

Factors associated with Peritraumatic Distress among Community Dwelling Older adults during COVID-19

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ABSTRACT

Background: Peritraumatic distress is a negative psychological experience among older adults during COVID-19. **Aim of study:** The study aimed to identify factors associated with peritraumatic distress among community dwelling older adults during covid-19. **Subjects and methods:** A descriptive design was used to achieve the aim of the current study. The study subjects were selected from outpatient clinic of Shark El-Madina hospital in Alexandria, Egypt. Convenient sample of one hundred older adults were included in the study aged 60 years and above and had normal cognitive function. Three tools were used in the current study as follows, Socio-demographic and Clinical Data of Community Dwelling Older Adults Structured Interview Schedule, Short Portable Mental Status Questionnaire (SPMSQ) and The Covid-19 Peritraumatic Distress Index (CPDI) PDI. **Results:** More than half (60.0%) of community dwelling older adults experienced mild/ moderate distress and more than one quarete (31.0%) of them experienced sever peritrumatric distress during covid-19. The main factors associated with peritraumatic distress were age and level of education. **Conclusion and recommendations:** Peritrumatric distress is common among community dwelling older adults during COVID -19 and there are a significantly associated factors with developing it. Careful assessment and appropriate plan should be conducted among community dwelling older adults to prevent develop of peritraumatic distress.

Keywords: Peritraumatic distress, Community Dwelling, Older adults, COVID-19.

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Introduction

Peritraumatic distress is a negative psychological impact of the COVID-19 pandemic. Peritraumatic distress is emotional and physiological distress experienced during and/or immediately after a traumatic event (1). Peritraumatic distress consists of the negative emotions experienced during or shortly after a traumatic event (2). The COVID-19 pandemic, also known as the coronavirus pandemic, is an ongoing global pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The novel virus was first identified from an outbreak in Wuhan, China, in December 2019 (3). The World Health Organization (WHO) declared a Public Health Emergency of International Concern on January 2020 and a pandemic on March 2020 (4).

In Egypt, the number of the population aged above 65 in Egypt is 5,297,000, which accounts for 4.6 per cent of the total population in 2019. CAPMAS 2019 reports that life expectancy in Egypt is around 73.9 years (72.7 years for males, and 75.1 years for females). As of May 31, there were 24,985 confirmed cases of Covid-19 and 959 deaths in Egypt (5). With advanced age, there are a lot of age related changes that can put older adults at risk to develop peritrumatic distress. Psychosocial changes play a significant role in developing peritrumatic distress among older adults. This is because of role and functional changes and multiple losses that occur with aging, such as retirement, loss of position, decrease income, loss of spouse, increased dependency that decrease autonomy, and decreased social support. In addition, physical changes that occur and the presence of co- morbidities and multiple medications use which decrease independency (6).

Low level of education and health awareness among older adults can be other risk factor for developing peritrumatic distress during COVID-19. Older adult survivors with low educational level have less medical resources and information resources at their disposal and have a less economic status. Accordingly, they may not be able to mobilize more resources and employ more successful strategies and thus be more risky to the development of peritrumatic distress during covid 19 (7). Moreover, the absence of leisure time activities and no practicing of exercise during the day may contribute to develop peritrumatic distress among older adults as a result of the profound negative effect on cognition function, emotional, social and psychological status (8).

The occurrence of peritraumatic distress it has been demonstrated to be associated with a higher risk of developing post traumatic distress and increased its severity, elevated mental health problems, increase depression, anxiety and somatic concerns among community dwelling older adults during covid pandemic. Peritrumatic distress is usually undetectable and its related factors are still unrecognized (9). So, the gerantological nurse plays a significant role to identify the peritrumatic distress among older adults and its associated factors as early as possible to prevent its negative consequences.

Significance of the Study

Globally, studies found that the outbreak of COVID-19 coronavirus has its impact on global mental health. This outbreak is leading to stress anxiety, depressive symptoms, insomnia, denial, anger and fear (10-11). Peritraumatic distress has its negative consequences in psychological and social aspect among older adults (11). In line with global trends, Egypt's older adults 'population is

also suffered from COVID-19, and about 6029 of older adult died from COVID19 by October 10, 2020 (12). Older adults are at significant risk of developing peritraumatic distress during COVID- 19 because of a lot of change related changes which occur as spontaneous changes within aging which has adverse negative effect in psychological and social health domains.

Aim of the study: To identify factors associated with peritraumatic distress among community dwelling older adults during covid-19.

Research questions: What are the factors associated with peritraumatic distress among community dwelling older adults during COVID -19?

Subjects and Methods

Research Design: A descriptive design was used to achieve the aim of the current study.

Setting: The study subjects were selected from outpatient clinic of Shark El-Mdina hospital in Alexandria, Egypt.

Subjects: The study included one hundred (100) older adults admitted to in the previous mentioned settings and who fulfill the following criteria: aged 60 years and above and have normal cognitive function (score range from 0 to 2 on the Short Portable Mental Status Questionnaire (SPMSQ)

Data Collections Tools

Tools: Three tools were used in the current study as follows:

1. **Socio-demographic and Clinical Data of Community Dwelling Older Adults Structured Interview Schedule:** This tool was developed by the researcher based on relevant literature to collect information from the study subjects related to:

Part (I): Socio-demographic data: It used to assess demographic characteristic of the study subjects as age, gender, marital status and educational level ... etc.

Part (II): Medical health history: It used to assess physical status of the older adults, presence of chronic diseases, polypharmacy and hospitalization

Part (III): life style habits: It used to assess life style habits such as sleeping hours, risk behaviors such as smoking, nutrition statuses, practice exercises, mental and social health aspect...etc.

2. **Short Portable Mental Status Questionnaire (SPMSQ):** This tool developed by Pfeiffer (1975) (13). It was used to assess the study subjects'

cognitive function. It was translated into Arabic and approved to be valid and reliable by “Abd Elsalam.R 2012” (14) and proved to be valid and reliable $r = 0.89$. The Arabic version of this scale was used in this study. The total score is 10 and is classified as follows, a score from 0-2 indicates no cognitive impairment, a score from 3-4 indicates mild cognitive impairment, a score from 5-7 indicates moderate cognitive impairment and score from 8-10 indicates severe cognitive impairment.

3. The COVID-19 Peritraumatic Distress Index (CPDI) PDI:

This tool developed by Qiu (2020) (16). It was used to assess study subjects' peritrumatic distress during COVID-19. Psychiatrists from the Shanghai Mental Health Center verified the content validity of the CPDI. The Cronbach's alpha of CPDI is 0.95 ($p < 0.001$) (16). It consists of 24 items included frequency of anxiety, depression, specific phobias, cognitive change, avoidance and compulsive behavior, physical symptoms and loss of social functioning in the past week. It designed to optimize recognition of peritrumatic distress during the pandemic. The total score is 100 and cutoff point is 29 where below twenty nine indicates absence of peritrumatic distress and twenty nine and more indicates the presences of peritrumatic distress with rang from 29 to 52 consider mild / moderate distress and from 53 to 100 consider as sever peritrumatic distress. This tool was translated into Arabic by the researchers and tested for its contents validity and reliability $r = 0.89$.

Data Collection Procedure

Permission to carry out the study from the responsible authorities was obtained. Survey was done at the outpatient clinic in Shark El-Mdina hospital by the researcher to obtain contact information of community dwelling older adults who visiting the clinics previously. The researcher used tool 2 and 3 to identify community dwelling older adults fulfilling the study criteria. Because of the limitation of face to face interview during the COVID outbreak, the researcher designed a schedule for data collection by online/telephone interviewed with who fulfilling the study criteria and collect the required data using tool 1 and 4. Time of interview was 25 – 40 minutes per each study older adult. Assessment of peritrumatic distress during COVID -19 was carried out by the researcher for each study subject.

Pilot Study

A pilot study was carried out on 10% (10) of the community dwelling older adults to test the clarity, applicability, feasibility and relevance of the tools used and to determine the needed time for the application of the study tools. The patients who were included in the pilot study excluded from the study subjects.

Ethical Consideration

The ethical research considerations in this study included the following:

1. Approval to carry out the study was obtained from the responsible authorities after appropriate explanation for the purpose of the study.
2. A verbal consent of each older adult included in the study was obtained after appropriate explanation of the purpose of the study. Study older adults' anonymity and privacy were maintained as well as the confidentiality of the collected data. Older adults were assured for the right to withdraw from the study at any time.

Results

Table (1): Distribution of the study subjects according to the socio-demographic characteristics and clinical data (n = 100)

Socio demographic characteristics	No.	%
Age (years)		
60 – <75	49	49.0
75 – <85	43	43.0
≥85	8	8.0
Mean ± SD.	73.38 ± 7.62	
Sex		
Male	44	44.0
Female	56	56.0
Marital status		
Married	26	26.0
Widow	45	45.0
Divorced	18	18.0
Single	11	11.0
Education level		
Illiterate	4	4.0
Read and write	10	10.0
Basic education	11	11.0
Secondary education	20	20.0
University education and above	55	55.0
Current work		
Yes	5	5.0
No	95	95.0
Monthly income		
Adequate	80	80.0
Inadequate	20	20.0

SD: Standard deviation

Table (1): Shows that of the 100 community dwelling older adults and included in the study. 43% were 75 to less than 85 years. Female constituted 56% and 45% were widow. University education and above were reported by 55% of the study older adults. 95% had no work and 80% had adequate income per month.

Table (2): The relationship between COVID-19 Peritraumatic Distress and study subject's socio demographic characteristics (n = 100)

	Covid-19 Peritraumatic Distress Index (CPDI)						χ^2	p
	No distress (n = 9)		Mild/moderate distress (n = 60)		Sever distress (n = 31)			
	No.	%	No.	%	No.	%		
Sex								
Male	2	22.2	26	43.3	16	51.6	2.472	0.290
Female	7	77.8	34	56.7	15	48.4		
Age (years)							18.990*	MC p <0.001*
60 – <75	8	88.9	33	55.0	8	25.8		
75 – <85	0	0.0	21	35.0	22	71.0		
≥85	1	11.1	6	10.0	1	3.2		
Marital status							10.914	MC p= 0.064
Married	4	44.4	18	30.0	4	12.9		
Widow	2	22.2	22	36.7	21	67.7		
Divorced	2	22.2	13	21.7	3	9.7		
Single	1	11.1	7	11.7	3	9.7		
Education level							18.393*	MC p= 0.006*
Illiterate	0	0.0	0	0.0	4	12.9		
Read and write	1	11.1	2	3.3	7	22.6		
Basic education	0	0.0	8	13.3	3	9.7		
Secondary education	1	11.1	15	25.0	4	12.9		
University education and above	7	77.8	35	58.3	13	41.9		
Current work							1.936	MC p= 0.357
Yes	1	11.1	2	3.3	2	6.5		
No	8	88.9	58	96.7	29	93.5		
Monthly income							0.573	0.751
Adequate	8	88.9	48	80.0	24	77.4		
Inadequate	1	11.1	12	20.0	7	22.6		

χ^2 : Chi square test MC: Monte Carlo *: Statistically significant at $p \leq 0.05$

Table (2): Shows that among the studied older adults 60% developed mild/moderated peritrumatic distress during COVID-19 while 31% developed sever distress. Peritrumatic distress during COVID-19 increase significantly with age where 71% who aged 75 years and less than 85 years developed sever peritrumatic distress while 0.0% had no distress in the same age $p < 0.001^*$. As well, level of education affected significantly the occurrence of peritrumatic distress during COVID-19 among study community dwelling older adults' $p = 0.006^*$

Table (3): The relationship between COVID-19 Peritraumatic Distress and study subject’s life style habits (n = 100)

	Covid-19 Peritraumatic Distress Index (CPDI)						χ^2	p
	No distress (n = 9)		Mild/moderate distress(n = 60)		Sever distress (n = 31)			
	No.	%	No.	%	No.	%		
Smoking history								
Current smokers	0	0.0	7	11.7	2	6.5	3.386	MCp= 0.455
Previous smokers	0	0.0	6	10.0	6	19.4		
Non smokers	9	100.0	47	78.3	23	74.2		
Nutrition								
Consume of fruit & vegetables								
No	1	11.1	3	5.0	1	3.2	1.428	MCp= 0.586
Yes	8	88.9	57	95.0	30	96.8		
Fluids intake / day								
<2 L	4	44.4	32	53.3	21	67.7	2.367	MCp= 0.306
2 - 3L	5	55.6	28	46.7	10	32.3		
>3 L	0	0.0	0	0.0	0	0.0		
Exercise								
Practice of exercise								
Regular	0	0.0	9	15.0	12	38.7	9.538*	MCp= 0.039*
Irregular exercise	5	55.6	20	33.3	8	25.8		
No	4	44.4	31	51.7	11	35.5		
Sleeping								
Sleeping hours / day								
<6	6	66.7	33	55.0	17	54.8	4.117	MCp= 0.353
6 – 8	2	22.2	26	43.3	12	38.7		
>8	1	11.1	1	1.7	2	6.5		
Feeling comfort after sleeping								
Yes	5	55.6	43	71.7	21	67.7	0.983	0.612
No	4	44.4	17	28.3	10	32.3		
Taking nap								
Yes	4	44.4	34	56.7	18	58.1	0.552	0.759
No	5	55.6	26	43.3	13	41.9		

χ^2 : Chi square test

MC: Monte Carlo *: Statistically significant at p ≤ 0.05

Table 3: Shows that irregular and no practice of exercise among study subjects associated significantly with developing of peritrumatic distress during COVID-19 as 51.7% from the study subjects who didn’t practice exercise develop mild/moderate peritrumatic distress and 35.5% develop sever distress p=0.039*.

Table (4): The relationship between COVID -19 Peritraumatic Distress and study subjects Psychosocial status (n = 100)

Psychosocial status	Covid-19 Peritraumatic Distress Index (CPDI)						χ^2	p
	No distress (n = 9)		Mild/moderate distress (n = 60)		Sever distress (n = 31)			
	No.	%	No.	%	No.	%		
Relax easily								
No	5	55.6	20	33.3	6	19.4	4.655	0.098
Yes	4	44.4	40	66.7	25	80.6		
Using appropriate way for stress								
No	5	55.6	29	48.3	11	35.5	1.834	MC p= 0.461
Yes	4	44.4	31	51.7	20	64.5		
Availability of others to express feelings								
No	4	44.4	18	30.0	14	45.2	2.345	0.310
Yes	5	55.6	42	70.0	17	54.8		
Presence of Leisure time activities								
No	2	22.2	35	58.3	22	71.0	6.8790*	0.032*
Yes	7	77.8	25	41.7	9	29.0		

χ^2 : Chi square test MC: Monte Carlo *: Statistically significant at $p \leq 0.05$

Table 4: Shows a significant relation between t leisure time activities and developing of peritrumatic distress during COVID-19 among study subjects community dwelling older adults. 77.8% of the study subjects who practiced leisure time activities had no distress where 71.0% who didn't practice leisure time develop sever peritrumatic distress $p=.032^*$.

Discussion

Peritraumatic distress is negative emotions and psychological experienced during or shortly after a traumatic incident. The subjective feeling of fear, helplessness, and horror represent the peritraumatic distress reactions (17). With advancing age, multiple changes occur in physical, psychosocial and mental aspects which have devastating implications on health domains among older adults and can be precipitated the occurrence of peritrumatic distress among

older adults (18). Although age related changes are spontaneous nature, identify factors associated with peritrumatic distress during COVID-19 is important in its prevention and management by applying the appropriate strategies, process and skills among community dwelling older adults who are at risk for developing peritrumatic distress (19). So, the aim of the present study is to identify factors associated with peritrumatic distress among community dwelling older adults during COVID -19.

The present study revealed that (91%) of the study subjects developed peritrumatic distress during COVID-19 with 60% of the study community dwelling older adults developed mild to moderate and 31% suffered from severe peritrumatic distress. This findings is accordance with other study result which conducted in U.S.A and investigated the psychological negative effect among older adults during COVID-19 and revealed a significant proportion of participants who age 60 years and above reported moderate to severe depressive symptoms (81.6%) and (84.5%) suffer from moderate to severe anxiety symptoms (20).

The age of community older adults is significantly associated with peritrumatic distress during COVID-19, where the study subjects who aged seventy years and more suffered from peritrumatic distress compared to those in the younger age who are less than 75 years. This is in agreement with other study which revealed that advanced age is a well-established risk factor to develop psychosocial, interpersonal and mental concerns beside the physical issues among older adults during COVID-19 (21). This can be explained by the outbreak of COVID-19 pandemic induced worry, fear, anxiety, depressive symptoms and psychosomatic manifestations among older adults population. This can be rationalized by the facts that as the person ages, the greater number of physiological and psychosocial changes occur. Older adults are considered more vulnerable during public emergency crises. This vulnerability is also linked with decrease physical abilities, decrease cognitive function, increase comorbidities and polypharmacy. As well as, the potential presence of adverse psychosocial condition and aspects such as multiple loss and role change which put older adults at risk to develop mental, psychological and social issues. Fear of contracting the virus and fear of death impinged on older adults, since increased age is a risk factor for increased risk for develop peritrumatic distress.

The present study revealed that as the educational level decreases, peritrumatic stress risk increases. This may be due to the level of education as approximately two third of the study older adults had university education and more had no distress during COVID 19(as shown in table 2). This can be reflected as the older adult's education level increase, the possibility to maintain

healthier life style increase. Also, the greater number and long years of education lead to more cognitive reserve and increase health awareness among older adults. This can also be explained by the fact that high level of education increasing the older adult's higher cognitive function as problem solving skills and critical thinking abilities which raise their capabilities for embarking through appropriate coping strategies that help them to deal with peritraumatic distress among older adults during COVID 19.

Furthermore, education years increase older adult's accumulation of knowledge and experience which help study older adults to be more flexible for changing or modifying their risk behavior toward healthier lone. Moreover, high education level increase older adult's opportunities for better job especially after retirement which increase their monthly income for seeking appropriate health services.

The present study result is in agreement with Frakt (2019) (22) who explained the relationship between health behaviors and the education level. The study showed positive relationship between the education level and healthy behavior. Also, Frakt (2019) reported that the study subjects who are more educated exhibit better health outcome, less anxiety and depression, have fewer functional limitations, and are less likely to have a serious health condition like diabetes, cardiovascular disease or asthma. Moreover, the present study finding is in the same line with results of studies by Chao, Lin and Ma (2019) (23) in Taiwan. However, Arlinghaus and Johnston (2018) in United States of America (USA) reported education is ubiquitous with clinical care but not all education support behavioral change (24).

The present study findings revealed that regularly practice of exercise decreased older adult's opportunities to develop peritraumatic distress among study older adults. The present study revealed more than half of study older adults who did not practice exercise develop mild/moderated peritraumatic distress among the study subjects. This can be interpreted as the positive effect of exercise in such as increasing physical ability, improving cognition function and enhancing psychological wellbeing. Also, practicing of exercise increases physical wellbeing, increase immune system function and decrease chance for acquiring infection or other health conditions. Furthermore, practicing exercises improve thinking which a core component for cognition function and helps older adults to take the correct decision for changing toward healthier life and can adapt with psychosocial issues. This finding is in line with other study which revealed training status is enough to protect the elderly against COVID-19 infection through the role of physical activity on immunosuppression (25).

The present study findings revealed that recreational activities decreased development of peritrumatic distress among older adults as more than two third of study older adults who had recreational activities did not develop peritrumatic distress during COVOD19. This can be interpreted as participation in leisure and recreation activities can improve physical, spiritual, emotional and mental health functions especially during COVID-19 quarantine and social isolation. For example, reading and knitting, language learning, and writing improve cognition and mental function, meditation can improve spiritual and emotional function and planting, cooking, baking and exercise may has positive effect on physical function. So, the recreational activities decreased anxiety, depressive symptoms, increase psychosocial wellbeing and decreased peritrumatic distress during COVID19among study older adults. This result is in agreement with that Kuykendall, L et al (2018) (26) who postulated that the engaging in leisure activities may provide protective benefits for psychological well-being.

Conclusion

It can be concluded from the present study that peritrumatic distress is a devastating problem among older adults during COVID-19. Factors are significantly associated with peritrumatic distress during COVID -19 among older adults include age, educational level, exercises and leisure time activities.

Recommendations

In the light of results of the present study, the following recommendations were suggested:

1. Educate geriatric nurse about peritrumatic distress test in order to identify older adults who at risk to develop peritrumatic distress and institute measures for its prevention.
2. Develop educational materials about peritrumatic distress and distribute it at different settings.

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