Psychological Impact and Level of Knowledge Regard Covid19 among Institutionalized Elders

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Abstract

Background: COVID-19 pandemic is a new disease with high and rapid disseminated infection that significantly affects the elders physically and psychologically. All ages are at risk of COVID-19, but elders are more risky of COVID-19 for many reasons. The COVID-19 can be transmitted through droplets, respiratory secretions, and contact with contaminated surfaces and by contact with asymptomatic individuals. **Aim**: This study aimed to assess psychological impact and level of knowledge regard covid19 among institutionalized elders. Design: This study followed a descriptive cross sectional study design. **Setting**: This study was conducted in two geriatric homes in Tanta city, El-Gharbia Governorate; Dar- Elsaada and (Dar- Elagaza) for the elderly. These homes are affiliated to Ministry of Social Solidarity. **subjects**: The study subjects constituted of 110 elders (convenience sample). **Tools**: The data of this study was collected using the following three tools: tool(I) Socio-demographic characteristics and medical history of the elderly; tool(II) COVID-19 rapid quantitative assessment and tool (III) Depression, Anxiety and Stress Scale - 21 Items (DASS-21). **Results**: The main results revealed that most of the studied elders had a poor level of knowledge regarding Covid19. Most of elders had moderate level of stress and mild level of depression but sever level of anxiety. Conclusion: The present study assumed that the Pandemic of COVID-19 has been shown to affect elders' psychological status, by forced isolation and by concern about the virus, both. Recommendations: Providing psychological support services for the elders through various means of communication

Key words: Covid-19, psychological, knowledge, institutionalized, elders

Introduction

In the twentieth century, the world has already threatened by more than a pandemic, the coronavirus disease 2019 represents one of the most critical challenges the world has yet opposed. [1] The World Health Organization specified coronavirus disease 2019 (COVID-19) a pandemic on March 2020 due to high infection dissemination rate and the increased death rate all over the world [2]. The infection of COVID-19 can be through respiratory secretions, droplets, contact with contaminated surfaces and contact with asymptomatic individuals. [3]

Where COVID-19 is a novel disease, there is a little knowledge on its risk factors. It is apparent that the elders have a higher risk of COVID-19 with a serious or fatal outcome. Many nations have an ageing population worldwide. The global category of older people over 65 years of age is probably grow from 11 percent in 2019 to 16 percent in 2050. However, all ages are risky for COVID-19, elders face a greater risk of a serious illness. As, the elders face unique challenges; it is crucial that health care professionals identify and explain their particular needs. Unless providing special care, the elders may confront significant serious effects on their mental and psychological health. [4,5]

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There are many reasons represent the elders as a risky group. First, advanced age itself causes multiple physical and mental health problems that increase vulnerability to infections and emotional distress. [5,6] Second, the elders, especially institutionalized, are vulnerable to social isolation even under normal circumstances, and in the current circumstances elders are prone to loneliness, stress and little social support. [7] Third, If the elders faced a difficulty in accessibility to medications and health care facilities, they will be liable to suffer from deterioration in their physical and mental status. Finally, the repeated exposure to negative news about disease severity can increase anxiety, mood disorders and sleep instabilities; especially most media channels concentrate on the increased mortality rates of COVID-19 in elders. [8,9]

The reported COVID-19 symptoms until now are fever, dry cough, tiredness. The incubation period is from1 to 14 days.[10] In elders, as the fever response is weakened and further symptoms are concurrent with aging disorders, diagnosis is more challenging. Moreover, the effect of medications for aging disorders may

contribute to the complicated effect of COVID-19 on elders. [11]

Elders' psychological status is affected in the pandemic in which fear is produced as a response against threatening events. Fear can be a key factor of many psychological disorders, so it needs great care and attention.[12,13] During COVID-19 pandemic, negative emotions like fear and anger rise the incidence of anxiety and stress in the elders which increase the occurrence of psychological instability. [14,15]

It is vital to help the elders accurately understanding COVID-19 risks and apply hard precautions for prevention. All countries have stressed broad knowledge related to application of public measures as quarantine application, social spacing, school closures and other preventive measures. The main knowledge about individual protection measures approved and recommended were the wearing of masks in enclosed spaces and on transportation, continuous repeated hand washing and sustaining a safe physical distance. [16-18]

Psychological protection efforts are very important as physical prevention effort and treatment of COVID-19, particularly between the elders. Hence, considering, suggesting, and applying psychological strategies for the elders management is an urgency significant duty. International efforts from the World Health Organization and the Center for Disease Control concentrated on providing numerous clinical assistance guides for mental health .[19] It is crucial to study the suitable strategies for maintaining the elders' emotional health during this pandemic such as utilizing the online technologies to provide and facilitate the availability of social support networks. [20, 21]

Significance of the problem

COVID-19 is a new disease with high and rapid disseminated infection that significantly affects the elders physically and psychologically. According to WHO 2020 reported that eight out of ten COVID-19 deaths have been in adults 65years old and olders. So, the nurse has a great role in helping elders to achieve the greatest possible level of knowledge about disease dimensions and prevention measures, provide social and psychological support to the elderly, helping for coping with this novel disease without exposure to infection.

Aim of the study:

This study aimed to assess psychological impact and level of knowledge regard covid19 among institutionalized elders.

Research questions:

1- Is there is impact of covid-19 on institutionalized elders' Psychological status?

2- What is the elders' knowledge level regarding covid-19?

Research design:

The design used in this study is a descriptive cross-sectional study design.

Research settings:

This study conducted in two geriatric homes in Tanta city, El-Gharbia Governorate; Dar- Elsaada and Social care home for the elderly (Dar- Elagaza). These homes are affiliated to Ministry of social solidarity. Dar- Elsaada provides service to male and female elders and consists of 45 rooms (95 beds). Social care home for the elderly (Dar- Elagaza) provides service to male and female elders and consists of 2 wards (100 beds).

Subjects:

The study subjects constituted of 110 elders (convenience sample). They selected from the previous settings (65 elders from Dar- Elsaada and 45from Dar- Elagaza). The study subjects were fulfilling the following inclusion criteria:

- Aged 60 years and above
- Free from mental and psychiatric diseases

- Able to communicate and accept to participate in the study.

Tools of data collection:

Interview questionnaire was used in order to collect the study data and using three tools:

Tools of data collection:

The data of this study was collected using the following three tools:

Tool I:- Socio-demographic characteristics and medical history of the elderly

It included :- (age, sex, marital status, level of education, income, residence length, occupation and number of sons) and Medical history (presence of chronic diseases, acute diseases, surgery, causes of previous hospitalization, and complication from any diseases).

Tool II:- COVID-19 rapid quantitative assessment tool

It was a standardized questionnaire done by WHO, 2020.[21, 22] It consists of 17 items to assess knowledge about covid-19 and it was adopted by the researchers. Each statement has three responses : Complete answer was scored "two", incomplete answer was scored "one" while don't know answer was scored "zero". These scores were summed up and the total score was

converted into a percent score and classified as:

- Poor knowledge level: $< 60\%$.
- Fair knowledge level: $60\% - < 75\%$.
- Good knowledge level: $\geq 75\%$.

Tool III:- Depression, Anxiety and Stress Scale - 21 Items (DASS-21)

The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) were developed by Lovibond 1995,[23] it was designed to measure the emotional states of depression, anxiety and stress and it was adopted by the researchers..

It comprises three subscales that each has seven items.

- Depression (DASS 21- D)
- Anxiety (DASS 21- A)
- Stress (DASS 21- S)

Each item is scored on a 4 –points likert scale ranging from 0 (never), 1 (sometimes), 2 (often) to 3 (almost always) . For the DASS-21, the following cut-off scores have been recommended for each subscale (subscale scores = sum the score of each item to get a total score):-

	Depression	Anxiety	Stress
Normal	0-4	0-3	0-7
Mild	5-6	4-5	8-9
Moderate	7-10	6-7	10-12
Severe	11-13	8-9	13-16
Extremely severe	14+	10+	17+

Method

The following steps were followed in this study:

- Formal permission to conduct the study was obtained from dean of Tanta nursing faculty to the directors of Dar-Elagaza and Dar El-saada Geriatric Homes.

- **Ethical considerations:**

  * Oral consent was obtained from the elders after explanation of the aim of the study.

  * Elders' privacy and data confidentiality were assured. Elders were reassured that the obtained information is confidential and used only for the study purpose.

  * Elders right to withdraw from the study at any time was emphasized.

- Every elderly was informed about the study purpose and importance at the beginning of the interview.

- Tools of the study were translated into Arabic language

- A jury composed of five specialists in the psychiatric nursing and community health nursing field examined the validity of the study tools.

- Tools reliability was measured using Cronbach's Alpha test. Tool II

(COVID-19 rapid quantitative assessment tool) reliability was 0.89. Tool III (Depression, Anxiety and Stress Scale - 21 Items (DASS-21) reliability was 0.911.

• A pilot study was carried out before embarking in the actual work to determine the clarity and applicability of the study tools and to recognize obstacles that might be confronted during collection of data. The pilot study conducted on 11 elders from the geriatric homes. Those elders excluded from the actual study subjects.

• **Actual study:** The study data collected through 3 months from June to August 2020.

 Statistical analysis

The data collected was structured, tabulated, coded and statistically analyzed using the computer statistical program SPSS software version 16.0. The present research was statistically described and analyzed using the following statistical measurements: frequency, percentage, arithmetic mean, standard deviation, linear coefficient of correlation and chi-square.

Results

Table 1 represents the studied elders' distribution by their socio-demographic and clinical criteria. This table shows that more than half of the studied elders were

male (55.5%) ; their mean age was 67.73 +6.696 years. About half of the elders (61.8%) were from the rural area and about one third of them (41.8%)were illiterate. Regarding their clinical characteristic, half of studied elders have one year residence in geriatric home, (46.4%) of them have physical disease, (72.7%) were associated with complication.

Table 2 demonstrates the studied elders' distribution according to the level of knowledge regarding Covid19. Results revealed that two thirds of the studied elders had a poor knowledge level regarding Covid19 (66.4%) while 31.8% of the elders had a fair level of knowledge regarding Covid19.

Table 3 shows the distribution of studied elders in relation to source of their knowledge concerning COVID-19. Results showed that the main source of data were T.V and social media (70%, 64.5%) respectively.

Table 4 illustrates the distribution of the studied elders regarding their level of stress, anxiety and depression, regarding level of anxiety the present study revealed that about one third of the studied elders (35.5%) had sever level of anxiety and (26.4%) had moderate level of anxiety. Concerning, level of stress, the majority (86.3%) of studied elders had moderate

level of stress. As regards depression, most of the studied elders (69.1%) had mild level of depression, while (24.5%) of elders had moderate level of depression, and only (6.4%) of them had sever level of depression.

Table 5 shows the correlation between depression, anxiety and stress and COVID-19 knowledge Assessment of the studied elders. The results indicate statistically significant negative correlation only between elders' knowledge level regarding COVID-19, and their stress level (P=0.004) which indicated that, when the elders lever of knowledge concerning COVID-19 increased, their stress level decreased.

Table 6 illustrates comparison between depression, anxiety and stress and socio demographic criteria of the studied elders. The result revealed that, there were statistically significant relation between anxiety level and elders' sex where P value =.013. Additionally, there were statistically significant relation between level of depression and elders' level of education as P value =.037. Also, there were statistically significant relation between level of stress, and presence of chronic disease where P value =.005.

Table 7 shows comparison between COVID-19 knowledge assessment and socio demographic criteria of the studied elders. The result revealed that there were statistically significant relations between elders' age, marital status, education level, residence and their knowledge level about COVID-19 where P value= ,000.

Table 1: Distribution of study subjects in relation to socio-demographic criteria

socio-demographic criteria N =110		N	%
Sex	Male	61	55.5
	Female	49	44.5
Age	60 – 70	79	71.8
	71 – 80	25	22.7
	81 –	6	5.5
	Mean SD: 67.73 +6.696		
Marital status	Single	73	66.4
	Married	16	14.5
	divorced	13	11.8
	widow	8	7.3
Residence	urban	42	38.2
	Rural	68	61.8
Education level	Illiterate	46	41.8
	Elimintary	18	16.4
	Secondary	24	21.8
	Bachelor	22	20
Income	Enough	52	47.3
	Not enough	58	52.7
Duration of residence in geriatric home	<6 months	24	21.8
	6 months- 1 year	31	28.2
	1year-	55	50
Chronic Physical disease	Yes	51	46.4
	No	59	53.6

Table 2: Distribution of study elders in relation to COVID-19 knowledge Assessment Tool

COVID-19 knowledge Assessment items	Study subject n=110	
	No	%
Poor	73	66.4
Fair	35	31.8
Good	2	1.8

Table 3: Distribution of study elders in relation to source of data concerning COVID-19

Source of data	No		Yes	
	No.	**%**	**No.**	**%**
Radio	94	85.5	16	14.5
T.V	33	30.0	**77**	**70.0**
Social media	39	35.5	**71**	**64.5**
Hospital	80	72.7	27	24.5
Family members	63	57.3	47	42.7
Friends	67	60.9	43	39.1
Doctor	58	52.7	51	46.4

Table 4: Comparison of the studied elders regarding their level of stress, anxiety and depression

Variable	Level	N	%
Anxiety	Mild	33	30
	Moderate	29	26.4
	Severe	39	35.5
	Extremely Severe	9	8.1
Stress	Mild	14	12.7
	Moderate	95	86.3
	Severe	1	0.9
Depression	Mild	76	69.1
	Moderate	27	24.5
	Severe	7	6.4

Table 5: correlation between depression, anxiety and stress and COVID-19 knowledge Assessment of the studied elders

	Anxiety		Stress		Depression	
	r.	P value	r.	P value	r.	P value
COVID-19 knowledge Assessment	-.165	.085	-.273**	.004	-.137	.154

Table 6: comparison between depression, anxiety, stress, and socio demographic criteria of the studied elders

socio demographic criteria	DASS					
	Anxiety		Stress		Depression	
	X^2	P value	X^2	P value	X^2	P value
Sex	12.672	**.013***	3.924	.270	3.609	.307
Level of education	13.099	.362	7.642	.571	17.846	**.037***
Chronic disease	1.484	.830	12.862	**.005***	.702	.873

Table 7: comparison between COVID-19 knowledge Assessment and socio demographic criteria of the studied elders

socio demographic criteria	COVID-19 knowledge Assessment	
	X^2	P value
Age	50.0	.000*
Marital status	96.909	.000*
Education level	21.636	.000*
Residence	16.164	.000*
Chronic disease	24.582	.000*

Discussion

The worldwide spread of COVID-19 has triggered an ongoing public health crisis. At any age, COVID-19 can occur. The highest reported infections and deaths amongst the elders have, however, occurred because they are frailer physically and psychologically than other age groups. This research assesses how elders experience the COVID-19 pandemic in the targeted risk population and the way they perceive information; comply with guidelines and their feelings and how their mental health is impaired in the current situation.[1]

The aim of the present study was to assess psychological impact and level of knowledge regard covid19 among institutionalized elders; the results of this study answered the research question.

In relation to the elders' knowledge level of Covid19, the findings of the present study presented that two third of the studied elders had a poor knowledge level and one third of them had a fair of knowledge level regarding Covid19. Such result can be relatively understood in the light of the availability of social media that provide sufficient information regarding COVID-19 at the same time elders have enough free time to follow all news about this pandemic. This result is congruent with Labban L, Thallaj N, Labban A (2020), in their study that aimed to Assess the awareness and knowledge level of covid 19 pandemic between syrians" founded that, the majority of the study subject knowledge level about COVID 19 was relatively poor.[24]

On the other hand, this result is contradicted with (Bartolomeu F. et.al 2020), in his study that measures knowledge levels between elderly concerning COVID-19 via a teleservice " who stated that; elderly participants had

superficial knowledge of COVID-19, which means that their knowledge sources could be inadequate or that they hadn't sufficient ability to preserve information. [25]

Regarding, the studied elders' level of stress, anxiety and depression, the present study illustrated that, about one third of the studied eldery had sever level of anxiety. These results may be due to fear from vague, unknown disease. Also, may be related to negative effect of media that concentrate on the increased morbidity and death rates of COVID-19 in elders, and anxiety can be triggered through repeated exposure to rising numbers of deaths news.

In this line, Huang, Y.; Zhao, N. in their study "Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: A web-based cross-sectional survey" revealed that elders had a significantly higher incidence of anxiety symptoms than Younger.[26]

Concerning, elder's level of depression the present study revealed that, most of studied elder had mild level of depression and moderate stress. This result may be interpreted by the fact that, elders tend to be socially isolated more than younger people are. Therefore, they apply social distancing that in return reduce risk for infection. In addition, different significant life events in the past are also

more probable, like potentially having lived through past epidemics or pandemics. therefor; they had mild level of stress. Also, even in normal life style, the elderly are exposed to social isolation, and in this universal pandemic social isolation exaggerated in the all locations. This lack of outlets for social interaction and loneliness has been associated with perceived stress and worsen mood in the elderly.

In this concern, Nwachukwu I. et.al. 2020 study of " COVID-19 Pandemic: Age-related differences in measures of stress, anxiety and depression in canada" indicated that, the occurrence rates for moderate/high stress, were lowest among elders. This result is consistent with some previous studies that documented lower levels of stress, anxiety, and depressive symptoms in the elders.[27]

Moreover, the result of the present study indicates statistically significant negative correlation only between elders' knowledge level of COVID-19, and their stress level. This finding may be associated with presence of persistent stream of information concerning the pandemic that help them to learn more about the disease an how to protect self from infection that consequently decrease stress level.

These results were incongruent with Dubey N, et.al. 2020, study about

"Knowledge of COVID-19 and its effect on emotion regulation and psychological flexibility founded significant differences between individuals' knowledge of COVID-19 regarding anxiety level, but there is no effect regarding stress and depression. [28] Also, Roy et al. (2020) presented incongruous findings, as they found that a moderate knowledge level about coronavirus was associated with a high anxiety level among their study sample.[29]

Regarding, relation between depression, anxiety and stress and socio demographic criteria of the studied elders. The result revealed statistically significant relation between level of anxiety and elders' sex because nearly half of study subject were female who are more liable to emotional disturbance and have more social burden. These results were similar to study done by Dubey N, et.al. 2020,who reported that gender was an important anxiety indicator, with men showing a significantly greater level of anxiety than women..[28] This result come in contrasts with earlier studies that have shown that women are more likely to feel anxious. "(Ebrahim et al., 2020; Liu N. et al., 2020; Özdin and Bayrak Özdin, 2020) and depressed (Özdin and Bayrak Özdin, 2020)" during COVID-19. [30-32]

Also, there were statistically significant relation between level of stress, and presence of chronic disease. This result may be related to the WHO stronger instructions for elder people who have chronic diseases to take more rigid protective measures to protect them from COVID-19 as mortality rate and post COVID 19 complication were significantly high among these age group make them more susceptible to psychological distress during the pandemic.

The results are consistent with other comparable research. (Bohlmeijer et al., 2010; Özdin and Bayrak Özdin, 2020, Dubey N, et.al. 2020,) who founded that, Individuals suffering from chronic illness were more liable to have higher levels of stress. [28,30,33]

Conclusion

As stated by the results of this study, the most of the studied elders had a poor knowledge level regarding Covid19. Most of elders had moderate levels of stress and mild level of depression and sever level of anxiety. It can be assumed that the COVID-19 Pandemic has been shown to affect elders' psychological status, by forced isolation and by concern about the virus, both.

Recommendations

- Providing psychological support services for the elders through various means of communication; provided through specialized persons.

- Increase social media channels to reduce feelings of social isolation and update elders' knowledge about the disease.

- Conducting awareness and educational campaigns about the covid-19 in geriatric homes through official authorities.

- Future studies will be needed to measure the covid-19 consequences on elders' emotional state.

Acknowledgment

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