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Psychological Aspects, Coping Strategies and Perceived Social Stigma associated with COVID-19 Pandemic

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Abstract

Background: Covid-19 pandemic is a critical condition that everyone's life changed due to restrictions of movement and social contacts. It is considered as one of the most vulnerable categories to develop psychological stress and other stigma perspective symptoms. Purpose of the study was to assess psychological aspects, coping strategies and perceived social stigma associated with COVID-19 pandemic. Subjects and Method: Design**:** A descriptive correlational research design. **Setting:** using a multi-stage sampling technique, random selection of two districts in the Menoufia Governorate, Egypt: Mitt Khalaf outpatient clinics and Shintna outpatient clinics. **Subjects:** A convenience sample of 120 COVID-19 patients, were selected according to inclusion and exclusion criteria. **The instruments of data collection:** Five instruments used for collecting data: Structured interviewing questionnaire, The Fear of COVID-19 Scale, Coronavirus anxiety scale, Brief -COPE Inventory scale and Covid-19 Infection Stigma Scale. Results: The current study findings showed that, 43.3% of COVID-19 patient's, were between 35 to 49 years with mean of 39.4 ± 5.1 years and 43.3% of them had university education. Majority of COVID-19 patients suffered from high fear state (45%). While 41.7 % of them had high anxiety. More than 85% of patients showed stigma either sever stigma (45%) or moderate stigma (40.8%) and 14.2% of patients showed no/mild social stigma, meanwhile , there is no statistically significant correlation between the COVID-19 patient's personal characteristics and their total stigma score and between COVID-19 patient's personal characteristics and their total coping strategy score (p >0.05) Conclusion: Majority of COVID-19 patients suffered from high level of fear, anxiety and social stigma and majority of them using coping strategy and the first coping strategy style used by COVID-19 patients was the religious CS. Recommendations: providing health care support, such as a phone hotline for consultation and communication, and psychological counseling to individuals who were thought to be infected with COVID-19.

Key words: *COVID-19 pandemic, Psychological aspects, Coping strategies and Perceived social stigma*

Introduction

The coronavirus disease 2019 (COVID-19), which is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), initially appeared in December 2019. It caused a global health crisis that resulted in an ongoing epidemic in numerous nations and areas of the world. In recent months, it has been seen that the virus result in several spectrum of clinical symptoms in people of all ages (Li et al., 2020). Additionally, it had a detrimental effect on the infected person's life in several aspects. Both physical and mental wellbeing would be impacted. Additionally, the sudden lockdown had a negative influence on the economy and daily life activities (Lin, 2020).

The current COVID-19 pandemic infection, with its medical and psychosocial concerns, causes mental health problems worldwide, including excessive fear, prejudice, anger, guilt, denial, stress, anxiety, post-traumatic stress, stigmatization, insomnia, and depressive symptoms that increase the risk for acute complications or aggravation of pre-existing chronic diseases, but it also results in positive changes and cognitive restructuring. (Stamu-O'Brien, Carniciu and Jafferany, 2020).

There is fear in society due to COVID-19's high rate of transmission from person to person and high rate of morbidity, and it has been observed that individuals avoid contact with anyone they believe to have the disease (Lin, 2020). Such public anxiety and fear leads to psychosocial hurdles such as social stigma and discrimination (Taylor, Landry, Paluszek et al., 2020).

Daily life has experienced quick and unprecedented change as the virus's cases increase, the death toll climbs, and extreme measures to stem the disease's spread are implemented in more areas throughout the world. Identifying the requirements of those affected by this pandemic for mental health care have received very little attention, despite the fact that measures to identify those with the coronavirus infection have received a lot of attention (Xiang et al., 2020).

It's important to evaluate the patients' psychological well-being in addition to their mental health in light of the COVID-19 epidemic. "Cognitive and behavioral efforts to manage certain external and/or internal demands that are appraised as taxing or exceeding the resources of the person" is how the term "coping" is defined (Salman et al., 2020). No coping mechanism is inherently better or worse than another because people can use them in conjunction with one another to avoid the stressor using avoidance strategies, control their emotions using emotion-focused strategies, and deal with the situation using problem-focused strategies (Saraswathi, Saikarthik, Senthil, Madhan, Ardhanaari, and Gunapriya, 2020). Denial, diversion, distance, avoidance, wishful thinking, information searching, cognitive restructuring, emotional release or ventilation, problem solving, and other coping mechanisms are all examples of coping mechanisms.

Studies have shown a connection between stigma and bad health outcomes. (Pachankis, Hatzenbuehler, Wang, et al., 2018; Budhwani, 2019; and Pachankis). Initiatives to improve public health for conditions including mental illness, epilepsy, TB, leprosy, and HIV/AIDS are severely impacted by stigma and prejudice (Turan, Budhwani, Fazeli, et al 2017) . HIV-positive individuals have shied away from voluntary testing and counseling, stopped seeking treatment, and contributed to the epidemic's subterranean spread by hiding their sickness. They could start to downplay their symptoms and put off going to the doctor (Roya, Tripathya, Kara et al., 2020). Additionally, stigmatization can lead to mistrust of authorities, medical personnel, and the healthcare system (Budhwani and Sun, 2020). During the COVID-19 pandemic, public health measures were put in place to control the epidemic, such as the use of masks, quarantines, and isolation, all of which have contributed to the stigma associated with the pandemic (Logie and Turan, 2020).

Significant of the study

The illness has been deemed a worldwide public health emergency by the World Health Organization. The most recent WHO report states that as of 25 June 2021, there have been 3,899,172 confirmed fatalities worldwide due to COVID-19, in Iran holding the 15th-highest prevalence position with 1,550,142 cases (WHO, 2021).

In February 2020, Egypt made its first case report. Since then, there have been more instances, with a reported case fatality rate of 4.8%. Egypt instituted a lockdown in March 2020, banning all

non-essential establishments (including schools) and requiring all employees and students to work from home (Omar and colleagues, 2021). A total of 279,596 confirmed cases, 208,957 recovered and were released from isolation and quarantine hospitals, and 16,031 death cases were reported in the nation from 28 Governorates on June 26, 2021, according to the Ministry of Health and Population (Worldometer, 2021).

By being a well-known and skilled health professional who clarifies and reinforces broad preventative messages of this pandemic for the entire population, community health nurses (CHN) play a significant role in reducing the detrimental impact of COVID-19 (Vermund and Collins, 2020). However, according to our knowledge, no studies have assessed the psychological aspects, coping strategies and perceived social stigma associated with the COVID-19 pandemic in Egypt.

Materials and Methods

Purpose of the study

The purpose of the current study was to assess psychological aspects, coping strategies and perceived social stigma associated with the COVID-19 pandemic

Study Design:

A descriptive correlational research design was used in the current study.

Study Setting

By using a multi-stage sampling technique, random selection of two districts in the Menoufia Governorate, Egypt, the study was carried out in two different outpatient clinic settings: Mitt Khalaf outpatient clinics in Shebin El-Kom district and Shintna outpatient clinics in Birket El-Sabae district, Menoufia governorate, Egypt.

Research Questions

- What is the psychological state associated with the COVID-19 patients?
- What are the coping strategies of patients with COVID-19?
- What is the percentage of perceived stigma among patients with COVID-19?
- What is the relation between COVID-19 patients' characteristics and social stigma?
- What is the relation between COVID-19 patients' characteristics and coping?

Study Subjects

A convenience sample of 120 COVID-19 patients, who were followed up to previously indicated settings. The study sample included all patients who had confirmed COVID-19 and were diagnosed by polymerase chain reaction (PCR) or through the results of a chest CT scan. Also, patients with mild or moderate symptoms received standard medical treatment at home or in the hospital and recovered 2 weeks after infection. Inclusion in the study is limited to patients who agreed to participate. While patients under the age of 20 were not included.

Sample size:

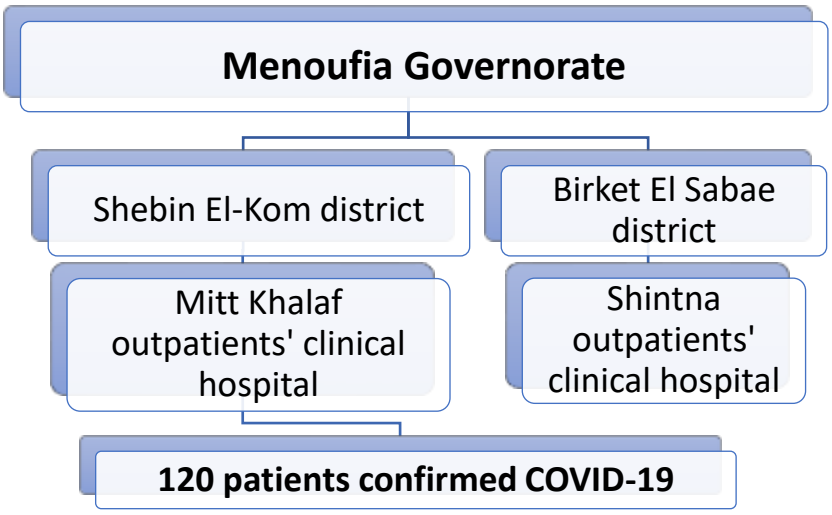
A total sample of 120 patients were selected according to the following formula:

In order to calculate the sample size required to assess psychological aspects, coping strategies and perceived social stigma associated with the COVID-19 pandemic, the researchers used Epi website (Open-Source Statistics for Public Health) available at 20/12/2017. Our assumptions were:

- Population size (for finite population correction factor or fpc) (N): 5000
- Hypothesized % frequency of outcome factor in the population (p): 55%+/5
- Confidence limits as % of 100(absolute +/- %)(d): 5% Design for analysis (for cluster surveys DEFF): 0.3.

Sample size equation: $n = [DEFF*Np (1-p)]/ [(d2/Z21-\alpha/2*(N-1)+p*(1-p)]$

Results from Open Epi, Version 3, open-source calculator—SS Propor. The researchers used 95% confidence intervals, with a sample size of 118.



Sampling technique:

The instruments of data collection:

Instrument I: Structured interviewing questionnaire: After evaluating relevant literature, the researchers created Instrument I, which was composed of two parts:

Part one: The researchers created socio-demographic data to evaluate demographic information for COVID-19 patients, including age, sex, level of education, marital status, and employment.

Part two covers the medical background of COVID-19 patients who have recently contracted the virus, the onset of COVID-19 symptoms, the existence of chronic diseases including diabetes, hypertension, heart disease, etc., previous infections with the virus, and the anticipated source of infection.

Instrument II: The Fear of COVID-19 Scale

It has been reported to be effective in reducing COVID-19 fears among people and is reliable and valid in measuring COVID-19 fear among the general public (McCoach, Gable, and Madura, 2013).

This measure had ten evaluation questions concerning participants' fear of the COVID-19 pandemic, with each question having a Likert scale score of one to three, with one point denoting disagreement, two denoting agreement nor disagreement, and three denoting agreement. The questionnaire was scored between 10 and 30. Each participant's total score was arbitrarily divided into three categories: "Low Fear state" for those who scored less than 20 points, "Moderate Fear state" for those who scored 20 to 23 points, and "High Fear state" for those who scored 24 to 30 points.

Instrument III: Coronavirus anxiety scale

A quick mental health screening tool called the Coronavirus Anxiety Scale (CAS) was developed to find possible instances of dysfunctional anxiety linked to the COVID-19 issue (Lee, 2020). It had five items and assessed coronavirus anxiety on the cognitive, behavioral, emotional and physiological dimensions; emotional (fear, anxiety, anger), physiological (sleep disturbances, somatic distress, tonic immobility), cognitive (repetitive thinking, worry, processing biases, dreaming, planning) and behavioral (i.e., dysfunctional activities; avoidance; compulsive behaviors). To be compatible with the American Psychiatric Association's approach of evaluating psychiatric symptoms across time and response to treatment, this scale format is based on the adult self-rated version of the cross-cutting symptom measure from the DSM-5 (APA, 2013).

The researchers examined the participants' anxiety about the COVID-19 Pandemic using a list of five items, each worth five points. Liker scale (0–4): (0) for Not at all; (1) for Rare; (2) for Several Days; (3) for More Than Seven Days; and (4) for Nearly. Over the last two weeks, every day. The evaluation of the survey resulted in a score range of 0 to 20. Each participant's total score was

arbitrarily divided into three categories: "Low Anxiety State" when they received less than 11 points, "Moderate Anxiety State" when they received between 11 and 15 points, and "High Anxiety State" when they received between 16 and 20 points.

Instrument IV: Brief-COPE (Brief-COPE Inventory scale

The Brief COPE Inventory scale was used to examine the coping mechanisms (Carver, 1997). It had 28 elements and was primarily concerned with determining how frequently people employ various coping mechanisms in response to various stressors. It looked at 14 coping mechanisms, including active coping, planning, using instrumental support, positive reframing, acceptance, using emotional support, denial, venting, self-blame, humor, religion, self-distraction, substance use, and behavioral disengagement.

Participants' coping strategies with the COVID-19 Pandemic were examined by the researchers using a list of 14 coping strategies, each with two items, totaling 28 items. Each coping strategy had a Likert scale with a range of 1 to 4, with 1 denoting "I haven't been doing this at all," 2 denoting "A little bit," 3 denoting "A medium amount," and 4 denoting "I have been doing this a lot." The questionnaire was scored between 28 and 112. Each participant's total score was arbitrarily divided into three categories: "Low Coping strategy" for those who scored between 28 and 56 points, "Moderate Coping strategy" for those who scored between 57 and 84 points, and "Severe Coping strategy" for those who scored between 85 and 112 points.

Instrument V: Covid-19 Infection Stigma Scale

For evaluating social stigma among Egyptian COVID-19 patients, the COVID-19 Infection Stigma Scale (CISS) was used (Elgohari et al., 2021). It comprises of 14 questions covering 14 different items, including attitude toward the illness, self-feeling about the infection, concern over how others will respond, and feelings like dread, remorse, and grief in dealing with the condition. The researchers examined the participants' social stigma towards the COVID-19 Pandemic using a set of 14 questions, each with a Likert scale with four possible outcomes: (1) never, (2) rarely, (3) usually, and (4) always. The evaluation of the questionnaire resulted in a score of 14–56. Each participant's total score was arbitrarily divided into three categories: "No/mild Stigma" for those who scored less than 19 points, "Moderate Stigma" for those who scored between 19 and 37 points, and "Severe Stigma" for those who scored between 38 and 56 points.

Instrument validity:

Five nursing experts—two professors of community health nursing, one professor of community medicine, and two professors of psychiatric health nursing— evaluated the validity of the content of the instruments (I, II, III, IV, and V) to ensure correctness and comprehensiveness. The suggestions have been included to the instrument, and the required adjustments have been made.

Instrument reliability:

- ✓ Reliability of structured interviewing questionnaire was done by the researchers for testing internal consistency of the instrument. This done through administration of the instrument to some patients under the similar conditions and then re-administered to the same patients after 2 weeks and compares the results (Test-retest Reliability). The instruments were in which R= 91.4.
- ✓ Reliability of the fear of COVID-19 scale was tested using test-retest reliability with a two-week interval. The internal consistency Cronbach Alpha Coefficient of the total scale was r = 0.87.
- ✓ Regarding of coronavirus anxiety scale, the reliability of the scale was tested using test-retest reliability with a two-week interval. The internal consistency Cronbach Alpha Coefficient of the total scale was r = 0.84.
- ✓ Reliability of Brief-COPE (Brief-COPE, (internal consistency of this questionnaire is high (Cronbach's alpha = 0.85) and Pearson correlation co-efficiency was used to test the internal consistency of the subscale of the questionnaire (r =0.80- 0.93).
- ✓ Reliability of Covid-19 infection stigma scale, the internal consistency Cronbach Alpha Coefficient of the scale was r = 0.87.

Ethical consideration:

The Faculty of Nursing's Research and Ethics Committee provided official approval. Additionally, formal letters were sent to the directors of the outpatient clinics from the dean of the faculty of nursing at Menoufia University in Egypt to get his agreement for data collection and research execution after explaining the study's objectives. Patients' willingness to participate in the study was subject to their written permission. They received assurances that the information would be handled in confidence and used solely for scientific study. They informed that they have the right to withdraw at any time and their participation in the study was completely optional.

Pilot study:

Following the development of the instruments, a pilot study was carried out on 12 patients, representing 10% of the total sample, in order to assess the applicability, consistency, practicability, clarity, and feasibility of the study instruments as well as the time required to complete them. Prior to data collection, questions were modified in light of the findings of the pilot sample. To ensure the reliability of the findings, the pilot sample was omitted from the study's overall sample.

Study procedure:

Data collection started from January to March, 2021 during the 3rd wave of corona virus infection.

The researcher introduced herself to the study participants and went over the study's objectives and data gathering procedures.

The essential permission needed to enter the chosen research setting and start the present study was taken.

Every patient who visited an outpatient clinic for follow-up care following recovery was questioned by researchers in the waiting area and asked to complete a structured interviewing questionnaire concerning socio-demographic data, the fear of COVID-19 scale, Coronavirus anxiety scale, brief-COPE, and COVID-19 infection stigma scale.

The researcher taken the precautionary measures such as wearing mask, gloves and maintain social distancing.

Statistical analysis

Data was transformed and coded in order to fit into a form that was specifically made for computer entry. The SPSS (statistics tool for Social Science) statistics tool, version 20, was used to enter and analyze the data. In order to create the graphics, Excel was used.

A mean (X) and standard deviation (SD) was used to illustrate quantitative data. Tables showing frequency distribution, numbers, and percentages were used to convey qualitative data. Utilizing the chi-square ($\chi 2$) test. However, if an expected value of any cell in the table was less than 5, Fisher Exact test was used (if the table was 4 cells), or Likelihood Ratio (LR) test (if the table was more than 4 cells). Level of significance was set as P value <0.05 for all significant tests.

Results and Discussion

Table (1): Distribution of the studied COVID-19 patient's according to their Socio - demographic characteristics (N = 120)

**Single= Unmarried + divorced+ widow

Table (1): showed that, 43.3% of COVID-19 patient's, were between 35 to 49 years with mean of 39.4 ± 5.1 years. Majority of them had university education (43.3%), while 25% of them had secondary school education, and approximately one quarter of them were Illiterate/R&W

Socio demographic characteristics of COVID-19 patient's	N0.	%
Age (Years)		
20 – 34 years	24	20
35 – < 49 years	52	43.3
50 - ≥ 60 years	44	36.7
Mean ± SD	39.4 ± 5.1 years	
Gender: Male	58	48.3
Female	62	51.7
Educational Level		
Illiterate/Read & Write	27	22.5
Secondary school or technical diploma	11	9.2
University	30	25
Post graduate	52	43.3
Marital status: ** SINGLE	70	58.3
Married	50	41.7
Occupation: Student	62	51.7
Farmer	44	36.7
Merchant	14	11.6
Residence: Rural	65	54.2
Urban	55	45.8
Total	120	100

(22.5%). As regards marital status, 58.3% of them were single, and 41.7 % were married. Concerning their occupation, more than one half of them were students (51.7%).

Table 2: Medical history of COVID-19 infection among studied patient's (N=120)

Medical history of COVID-19 infection	N0.	%
Source of COVID-19 infection transmission:		
Hospital	**5**	**4.2**
Work place	**28**	**23.3**
Family	**20**	**16.7**
Transports	**32**	**26.7**
Funerals & Weddings	**35**	**29.2**
COVID-19 management setting :		
Isolation hospital	**78**	**65**
At home	**42**	**35**
First symptom appears:		
Dyspnea, chest pain and dry cough.	**13**	**10.8**
Sore throat	**12**	**10**
Loss of taste and smell	**21**	**17.5**
Diarrhea ,vomiting and abdominal pain	**7**	**5.8**
Fever more than 39 c	**30**	**25**
Muscular skeletal complain (cracking in the body).	**18**	**15**
Headache	**19**	**15.9**
Suffering from any other diseases with COVID-19:		
No	**80**	**66.7**
Yes	**40**	**33.3**
If yes, which diseases ?(N=40)		
Hypertension	**17**	**42.5**
Heart disease	**5**	**12.5**
DM	**9**	**22.5**
Anemia	**5**	**12.5**
> One chronic disease.	**4**	**10**
How many times you have infection with COVID-19?		
Once	**103**	**85.8**
Twice and more	**17**	**14.2**
Total	**120**	**100**

Table (2): interpreted that, near to one-thirds 29.2% of studied COVID-19 patients had infected from funerals and weddings and 65 % of them have taken the treatment at isolation hospital. One quarter of them had fever more than 39c (25%) and 33.3% of the studied COVID-19 patient's had history of chronic diseases, near to half 42.5 % were hypertensive and 85.8% of them infected by COVID-19 once time.

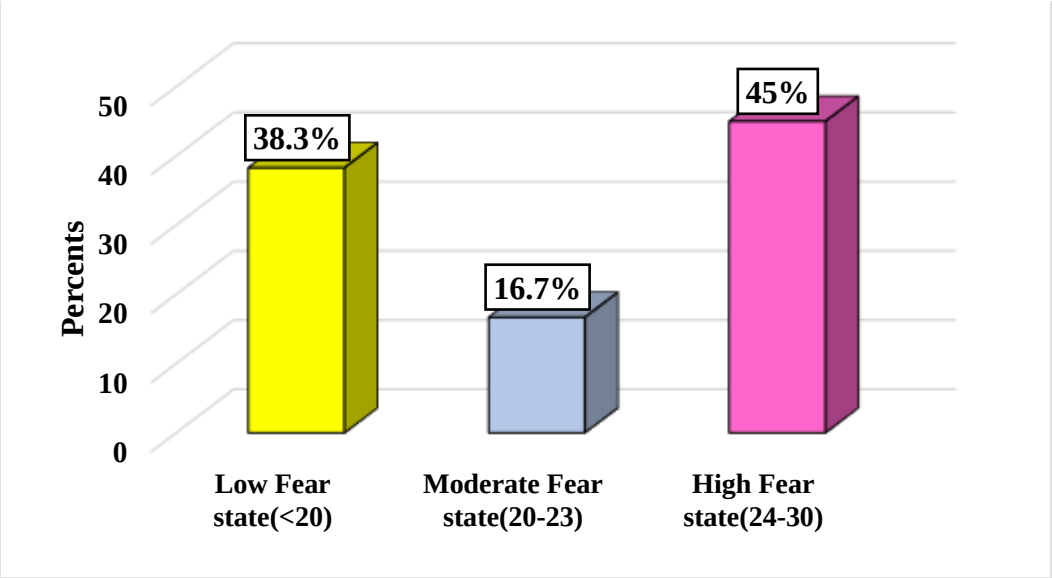


Fig.1 Distribution of COVID-19 patient's 'fear state towards COVID-19.

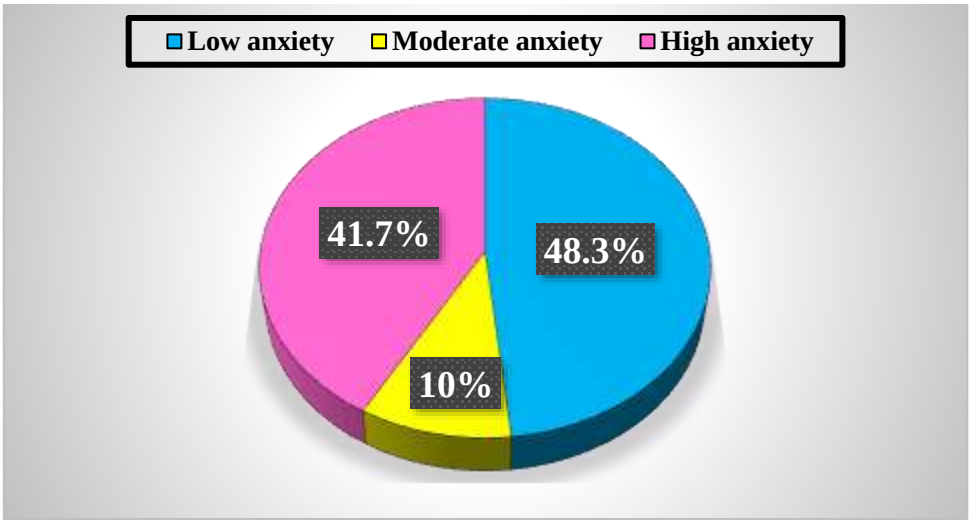


Fig.2 Distribution of COVID-19 patient's anxiety levels towards COVID19

Figure (1), and figure (2): demonstrated that majority of COVID-19 patient's suffered from high fear state (45%). While 41.7 % of them had high anxiety . This result answered the first research question in this study which stated "What is the psychological state associated with the COVID-19 patients"

Table 3: COVID-19 patient's expression of coping strategy styles against COVID-19 infection (N=120).

Coping strategy styles	Minimum	Maximum	Mean	±SD
Total self-distraction coping style1	2	8	4.2	2.0
Total active coping style2	2	8	5.0	1.1
Total denial coping style3	2	8	4.3	2.0
Total substance use CS4	2	7	2.9	1.3
Total emotional support coping style5	2	8	4.0	1.9
Totalcbehavioralcopingstyle6	2	8	3.6	1.7
Total venting CS7	2	8	4.5	2.1
Total using instrument CS8	2	8	5.1	1.2

Total positive reframing CS9	2	8	3.9	1.9
Total self-blaming CS10	2	8	3.7	1.8
Total planning CS11	2	8	4.2	2.0
Total humoring CS12	2	8	4.0	1.9
Total acceptance CS13	2	8	4.6	2.2
Total religiousCS14	2	8	6.1	1.8
Grand total Coping styles (14 coping styles)	28	102	60.1	19.4

Table (3): highlighted that the first coping strategy style used by COVID-19 patients was the religious CS with the highest mean of copying styles (6.1± 1.8). The using instrument CS8was the second used coping strategy style with a mean of 5.1 ± 1.2. The active coping style2 was the third used coping strategy style with a mean of 5.0 ±1.1. However, the least used coping style was substance use CS4 with a mean total score of 2.9 ± 1.3.

These results answered the second research question of this study which stated" What are the coping strategies of patients with COVID-19?"

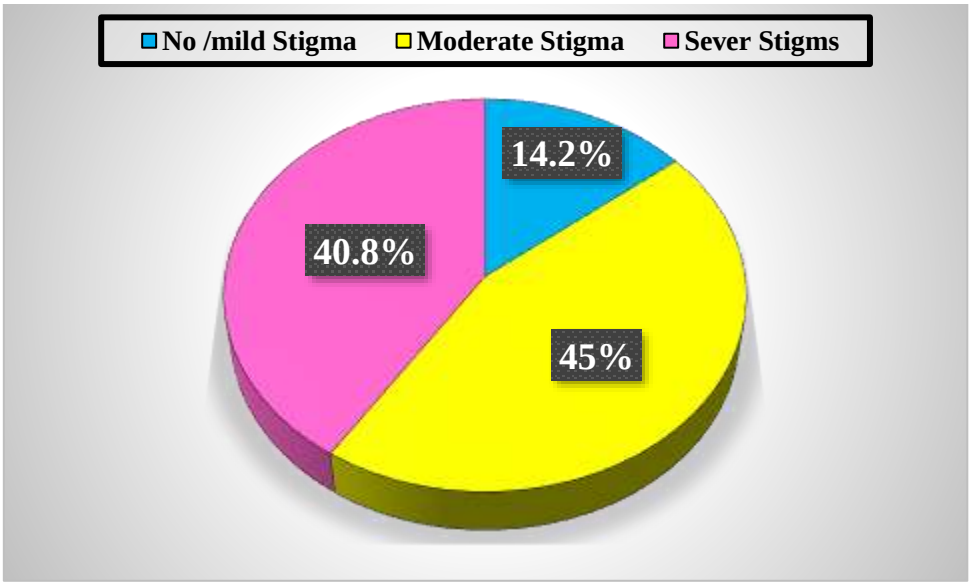


Fig.3: Distribution of groups of Stigma among COVID-19 patients

Figure (3): revealed the high percentage of perceived social stigma among studied COVID-19 patient's . More than 85% of patients showed either severs stigma (45%) or moderate stigma (40.8%). Less than 15% of patients showed no/mild social stigma (14.2%).This result answer the third research question which stated "What is the percentage of perceived stigma among patients with COVID-19?"

Table 4: Correlations between coping style, anxiety, fear and Stigma among COVID-19 patient's (N= 120).

Correlations		**Grand total Coping styles**	**Total Stigma**	**Total Fear**	**Total anxiety**
Grand total Coping styles (14 coping styles)	Pearson Correlation	1			
	Pearson Correlation	-.053	1		

Total Stigma(14 Q)with Likert 1-4	Sig. (2-tailed)	.565			
Total Fear(10 Q)with Likert 1-3	Pearson Correlation	.132	.127	1	
	Sig. (2-tailed)	.150	.167		
Total anxiety(5 Q)with Likert 0-4	Pearson Correlation	.155	-.021	.219*	1
	Sig. (2-tailed)	.092	.819	.016	

*. Correlation is significant at the 0.05 level (2-tailed).

Table (4): showed the only significant positive correlation is between total fear (psychological) and total anxiety score(r=0.219, p<0.01). All other correlations are not significant.

Table 5: Relation between the COVID-19 patient's personal characteristics and their level of Stigma (N= 120).

Personal characteristics		Total	levels of COVID-19 patient' 'Stigma						Chi-square	
			No/mild stigma(<19)		Moderate stigma(19 - 37)		Severe stigma(38 - 56)			
			N	%	N	%	N	%	X^2	P-value
Age (years)	20- 34Y	24	4	16.6	13	54.2	7	29.2	6.1	0.19 NS
	35 – <49 Y	52	4	7.7	26	50	22	42.3		
	50– ≥ 65 Y	44	9	20.5	15	34.1	20	45.4		
Gender	Male	58	13	22.4 89	23	39.7	22	37.9	6.3	<0.04 Sig.
	Females	62	4	6.5	31	50	27	43.5		
Education	Illiterate/Read & Write	27	4	14.8	9	33.3	14	51.9	3.4	0.76 NS
	Secondary school or technical diploma	11	2	18.2	4	36.3	5	45.5		
	University	30	5	16.7	15	50	10	33.3		
	Post-graduate	52	6	11.5	26	50	20	38.5		
Total		**120**	**17**	**14.2**	**54**	**45**	**49**	**40.8**		

Table (5): revealed the relation between the COVID-19 patients' personal characteristics and the levels of their total Stigma score. The table showed that, there were no statistically significant differences between the COVID-19 patient's personal characteristics and total score of their Stigma (p >0.05 for each of age and education). However, female COVID-19 patient's showed higher significant severe stigma than male patient's (43.5% vr 37.9% respectively) (p <0.04).These results answered the fourth research question of this study which stated" What is the relation between COVID-19 patients' characteristics and social stigma.

Table 6: Relation between the COVID- 19 patients personal characteristics and their levels of Covid 19 Coping strategy (N= 120).

Personal characteristics		Total	levels of COVID- 19 patients 'coping						Chi-square	
			Low coping strategy (28-56)		Moderate coping strategy (57-84)		severe coping strategy (85-112)			
			N	%	N	%	N	%	X^2	P-value
Age (years)	20- 34Y	24	11	45.8	9	37.5	4	16.7	3.4	0.49 NS
	35 – <49 Y	52	23	44.2	21	40.4	8	15.4		
	50– ≥ 65 Y	44	26	59.1	15	34.1	3	6.8		
Gender	Male	58	29	50	22	37.9	7	12.1	0.02	0.98 NS
	Females	62	31	50	23	37.1	8	12.9		
Education	Illiterate/Read & Write	27	16	59.3	8	29.6	3	11.1	17.1	<0.009
	Secondary school /technical diploma	11	5	45.5	6	54.5	0	0		
	University	30	17	56.7	13	43.3	0	0		
	Post-graduate	52	22	42.3	18	34.6	12	23.1		
Total		**120**	**60**	**50**	**45**	**37.5**	**15**	**12.5**		

Table (6): demonstrated the relation between the COVID- 19 patients' personal characteristics and the levels of their total coping strategy score. The table showed that, there were no statistically significant differences between the COVID- 19 patients' age and education and total score of their coping strategy ($p > 0.05$ for each). However, post graduate COVID- 19 patients showed higher significant sever coping strategy than either university degree or secondary school or technical diploma COVID- 19 patients (zero% for each) ($p < 0.009$).

These results answered the fifth research question of this study which stated" What is the relation between COVID-19 patients' characteristics and coping.

Discussion

A broad family of viruses called coroviruses can cause illnesses with mild to severe symptoms. Sars-CoV-2 is the name of the virus that causes Covid-19. Close touch and droplets from the patient are the two main ways that causes virus transmission (Janitra et al., 2021). More people are experiencing loneliness as a result of the epidemic, which is bad for mental health. This could be connected to the severe disruption of people's social, academic, and economic life brought on by the public health crisis (Statistics Canada, 2020). The purpose of the current study was to evaluate the psychological aspects, coping strategies, and perceived social stigma of COVID-19 pandemic patients.

Pertaining to the demographic data of patients with confirmed COVID-19. According to the study, the patients' mean and SD were 39.4 ± 5.1, and more than half of them were female, almost half had high education, more than half were unmarried, and almost half were university students. The research by Amr et al. (2021) reported that the mean and standard deviation of patient age was 39.60 ± 14.56, with more than half of the sample being female. These findings were comparable to their findings. The fact that a pandemic might strike anyone at any time must account for the variations in the outcomes.

According to the findings of the current study, 45% of COVID-19 patients had significant levels of fear. Nearly half of them experienced significant levels of anxiety, particularly throughout the early

and middle stages of adulthood. The findings of the study by Stamu-O'brien et al., Asmundson and Taylor, and Torales et al. (2020) that the COVID-19 pandemic has affected mental health globally, including discrimination, fear, anxiety, anger, guilt, denial, stress, post-traumatic stress, stigma, insomnia, and depressive symptoms, which increased risk of acute complications or increased pre-existing chronic conditions, were in agreement with this finding.

This finding was in line with that of Apisarnthanarak et al. (2020), who conducted their research in four Thai hospitals and found that despite a high level of hospital confidence, the majority of patients experienced anxiety, fear, and panic during the COVID-19 epidemic. They also discovered that a significant portion of patients experienced stigma and discrimination due to the COVID-19, and the majority of patients experienced mild to moderate anxiety. This could be the case since transitioning into adulthood is already a trying and unpredictable period due to changes in living conditions, schooling, and relationships. as well as developmental changes and the emergence of mental health conditions including despair and anxiety. This enumerates the immediate action.

Prowse et al., 2021 stated that the high psychological distress is caused by a low-income socioeconomic class, being younger, and low-skilled occupation, as well as having less education, all of which are risk factors for distress connected to COVID-19. In a similar vein, this conclusion was consistent with our study findings.

Regarding the first coping strategy style used by COVID-19 patients was the religious CS with the highest mean of copying styles (6.1± 1.8). The using instrument CS8 was the second used coping strategy style with a mean of 5.1 ± 1.2. The active coping style 2 was the third used coping strategy style with a mean of 5.0 ±1.1. However, the least used coping style was substance use CS4 with a mean total score of 2.9 ± 1.3. This agreed with Lu et al. (2022) who declared that coping plays a mediating role in the relationship between stress and depressive symptoms associated with the Covid-19 pandemic. Social support, on the other hand, is an important component that is believed to be beneficial for an individual's mental health.

The findings of the current study also showed high percentage of perceived social stigma among COVID-19 patients. More than 85% of patients showed either sever stigma (45%) or moderate stigma (40.8%). This finding was consistent with Janitra et al., 2021 in Indonesia during the COVID-19 Pandemic and stated that, 231 respondents (45.4%) were feel stigmatized, 274 respondents (46.2%) were depressed, and 209 respondents (41.1%) were stress.

Regarding Correlations between coping style, anxiety, fear and stigma among COVID-19 patient's (N= 120). The only significant positive correlation is between total fear and total anxiety score ($r=0.219$, $p<0.01$). All other correlations are not significant. This agreed with Brooks et al., 2020 and Bavel et al., (2020) who mentioned that high levels of psychological discomfort are evident due to apprehension about contracting an illness, being quarantined, losing money, stigma, or discrimination. It could be brought on by feelings of shame, irritation, boredom, or a perception of not having enough resources or knowledge. These several elements are stresses related to the COVID-19 pandemic. Similarly, Lu et al. (2022), who displayed that stress brought on by the Covid-19 epidemic is significantly positively correlated with depressive symptoms. Also, this finding was consistent with Janitra et al., 2021 in Indonesia during the COVID-19 Pandemic who stated that, the presence of stigma felt by caregivers leads to a range of mental health problems, including stress, anxiety, and even depression.

Regarding relation between the COVID-19 patient's personal characteristics and their level of Stigma. The findings of the current study revealed that, there were no statistically significant differences between the COVID-19 patient's personal characteristics and total score of their Stigma ($p >0.05$). However, female COVID-19 patient's showed higher significant severe stigma than male patient's (43.5% vr 37.9% respectively) ($p <0.04$). This finding is consistent with study by Prowse et al., 2021 who found that women were more likely than men to report the magnitude of adverse mental health effects as very or very severe. ($p<0.05$).

The results of the current study are also consistent with Elkayal et al. (2022) who examined the nature of emotional distress associated with the emergence of the 2019 coronavirus disease (COVID-19) pandemic and coping strategies of the general Egyptian population and found that mean levels of emotional distress were significantly higher ($p \leq 0.001$) in correlation with female gender, employment status, work in the health sector, living in urban areas, and low monthly income.

Conclusion

Regarding the relation between the covid-19 patient's personal characteristics and their levels of coping strategy. The findings showed that, there were no statistically significant differences

between the COVID- 19 patients' age and gender and total score of their coping strategy (p>0.05). However, post graduate COVID- 19 patients showed higher significant sever coping strategy than either University degree or secondary school or technical diploma patients (zero% for each) (p <0.009). This finding is consistent with a study by Yu et al. (2020) In mainland China during the COVID-19 pandemic, who stated that age, gender, education level, family income coefficient, place of residence, or contact history with endemic areas did not predict high levels of emotional distress in unexpected cases. This finding was also agreed with Lu et al. (2022) study which showed that study participants who experienced more stress related to the Covid-19 pandemic tended to perceive more negative coping. He added that caution is warranted because this phenomenon can lead to further depressive symptoms. They were more likely to use it and found it more difficult to observe the positive aspects of stressful life events.

Recommendations:

The following suggestions are made in light of recent study results:

- Psychological counseling for people who may have had COVID-19 infection

- Offering health support to help people cope with social exclusion, isolation, or quarantine, such as a telephone hotline for contact and consultation.

- Conduct research on coping mechanisms used by the general public and teach coping skills during epidemic outbreaks.

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