Li & Samp., 2021).

Resilience is not a single feature of the person, but it's a result of the interactions between internal resilience factors and environmental factors. So, resilience is the process by which an individual recovers, maintains or improves their mental health in the face of adversity. Psychological resilience prior to the COVID-19 pandemic, evidenced for example by the absence of psychopathology and /or presence of positive psychological functioning after trauma exposure. If individuals previously experienced trauma but then demonstrated relatively favorable psychological health, i.e., showed resilience, we might expect them to avoid negative mental health consequences of future stressors like the pandemic, or even to adapt more positively than individuals who never encountered such challenges (Choi et al., 2023).

In addition to the fact that COVID-19 pandemic caused changes in daily life style, it had devastating effects on both the physical and mental health of individuals. The consequences of the COVID-19 pandemic on mental health are most often manifested in the form of increased symptoms of stress, anxiety, frustration and depression. Common psychological reactions associated with changing lifestyles during a pandemic are generalized fear and anxiety, which are usually caused by information about the easy transmissibility of the virus and rapid escalation of new cases of infection (Serafini et al., 2020).

Psychiatric mental health nurse has an important role when providing care for COVID-19 patients because they should see the patient as a whole, as a biological, psychological, social, and spiritual entity.

When it comes to prevention, infection control, isolation, ongoing patient monitoring for COVID-19, and working on the front lines of an outbreak of the corona virus, nurses play a crucial role in healthcare settings. Additionally, nurses play crucial roles in the COVID-19 pandemic by caring for patients in hospitals, reducing suffering during and after COVID-19 management, actively participating in evaluation and monitoring in the community, and ensuring that all patients receive individualized, high-quality care regardless of their infectious condition (Chen et al., 2022).

Significance of the problem:

COVID-19 is a new viral disease that has caused a pandemic in the world. COVID-19 affects 547,850,260 of global population and about 515,645 in Egypt, with an equal the incidence in male and female patients and in all racial/ethnic groups. The COVID-19 pandemic had likely brought many changes to how individual live, along with uncertainly, altered daily routines, financial pressures and social isolation. Hence, the pandemic may also create heavy psychological and emotional burdens for the general population. Also, a pandemic is very stressful event and is likely to result in mental health problems among these with no previous mental illness such as anxiety, depression, stress, social phobia and obsessive-compulsive disorder (Xiao et al., 2020).

Furthermore, COVID-19 is life threatening disease, that can lead to many psychological, social, occupational and familial problems for individuals. People may face numerous problems every day and less is known about the impact of COVID-19 on psychological resilience and mental health. In recent years research has been conducted to study psychological problems associated with

COVID-19, there is limited research done in COVID-19 and their relationship with psychological resilience and mental health. So, the aim of the current study was to determine psychological resilience and mental health among patients with COVID-19 pandemic.

Aim of the study:

This study aims to determine the relationship between psychological resilience and mental health among patients with COVID-19 pandemic.

Research questions:

- 1-What are the levels of psychological resilience and mental health among patients with COVID-19 pandemic?
- 2-What are the relation between psychological resilience and mental health among patients with COVID-19 pandemic?

Subject and methods:

Research Design:

A descriptive correlational design was utilized to achieve the aim of this study.

Research Setting:

This study will be conducted on patients during recovery stages in Outpatient Thorax Clinic at Benha University Hospital, Qalubia Governorate, which is affiliated to the Ministry of High Education. These selected hospital consists of four building (administrative building, ophthalmology building surgery building, and abdominal building) the administrative building contain six door, ophthalmology building contain three door, surgery building contain five door but abdominal building contain eight door).

Research Subject:

Sample type: A Purposive sample was used in the current study.

Sample size:

The study included 100 patients post COVID-19 pandemic from both sex, from Benha University Hospital.

The study subjects were collected during six months and selected according to the following criteria:

- 1-With no psychotic problems and neurological disorders.
- 2-Patients willing to participate in the study.
- 3-During recovery stage.

Tools of data collection:

In order to achieve the aim of the study, the following tools collected were being used.

Tool (I):- It was developed by the researcher after reviewing a related literature and translated in to Arabic language and consisted of two parts:

Part (1): Socio-demographic data: which include (Age, sex, marital status, educational level, occupation, type of work, residence and income from patient point of views).

Part (2): Clinical data: which include (Number of infected with COVID-19, number of hospital admission, family history of COVID-19 and family support).

Tool (II): The Connor-Davidson Resilience Scale (CD-RISC):

This scale was originally developed by (**Connor & Davidson, 2003**), to measures the ability to cope with stress and adversity. This scale consists of 25 items and with 5 subdomains (Personal competence consisted of 7 items, control (5 items), acceptance of change and secure relationships (4 items), trust/tolerance/strengthening effects of stress (7 items) and spiritual influences (2 items). Each item was rated on 3-point likert scale from 0 to 2 (Not true at all=0, Sometimes true =1, True nearly all of the time =2).

Scoring system of resilience scale:

- * <60% (0-29) degree indicate low level of resilience.
- *60-80% (30-43) degree indicate moderate level of resilience.

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* >80% (44-50) degree indicate high level of resilience

Tool (II): Mental health Scale:

This scale was originally developed by **(Derogatis et al., 1973)**, to assess psychological problems. This scale consisted of 90 questionnaire and with 10 subdomains (Somatization consists of 12 items, obsessive-compulsive-disorder (10 items), interpersonal sensibility (9 items), depression (12 items), anxiety (9 items), anger-hostility (6 items), social phobia (7 items), paranoid ideation (6 items), psychoticism (10 items) and additional items (9 items). Each item was rated on 5-point likert scales from 0 to 4 (Not at all =0, A little bit=1, Moderately =2, Quite abit=3, Extremely=4).

Scoring system of Mental Health scale:

* <60% (0-215) degree indicate poor level of mental health.

* 60-80% (216-288) degree indicate average level of mental health.

* >80% (289-360) degree indicate good level of mental health.

Content Validity:

Tools were provided to a jury of five experts in Psychiatric and Mental Health Nursing field. Tools were checked for the relevancy, clarity comprehensiveness and applicability of the questions. The tool proved to be valid according to the opinions, modification of some words of Arabic form of Resilience scale and Mental health scale to give the right meaning of the phrase and final form was developed.

Reliability of the tool:

It was applied by the researcher for testing the internal consistency of the tool by administration of the same tools to the same subjects under similar condition on one occasion. Answer from repeated testing were compared (test-retest reliability). The Cronbach's coefficient alpha of Rosenberg'

Resilience scale is 0.87for total score, while Mental health scale is 0.968.

Pilot study:

After the development of the tools, a pilot study was carried on 10% patients with COVID-19 who were excluded from the main study sample. The purpose of the pilot study was to ascertain the clarity, applicability relevance and content validity of the tools, estimate the time needed to complete the sheet, and the necessary changes were undertaken.

The results of the pilot study:

1- The tools were clear and applicable; however, few modifications were made in rephrasing of some sentences in both resilience scale and mental health scale to be easier and more understandable.

2-Tools were relevant and valid.

3- No problem that interferes with the process of data collection was detected.

4-Following this pilot study the tools were made ready for use

Consent and Ethical consideration:

All patients were informed that participation in the study is voluntary; no name would be included in the questionnaire sheet. Anonymity and confidentiality of each patient respected and protected, confidentiality was assured and subjects were informed that the content of the tool would be used for research purpose only and also had the right to refuse to participate in the study or withdraw at any time without any consequences.

Field work:

1.The actual field work was carried out with 6 months from the beginning of November 2022 up to the end of April 2023.

2. At the beginning of interview the researcher greeted the patients and introduced herself to each patient.

3. Explain the purpose of the study, taken oral consent to participate in the study.
4. Filled interviewing questionnaire sheet and then each patient was asked to fill resilience scale and mental health scale.
5. The researcher interviewed 2-3 patients/day from 9 Am to 1Pm (Saturday & Tuesday) every week in the entertainment hall beside out patients Thorax clinic (includes chairs arranged in 2 rows).
6. The researcher interviewed with each patient individually and took precautionary measures such as kept appropriate distance from the patient and wear face mask and gloves.
7. An individual interview was conducted for every patient and the average time needed was around (45-60) minutes.

Statistical analysis:

The collected data were organized, computerized, tabulated and analyzed by using the statistical package for social science (SPSS) version 25 Data was presented using descriptive statistics in the form of frequencies and percentages for quantitative variables, mean and standard deviation for qualitative variables. Quantitative variables were compared using the chi-square test and correlation coefficient was used to measure the direction and strength of the correlation between variables. A statistical significant difference was considered if P was <0.05. A very highly statistical significant difference was considered if P was <0.001.

Results:

This table (1) reveals that half (50.0%) of the studied patients their age ranged between 20- <30 years, the mean age of the studied patients are 30.32 ± 13.44 years. As regard to sex, the

majority (84.0%) of the studied patients are females and more than half (52.0%) of the studied patients are married. Concerning the educational level, more than half (56.0) of the studied patients have university education. Also, less than two third (60.0%) of the studied patients are unemployed, less than three quarters (70.0%) of the studied patients employed in government sector and more than three quarters (78.0%) of the studied patients reside in rural area. Moreover, less than half (48.0%) of the studied patients mentioned that the monthly income is enough.

This table (2) reveals that, more than three quarters (76.0%) of the studied patients are infected with COVID-19 once time. Also, less than three quarters (74.0%) of the studied patients are hospitalized once time due to COVID-19. In addition, two thirds (66.0%) of the studied patients have family history of COVID-19 pandemic and the majority (89.4%) of the studied patients from first degree relatives. Also, more than two thirds (67.0%) of the studied patients have family support.

This table (3) shows that, there is highly statistically significantly positive correlation between total resilience and total mental health. This is mean when level of resilience become high, mental health become good and when level of resilience become low, mental health become poor. **Figure (1)** shows that, more than two thirds (67.0%) of the studied patients have moderate level of resilience, while only (16.0%) of the studied patients have low level of resilience. **Figure (2)** shows that, less than three quarters (74.0%) of the studied patients have good mental health, while only (6.0%) of the studied patients have poor mental health.

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Table (1): Distribution of the studied patients according to their socio-demographic characteristics (n=100).

Items	No.	%
Age		
10:<20	6	6.0
20:<30	50	50.0
30:<40	14	14.0
40:<50	12	12.0
More than 50	18	18.0
Mean \pm SD	30.32 \pm 13.44	
Sex		
Male	16	16.0
Female	84	84.0
Marital status		
Single	34	34.0
Married	52	52.0
Divorced	6	6.0
Separated	8	8.0
Educational level		
Illiterate	2	2.0
Read and write	4	4.0
Basic education	22	22.0
Secondary education	8	8.0
University education	56	56.0
Postgraduate	8	8.0
Occupation		
Employed	40	40.0
Unemployed	60	60.0
Type of work (n=40)		
Governmental sector	28	70.0
private sector	9	22.5
Freelance work	3	7.5
Residence		
Rural	78	78.0
Urban	22	22.0
Monthly income		
Enough	48	48.0
Not enough	42	42.0
Enough and save	10	10.0

Table (2): Distribution of the studied patients according to their clinical date (n=100).

Clinical date	No.	%
Number of infected with COVID-19		
Once	76	76.0
Twice	14	14.0
Three times	6	6.0
Four times and above	4	4.0
Number of hospital admission		
Once	74	74.0
Twice	12	12.0
Three times	6	6.0
Four times and above	8	8.0
Family history of Covid 19 infection		
Yes	66	66.0
No	34	34.0
Degree of relationship (n=66)		
First degree	59	59.0
Second degree	7	10.6
Family support		
Present	67	67.0
Absent	33	33.0

Table (3): Correlation between total level of resilience and total level of mental health among the studied patients with post COVID-19 pandemic.

Scales	Total mental health	
	r	P-Value
Total Resilience	0.609	<0.01**

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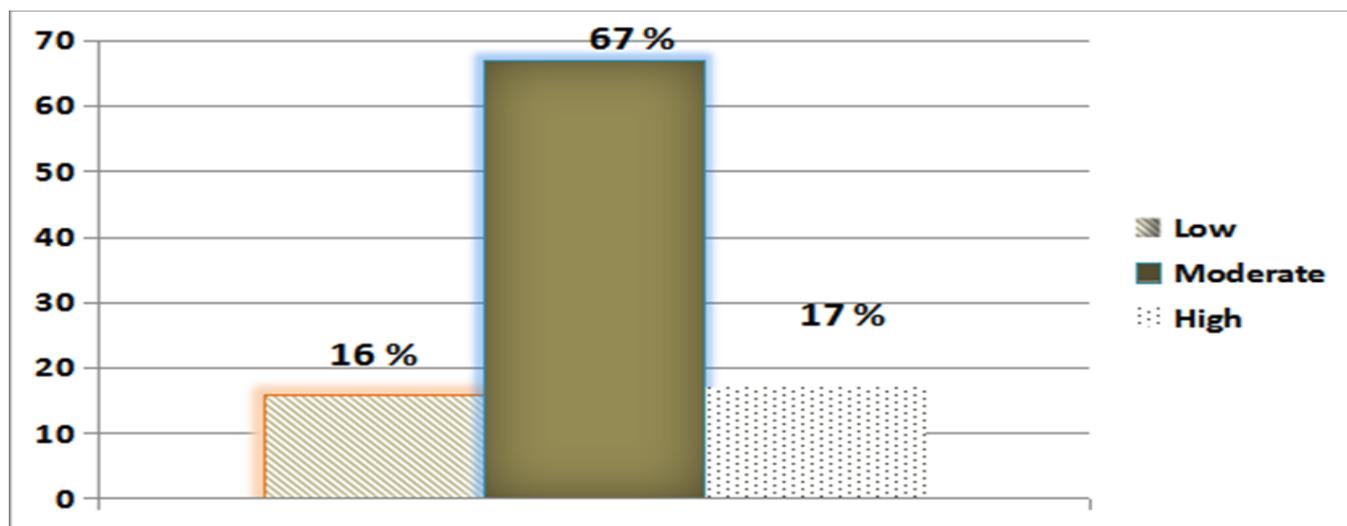


Figure (1): Studied patients according to the total level of resilience (n=100).

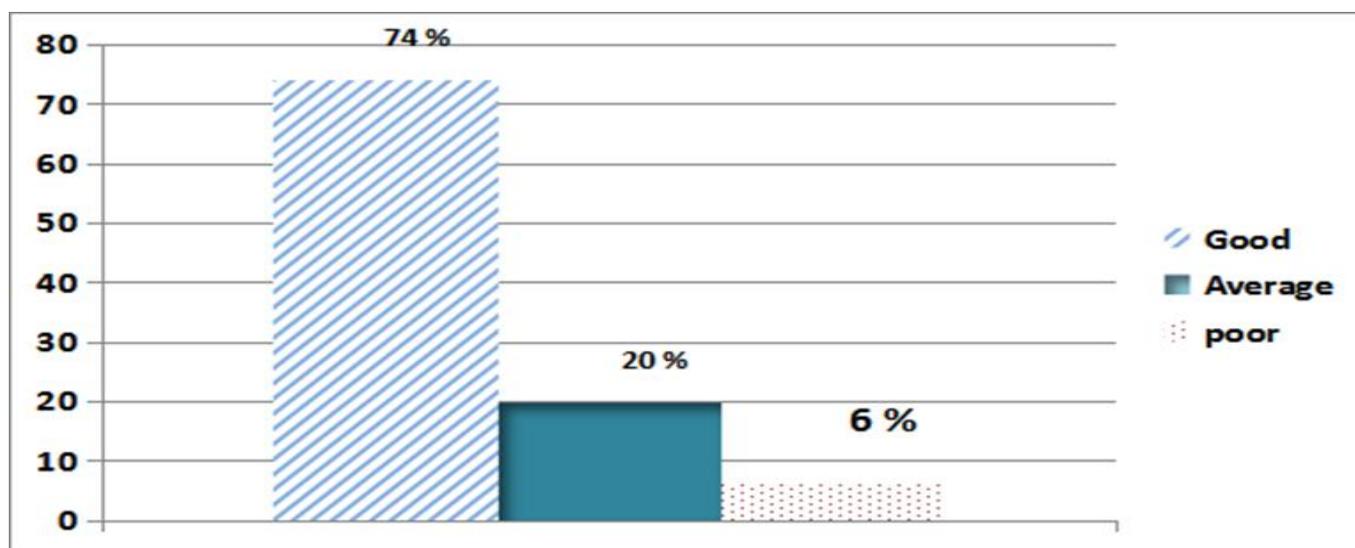


Figure (2): Studied patients according to total level of mental health (n=100).

Discussion:

Corona viruses are very contagious and potentially fatal viruses. Its rates of morbidity and mortality are rapidly increasing each day. The COVID-19 virus and its effects had a profound effect on people all over the world. The epidemic has had a significant influence on people's relationships with one another, as well as on financial and physical health. A pandemic is very stressful event and while it's reasonable to feel stress, anxiety and depression, it's also prevalent for people to display high resilience during ciris (Senger, 2023). In the light of the previous, the current

study was conducted to determine the relationship between psychological resilience and mental health among patients with COVID-19 pandemic.

Regarding to age among the studied patients with COVID-19 pandemic, the present study demonstrated that half of the studied patients their age ranged between 20-<30 years, with the mean age 30.32 ± 13.44 years. From the researchers' point of view, this might be due to the fact that, during this age, people spent most of their time outside the home studying and working. Also, adult people may suffer a higher level of psychological distress

and stressful life events related to their future and life that affect their immunity and lead to exposure to infectious diseases, especially the COVID-19 pandemic.

This result was in agreement with (Chan et al., 2021) reported a study about "Resilience and mental health during the COVID-19 pandemic" and showed that half of the studied patients their age ranged between 20-<30 years. Conversely, this result was in disagreement with (Karasar & Canh, 2020) reported a study about "Psychological resilience and depression during the COVID-19 pandemic in Turkey" and showed that approximately three quarter of the studied patients their age ranged between 30-<45 years. Besides, this result was in disagreement with (Riehm et al., 2021) reported a study in America, about "Association between psychological resilience and changes in mental distress during the COVID-19 pandemic." and revealed that the majority of the studied patients their age ranged between 35-<45 years.

Regarding to sex among the studied patients with COVID-19 pandemic, the present study demonstrated that the majority of the studied patients were female. From the researchers' point of view, this result might be related to the married women's predominant roles as caregivers within families, as front line health care and might suffer from a higher level of psychological distress in presence of pandemic disease that might threaten their life compared to others, as they might felt that they were died and left their family members alone. Therefore they had felt more anxious and stressed than others as a result of the emerging COVID-19 pandemic.

This result was in agreement with (Sakr et al., 2022) reported a study about "Anxiety among workers during COVID-19 pandemic

in Lebanon: The Importance of the work environment and personal resilience" and showed that more than two third of the studied patients were females. On the other hand, this result was in disagreement with (Riehm et al., 2021) reported that, more than half of the studied patients were males.

Regarding to the educational level among the studied patients with COVID-19 pandemic, the present study demonstrated that more than half of the studied patients had university education. From researchers' point of view, this might be due to there was a culture in society to educate girls and that they complete college and they had more contact with those around them. This result was in agreement with (Karasar & Canh, 2020) reported that more than three quarters of the studied patients had university education.

Regarding to the occupation among the studied patients with COVID-19 pandemic, the present study demonstrated that more than half of the studied patients are unemployed. From the researchers' point of view, this finding might be explained that more than three quarters of the studied patients reside in rural area and job chances are limited in the countryside than in the city.

This result was in agreement with (Wang & Sanchuli, 2023) reported a study about "Detrimental effects of COVID-19 measures on mental health and social-economic disparities" and reported that about half of the studied patients are unemployed. On the other hand, this result was disagreement with (Sisto et al., 2020) reported a study about "The psychological impact of COVID-19 pandemic on patients included in Italy" and showed that about half of the studied patients are working.

Regarding to the residence and monthly income among the studied patients with COVID-19 pandemic, the present study

demonstrated that more than three quarters of the studied patients reside in rural area. Also, less than half of the studied patients mentioned that the monthly income is enough, respectively. From the researchers' point of view, this finding might be explained that the current study conducted in regional rural geographic area in Benha city and mostly people who lived in this area have enough income. This result was in agreement with (Mohammed et al., 2023) reported a study about "Prevalence of post COVID-19 psychiatric symptoms in sample of recovered patients" and showed that majority of the studied patients reside in rural area and had enough income.

As regard to the number of infected with COVID-19 among the studied patients with COVID-19 pandemic, the present study demonstrated that more than three quarters of the studied patients were infected with COVID-19 once time. From the researchers' point of view, this finding might be as a result of increasing patients' awareness of taking precautionary measures and followed protected precaution as face mask , regular hand washing and maintained social distance when contacted with other people. So, this was reduced number of infection with virus again. This result was in agreement with (Abdullah & Ozair, 2021) reported a study about "Anxiety, uncertainty, and resilience of medical students worldwide during the COVID-19 pandemic" and showed that, majority of the studied patients been infected by COVID-19 once time.

As regard to the number of hospital admission among the studied patients with COVID-19 pandemic, the present study demonstrated that less than three quarters of the studied patients were hospitalized once time due to COVID-19. From the researchers' point of view, because the patients infected with the virus once time. This result was in

agreement with (Elsayed et al., 2022) reported a study about "Psychological distress, fear and coping strategies during the second and third waves of the COVID-19 pandemic in southern germany" and showed that three quarter of the studied patients were admission in the hospital to receive treatment once time because they were infected with the COVID-19 virus.

As regard to the family history among the studied patients with COVID-19 pandemic, the present study demonstrated that two thirds of the studied patients had family history of COVID-19 pandemic and the majority of the studied patients from first degree relatives. From researchers' point of view we might said that COVID-19 is higher in first degree relatives of parents with COVID-19. Also, the majority had a family history of infection with the virus, because the virus is highly contagious and most of time if one of the family members was infected, another members would infected, so they had family history.

As regard to the family support among the studied patients with COVID-19 pandemic, the present study demonstrated that more than two thirds of the studied patients had family support. From researchers' point of view, this might be due to previous family history for COVID-19 pandemic. So, the family give support for other member infected with COVID-19. So, perceived support from family give positive mental health to resisted virus. This result was in agreement with (Mariani et al., 2020) reported a study about "The impact of coping strategies and perceived family support on depressive and anxious symptomatology during the coronavirus pandemic (COVID-19) lockdown" and showed that majority of the studied patients had family support during COVID-19 pandemic. Also, this result was in agreement with (Li & Xu, 2022) reported a study about "Family support as a protective factor for

attitudes toward social distancing and in preserving positive mental health during the COVID-19 pandemic" and showed that about three quarters of the studied patients had family support.

Regarding to correlation between total level of resilience and total level of mental health among the studied patients with COVID-19 pandemic, the current study elaborated that, there was highly statistically significantly positive correlation between total resilience and total level mental health. From the researchers' point of view, it was related to when level of resilience increase, it was effect positively on mental health and when resilience decrease it was affected negatively on mental health.

This result was in agreement with (Qin et al., 2023) reported a study about "The fully mediating role of psychological resilience between self-efficacy and mental health during the COVID-19 pandemic" and showed that there was highly statistically significantly positive correlation between total resilience and total mental health. Furthermore, this result was in agreement with (Li et al., 2021) reported a study about "Effects of sources of social support and resilience on the mental health of different age groups during the COVID-19 pandemic" and showed that had a positive relationship between resilience and mental health.

As regard to the total level of psychological resilience among the studied patients with COVID-19 pandemic, the present study showed that, more than two thirds of the studied patients had moderate level of resilience. From the researchers' point of view this might be due to the COVID-19 patients faced and suffered from physical and mental distress beside spreaded away from loved person and spent alot of time on the quarantine all this factor might made them more powerful

in facing problems and given them confidence in new challenges. Also, they had moderate level of mental health which helped them overcome stress, anxiety, depression and any thing related to COVID-19 which finally lead to adjusted their resilience level.

This result was in agreement with (Verdolini et al., 2021) reported a study about "Resilience and mental health during the COVID-19 pandemic" and showed that about three quarters of the studied patients had high psychological resilience levels. Also, this result was in disagreement with (Karataş & Tagay, 2021) reported a study about "The relationships between resilience of the adults affected by the covid pandemic in Turkey and Covid-19 fear, meaning in life, life satisfaction, intolerance of uncertainty and hope. Personality and Individual Differences" and showed that, more than three quarters of the studied patients had low level of total psychological resilience.

As regard to the total level of mental health among the studied patients with COVID-19 pandemic, the present study showed that less than three quarters of the studied patients had good mental health. From the researchers' point of view, the studied patients had moderate level of resilience which helped them to adjust and coping with COVID-19 pandemic with less effect on mental health. This result was in agreement with (Cullen et al., 2020) reported a study about "Mental health in the COVID-19 pandemic." and showed that most of the studied patients had good mental health.

Conclusion:

The current study revealed that the most patients with COVID-19 tend to report moderate level of psychological resilience and good mental health. Furthermore, there was highly statistically significant positive

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correlation between total level of psychological resilience and mental health.

Recommendations:

For nursing practice:

*Designing psychological intervention for COVID-19 survivors, consideration should be taken into account to improve resilience and mental health.

*Provide psychological counseling, social support and promoting adaptive coping strategies to support mental well being of patients.

*Family improvement and support can also help the patient to overcome of any distress.

For education:

*Providing psycho-social support programs for COVID-19 patients during recovery stage may be effective to alleviate negative psychological effects and to enhance mental health for them.

*Provide opportunities for COVID-19 patients during recovery stage to discuss the stress they are experiencing, support one another, and make suggestions for workplace adaptations during this pandemic.

*It is importance to providing comprehensive psychological support strategies to reduce the psychological impact of COVID-19 in an epidemic situation.

For research:

- Further studies should be conducted to replicate the current study on large sample of patients with COVID-19 in different geographical area for generalization of the study findings

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المرونة النفسية والصحة العقلية لدى مرضى جائحة كوفيد

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لقد أدى مرض فيروس كورونا (كوفيد-19) الناجم عن فيروس كورونا المتلازمة التنفسية الحادة الوخيمة إلى تدمير سكان العالم. في 14 فبراير، أبلغت مصر عن أول حالة إصابة بفيروس كورونا المستجد (كوفيد-19)، وفقاً لتكثيف مصر لإجراءات الوقاية. في حين أبلغ معظم مرضى كوفيد-19 عن ظهور أعراض تنفسية خفيفة أو مرض شديد أو حتى الوفاة، فقد تم تسجيل عدد كبير من الأفراد الأصحاء. لذا هدفت هذه الدراسة إلى تحديد العلاقة بين المرونة النفسية والصحة العقلية لدى مرضى جائحة كوفيد-19. و تم استخدام التصميم الارتباطي الوصفي لتحقيق هدف هذه الدراسة. وقد أجريت الدراسة بعيادة الصدر الخارجية بمستشفى بنها الجامعي حيث تم اختيار 100 مريض في هذه الدراسة باستخدام عينة مقصودة مصابة بكوفيد-19 أثناء مرحلة التعافي وتم تضمينها من الإعدادات المذكورة أعلاه لإجراء هذه الدراسة. وقد أظهرت النتائج بأن أكثر من ثلثي العينة المدروسة يتمتعون بمستوى متوسط من المرونة وأقل من ثلاثة أرباع العينة المدروسة يتمتعون بصحة نفسية جيدة. وهذا يعني وجود علاقة ارتباطية موجبة بين المستوى الكلي للمرونة النفسية والصحة النفسية. وأوصت الدراسة بتقديم برامج الدعم النفسي والاجتماعي لمرضى كوفيد-19 خلال مرحلة التعافي قد يكون فعالاً للتخفيف من الآثار النفسية السلبية وتعزيز الصحة العقلية لهم.