



# The Associations Between Fear of COVID-19 and Preventive Behaviors Among People in Gaza Strip, Palestine

Abdelrahman Khaled Al helou<sup>1</sup>, Mohammed Issam Altallaa<sup>2</sup>, Ameer Khaleel Shehada<sup>3</sup>, Samer Abuzerr<sup>4,5\*</sup>, Osama Jabr Emad<sup>6</sup>, Azzam Abuhabib<sup>7,8</sup> and Abdel Hamid el Bilbeisi<sup>9</sup>

<sup>1</sup>Mental Health hospital, Ministry of Health, Gaza, Palestine

<sup>2</sup>Psychologist, Al Tawasol Forum Society, Gaza, Palestine

<sup>3</sup>Kamal Adwan Medical Complex, Gaza, Palestine

<sup>4</sup>Visiting Scholar with the School of Public Health, Department of Social and Preventive Medicine, University of Montreal, Montréal, Canada

<sup>5</sup>Quality Improvement and Infection Control Unit, Ministry of Health, Gaza, Palestine

<sup>6</sup>Mental Health General Directorate, Ministry of Health, Gaza, Palestine

<sup>7</sup>Crisis Management Consultant, Gaza, Palestine

<sup>8</sup>Water Technology Ph.D. Joint Programme, Islamic University of Gaza (IUG), Gaza, Palestine

<sup>9</sup>Department of Clinical Nutrition, Faculty of Pharmacy, Al Azhar University of Gaza, Palestine

**\*Corresponding author:** Samer Abuzerr, Visiting Scholar with the School of Public Health, Department of Social and Preventive Medicine, University of Montreal, Montréal, Quality Improvement and Infection Control, Ministry of Health, Gaza Strip, Palestine

Received: 📅 April 26, 2021

Published: 📅 May 06, 2021

## Abstract

The COVID-19 pandemic is a global health emergency that could severely impact mental health. Fear of COVID-19 or its risk perceptions is strongly associated with COVID-19 preventive behaviors. This study aimed to examine the associations between the anxiety of COVID-19 and preventive behaviors among People in the Gaza Strip. The sample consists of 682 participants. A cross-sectional online survey design was used; all participants completed the Fear of COVID-19 Scale (FCV-19S) and preventive behavior scale. The required data were collected and analyzed. The mean fear of COVID-19 score was 2.51 (SD = 0.83, range: 7–35), while the mean score for preventive behavior was 2.48 (SD = 0.38, range: 3–30). Besides, results showed participants from the North Gaza governorates and those with low educated levels had the highest level of fear of COVID-19. In contrast, females and highly educated participants were more likely to engage in preventive behaviors than other participants. Our findings show no significant associations between fear of COVID-19 and adherence to preventive behaviors. It is essential to continue monitoring the psychological reactions of people during the outbreak.

**Keywords:** COVID-19; Fear; Preventive Behaviors; Palestine; Gaza Strip.

## Introduction

The COVID-19 pandemic is a global health emergency that could severely impact public health [1]. The outbreak was first revealed in late December 2019 when clusters of pneumonia cases of unknown etiology were found in the city of Wuhan of Hubei Province, in China [2]. Ever since the coronavirus disease 2019 (COVID 19) attained a pandemic status [3], there have been strenuous efforts by health experts and authorities worldwide to mitigate the spread of the virus [4]. This includes installing health protocols such as washing hands regularly, wearing a face mask and keeping at least a physical distancing meter from each other during a social gathering

[5]. Toward prevention of COVID-19, the Ministry of Health (MOH) declared a state of emergency and recommend that several safety protocols such as hand washing, wearing of face mask, physical distancing, and quarantining, all travellers coming through Rafah and Beit Hanon (Erez) crossings had undergone a compulsory quarantine at one of the MOH designated facilities, isolation hospitals, and health quarantine centers. People stay for 21 days in quarantine centers. On 26 August 2020, MOH in Gaza confirmed the first COVID-19 spread through the Gaza strip community. The total number of confirmed cases is 63428, of which 6614 are still active cases, 56211 cases fully recovered and were discharged, while

the number of deaths reached 603 deaths. However, reliance on government action alone is insufficient to control COVID-19 disease totally (WHO) proposed several personal preventive behaviors for individuals to engage in to prevent COVID-19 infection. Therefore, understanding the factors associated with individuals' preventive behaviors is an important topic during the COVID-19 pandemic [6-10].

One psychological aspect of the COVID-19 pandemic is fear. Fear is an unpleasant emotional state triggered by the perception of threatening stimuli [11]. Also, fear of COVID-19 or its risk perceptions is strongly associated with COVID-19 preventive behaviors [8]. After reviewing the literature, the authors found that fear of COVID-19 are associated with preventive COVID-19 infection behaviors. Some accurate COVID-19 information (e.g., the death rate and numbers of confirmed cases) may trigger an individual's fear of COVID-19 and induce psychological distress [12]. The authors believe that trust in COVID-19 information sources may improve awareness of preventive behavior; on the other hand, it may affect mental health, including an increase in fear of COVID-19 and induce psychological distress. A study aimed to assess the prevalence and predictors of depression among the Palestinian community during this pandemic found that the prevalence of depression was 57.5% [13-17]. As well known, life in Gaza is so tricky due to the unusual circumstances that the Palestinian people are living under the continuing Israeli blockade. There are many forms of suffering that the Palestinian people experience, such as unemployment, poverty, security instability, siege, and finally impact of the COVID-19 pandemic. All of these factors, when combined, increase mental health problems [18-20]. A recent study aimed to examine the psychological distress among healthcare providers during the COVID-19 Pandemic in Gaza Strip, which found that depression level 68%, anxiety 69%, stress 67% [21]. In Gaza, no studies were conducted to examine the associations between fear of COVID-19 and preventive behaviors according to the authors' knowledge. This study will provide information and data for all concerned people. On the other hand, this study will increase the mental health body knowledge in Palestine; this study seeks to examine the associations between fear of COVID-19 and preventive behaviors among People in the Gaza Strip.

## Methods

### Study population, sample, and setting

The target population comprises all 18 years or older people and currently living in the Gaza Strip. The sample consists of 682 participants. We adopted a cross-sectional survey design to measure fear COVID-19 and to assess how individuals perform preventive COVID-19 infection behaviors among the study sample by using an online survey. A snowball sampling method focused on recruiting the general public living in Gaza Strip during the pandemic was conducted. The online survey was first disseminated on Facebook and WhatsApp applications to friends, and they were encouraged to pass it on to others.

## Procedure

Since the MOH recommended the public to minimize face-to-face interaction and isolate themselves at their homes, potential respondents were electronically invited. All of them completed the questionnaires in Arabic through an online survey. Ethics approval was obtained from the Helsinki Ethical Committee in the Gaza Strip, Palestine (Code: PHRC/HC/735/20). Privacy was strictly protected during the procedure. The purposes of the study and information about it were posted on the first page of the questionnaire. To protect data and preserve privacy, the authors contacted the participants by phone and electronically and explained the objectives of the study and the content of the questionnaires and thanked them for participating in the study. The questionnaire was sent to a specialist in English translation. After that, the Arabic version was sent to a specialist in Arabic for accreditation, and then finally, back translation to Arabic was done. All respondents provided online informed consent before starting the questionnaire. Data collection took place over seven days (28 September to 5 October 2020).

## Instrument

### Demographic information

The demographic variables explored included the age, gender, marital status, governorate region where the participant resided, and education level.

### Fear of COVID-19 scale

(FCV-19S) includes seven items with a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree) to assess how an individual fears COVID-19. The validity and reliability of the tool were verified. The Arabic Version of (FCV-19S) has excellent psychometric properties; internal consistency (Cronbach's  $\alpha=.88$ ), with concurrent validity indicated by significant and positive correlations with HADS ( $r = .66$ ).

### COVID-19 preventive behavior scale

It consists of 10 items formulated based on WHO measures to prevent the spread of COVID-19. Items were assessed on a 3-point Likert scale (always=3, sometimes=2, rarely=1). A higher score indicates a more outstanding commitment to protective behaviors COVID-19. The validity of the questionnaire was confirmed using the viewpoints of nine public health and psychology experts. The reliability of the questionnaire was investigated by calculating internal consistency (Cronbach's  $\alpha=.825$ ) [22].

## Results

### Characteristics of the study sample

In this study, 682 participants completed and returned the questionnaire, 46.5% were male, and 53.5% were female, the age group between 21 and 40, represented 68% of the participants, 49.6 % are single, most of the participants (70.7%) were currently studying in college, and On the other hand, 10.7% of them are studying a master or doctorate (Table 1).

**Table 1:** Sociodemographic characteristics (n = 682).

Characteristics	Frequency (n)	Percentage %
<b>Sex</b>		
Male	317	46.5
Female	365	53.5
<b>Marital status</b>		
Married	323	47.4
single	338	49.6
Other(Divorced/ Widowed)	21	3.1
<b>Age</b>		
20 years or less	109	16
21-40 years	464	68
41-60 years	86	12.6
Over 60 years	23	3.4
<b>Governorate</b>		
North Gaza	125	18.3
Gaza	165	24.2
Deir al-Balah	166	24.3
Khan Yunis	126	18.5
Rafah	100	14.7
<b>Education level</b>		
Secondary school	28	4.1
High school	99	14.5
college level	482	70.7
Postgraduate (Master/Ph.D.)	73	10.7

### Fear of COVID-19 and preventive behaviors scales

The highest score item was item 2, "It makes me uncomfortable to think about coronavirus," by 52% of participants. While item 3, "My hands become clammy when I think about coronavirus," is considered the lowest item with (7.8%). Result shows (58.5%) of the participants disagree that they have a fear of COVID-19. The most preventive behaviors were Cover the nose and mouth when coughing or sneezing, where 90.67% of respondents always said, "I place a tissue paper or bending elbow in front of my mouth and

nose when coughing or sneezing." According to the concerned authorities, they always told: "I adhere to the instructions when leaving the house" by 85.67%. While washing hands regularly with soap and water for at least 20 seconds came thirdly 85.33%.

On the other hand, the lowest prevention behaviors keeping a safe space between themselves and other people were just 74.67% of the sample said: "keep a distance of at least 1.5 m. from others" (Table 2).

**Table 2:** Fear of COVID-19 and preventive behaviors scales.

Statement	N %			Mean	S.D	Weighted mean	Rank
	Disagree	Neutral	Agree				
I am most afraid of Corona	253 (37.1)	144 (21)	285 (41.8)	3	1.11	60	3
It makes me uncomfortable to think about Corona	245 (35.9)	82 (12)	355 (52)	3.16	1.21	63.2	1
My hands become clammy when I think about Corona	570 (83.6)	59 (8.7)	53 (7.8)	1.85	0.89	37	7
I am afraid of losing my life because of Corona	411 (60.2)	105 (15.4)	166 (24.4)	2.48	1.21	49.6	4
When I watch news and stories about Corona on social media, I become nervous or anxious.	278 (40.8)	91 (13.3)	313 (45.9)	3.03	1.25	60.6	2
I cannot sleep because I am worried about getting to Corona.	553 (81)	77 (11.3)	52 (7.6)	1.88	0.92	37.6	6
My heart races or palpitates when I think about getting Corona.	484 (70.9)	63 (9.2)	130 (19.1)	2.18	1.12	43.6	5

	-58.5	-12.99	-28.37	2.51	0.83	50.24	
Wash hands regularly for 20 sec. With soap and water.	48 (7)	206 (30.2)	428 (62.8)	2.56	0.62	85.33	3
Follow the 1.5- physical distance rule.	78 (11.4)	362 (53.1)	242 (35.5)	2.24	0.64	74.67	10
Clean and disinfect surfaces frequently.	122 (17.9)	257 (37.7)	303 (44.4)	2.27	0.74	75.67	9
I place a tissue paper or bending elbow in front of my mouth and nose when coughing or sneezing.	33 (4.8)	124 (18.2)	525 (77)	2.72	0.55	90.67	1
Face mask use when outdoor.	61 (8.9)	180 (26.4)	441 (64.7)	2.56	0.65	85.33	4
Avoid handshake and hugging behaviors.	53 (7.8)	228 (33.4)	401 (58.8)	2.51	0.64	83.67	5
I don't touch my eyes, nose, and mouth with my hands.	72 (10.6)	159 (28.6)	415 (60.9)	2.5	0.68	83.33	7
I adhere to the instructions when leaving the house according to the concerned authorities.	45 (6.6)	206 (30.2)	431 (63.2)	2.57	0.62	85.67	2
Eat a healthy, balanced diet.	52 (7.6)	345 (50.6)	285 (41.8)	2.34	0.62	78	8
Isolate myself by staying at home and seek medical attention if I have symptoms such as fever, coughing, and difficulty breathing.	64 (9.2)	203 (29.8)	415 (60.9)	2.51	0.66	83.67	6
	-9.2	-33.82	-57	2.48	0.38	82.57	

### Correlation between fear of Covid-19 and preventive behaviors

Using Pearson correlation, the correlation coefficient was low and not significant ( $r = 0.006$ ,  $P = 0.875$ ).

### Variations of fears and preventive measures concerning socio-demographic characteristics

Significant differences are shown between fears of COVID-19

and preventive behaviors with education level and residence place ( $P < 0.001$ ). Post-Hoc Sheffie's test revealed fear of COVID-19 is more in the northern part of the Gaza strip and among low educated participants. In contrast, preventive behaviors are more adopted in Gaza city and among the highly educated. Concerning gender, the significance is reported with preventive behaviors favoring females ( $P = 0.004$ ) (Table 3).

**Table 3:** Comparison between fears of COVID-19 and preventive behaviors concerning socio-demographic characteristics.

Socio-demographic	Fear of covid-19					Preventive behavior				
	Sum of squire	df	Mean	F value	Sig.	Sum of squire	df	Mean	t/F value	Sig.
<b>Governorate</b>										
Between groups	8.226	4	2.057	3.04	0.017	6.428	4	1.607	12.046	0
Within-group	457.925	677	0.676			90.313	677	0.133		
Total	466.151	681				96.741	681			
<b>Education level</b>										
Between groups	20.115	3	6.705	10.192	0	2.495	3	0.832	5.984	0
Within-group	446.036	678	0.658			94.246	678	0.139		
Total	466.151	681				96.741	681			
<b>Gender</b>										
Male			2.53	0.711	0.477			2.43	-2.85	0.004
Female			2.49					2.52		

### Discussion

This current study examined the associations between fear of COVID-19 and Preventive behaviors among people in the Gaza Strip. Contrary to expectation, there were no significant associations between fear of COVID-19 and adherence to preventive behaviors. Participants' commitment can be attributed to factors other than fear, such as their autonomous motivation and government legislation; this is in line with the findings [23]. These disagree with the findings of previous studies that there exists an association

between fear of COVID-19, mental health, and COVID-19 preventive behaviors [4,24]. There are no statistically significant differences at a substantial level ( $\alpha \leq 0.05$ ) between demographic factors, age, gender, marital status, and fear of COVID-19. This is inconsistent with other reports showing greater psychological vulnerability in women than men during the COVID-19 pandemic [2,5,9]. On the other hand, there is a statistically significant difference at a substantial level ( $\alpha \leq 0.05$ ) between the place of residence favoring the North Gaza Governorate, low educational level, and

the fear of COVID-19. This can be explained due to a vast outbreak of COVID-19 in the North Gaza Governorate; lockdown measures were implemented, leading to amplifying adverse psychological reactions to COVID-19. This finding is consistent with [17]. The entirety conclusions suggest that fear of COVID19 may play an integral role in the health and preventive behaviors among low educated participants.

There are no statistically significant differences concerning the preventive behavior results at a significant level ( $\alpha \leq 0.05$ ) between demographic factors, age, marital status, and preventive behavior. In contrast, there is a statistically significant difference at a considerable level ( $\alpha \leq 0.05$ ) between the place of residence in favor of Gaza city, high educational level, gender in favor of female and preventive behavior. This is due to the high level of fear among females, which motivates them to adhere to preventive behaviors. Urban residents like Gaza Governorate can buy the necessary health equipment for prevention. Their work can be performed from home; unlike in other areas staying at home would imply dropping their primary source of livelihood; this finding is in line with the Rossi. Participants reported high adherence to preventive behaviors, and those with high education levels were associated with more commitment to preventive behaviors. This may be due to participants' characteristics, as (81.4%) have a bachelor's degree or higher, these results were found in line with previous studies [15,19].

## Conclusion

Our findings show that there were no significant associations between fear of COVID-19 and adherence to preventive behaviors. This study demonstrated a statistically significant difference at a significant level ( $\alpha \leq 0.05$ ) between the place of residence in favor of the North Gaza Governorate, low educational level, and the fear of COVID-19. On the other hand, there is a statistically significant difference at a significant level ( $\alpha \leq 0.05$ ) between the place of residence in favor of Gaza city, high educational level, gender in favor of female and preventive behavior. The current study indicated a lower-than-average level of fear of COVID-19 and an increased commitment to preventive behaviors among participants. Education level and gender have an essential role in the management of people's health and preventive behaviors. Health experts and communicators may capitalize on these findings to educate people on COVID-19. It is crucial to continue monitoring the psychological reactions of people during the outbreak.

## Acknowledgment

We would like to thank all participants who contributed to this study.

## Author Contributions

SA and AA jointly generated the idea for the article, wrote the manuscript, and critically edited it. MIA, AKA, and AHB conducted the data collection. AKS and OJE conducted statistical analysis. All authors approved the final submitted version of the manuscript.

## Declaration Of Conflicting Interests

The author reported no potential conflict of interest.

## Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## References

- Liu S, Yang L, Zhang C, Xiang YT, Liu Z, et al. (2020) Online mental health services in China during the COVID-19 outbreak. *The Lancet Psychiatry* 7(4): e17-e18.
- Wang C, Pan R, Wan X, Tan Y, Xu L, et al. (2020) Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International journal of environmental research and public health* 17(5): 1729.
- Cucinotta D, Vanelli M (2020) WHO declares COVID-19 a pandemic. *Acta Bio Medica: Atenei Parmensis* 91(1): 150-157.
- Lin MW, Cheng Y (2020) Policy actions to alleviate psychosocial impacts of COVID-19 pandemic: Experiences from Taiwan. *Social Health and Behavior* 3(2): 72.
- Rieger MO (2020) To wear or not to wear? Factors influencing wearing face masks in Germany during the COVID-19 pandemic. *Social Health and Behavior* 3(2): 40-50.
- MOH (2021) Daily report for COVID19 virus, unit of information system, Gaza, Palestine. Ministry Of Health.
- Chang KC, Strong C, Pakpour AH, Griffiths MD, Lin CY (2020) Factors related to preventive COVID-19 infection behaviors among people with mental illness. *J Formos Med Assoc* 19(12): 1772-1780.
- De Hoog N, Stroebe W, De Wit JB (2008) The processing of fear-arousing communications: How biased processing leads to persuasion. *Social Influence* 3(2): 84-113.
- Ahorsu DK, Imani V, Lin CY, Timpka T, Broström A, et al. (2020) Associations between fear of COVID-19, mental health, and preventive behaviours across pregnant women and husbands: an actor-partner interdependence modelling. *Int J Ment Health Addict* 5: 1-15.
- Al Zabadi H, Al Hroub T, Yaseen, N, Haj Yahya M (2020) Assessment of depression severity during COVID-19 pandemic among the Palestinian population: a growing concern and an immediate consideration. *Frontiers in psychiatry* 11: 1480-1486.
- Abuzerr S, Zinszer K, Shaheen A, El Bilbeisi AH, Al Haj Daoud A, et al. (2021) Impact of the coronavirus disease 2019 pandemic on the Palestinian family: A cross-sectional study. *SAGE Open Med* 9: 20503121211001137.
- AlKhalidi M, Abuzerr S, Obaid H, Alnajjar G, Alkhalidi A, et al. (2020) Social Determinants of Health in Fragile and Conflict Settings: The Case of the Gaza Strip, Palestine. *Handbook of Healthcare in the Arab World*. Springer, China.
- Abuzerr S, Nasser S, Yunesian M, Hadi M, Mahvi AH, et al. (2019) Prevalence of diarrheal illness and healthcare-seeking behavior by age-group and sex among the population of Gaza strip: a community-based cross-sectional study. *BMC Public Health* 19(1): 1-10.
- Abuzerr S, Hadi M, Zinszer K, Nasser S, Yunesian M, et al. (2020) Comprehensive Risk Assessment of Health-Related Hazardous Events in the Drinking Water Supply System from Source to Tap in Gaza Strip, Palestine. *Journal of environmental and public health*.
- Emad OJ, Radwan AS, Rhama HMA, Afana MJ (2021) Psychological Distress Among Healthcare Providers During the COVID-19 Pandemic in Gaza Strip: A Cross-sectional Study. *Brain* 6(1): 13-16.

16. Ahorsu DK, Lin CY, Imani V, Saffari M, Griffiths MD, et al. (2020) The fear of COVID-19 scale: development and initial validation. *Int J Ment Health Addict* p. 1-9.
17. Alyami M, Henning M, Krägeloh CU, Alyami H (2020) Psychometric evaluation of the Arabic version of the Fear of COVID-19 Scale. *International Journal of Mental Health and Addiction* p. 1-14.
18. Lin CY, Imani V, Majd NR, Ghasemi Z, Griffiths MD, et al. (2020) Using an integrated social cognition model to predict COVID-19 preventive behaviours. *Br J Health Psychol* 25(4): 981-1005.
19. Shahnazi H, Ahmadi Livani M, Pahlavanzadeh B, Rajabi A, Hamrah MS, et al. (2020) Assessing preventive health behaviors from COVID-19: a cross sectional study with health belief model in Golestan Province, Northern of Iran. *Infectious diseases of poverty* 9(1): 1-9.
20. Rossi R, Socci V, Talevi D, Mensi S, Niolu C, et al. (2020) COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. *Frontiers in psychiatry* 11: 781-790.
21. Lin PH, Lin CY, Wang PY, Yang SY (2018) Association between sleeping duration and health-related behaviors in college student. *Social Health and Behavior* 1(1): 31.
22. Rossi R, Socci V, Pacitti F, Di Lorenzo G, Di Marco A, et al. (2020) Mental health outcomes among frontline and second-line health care workers during the coronavirus disease 2019 (COVID-19) pandemic in Italy. *JAMA network open* 3(5): e2010185-e2010185.
23. Ahmed MA, Siewe Fodjo JN, Gele AA, Farah AA, Osman S, et al. (2020) COVID-19 in Somalia: Adherence to Preventive Measures and Evolution of the Disease Burden. *Pathogens* 9(9): 730-735.
24. Braveman PA, Cubbin C, Egerter S, Williams DR, Pamuk E (2010) Socioeconomic disparities in health in the United States: what the patterns tell us. *Am J Public Health* 100(S1): S186-S196.



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here:

[Submit Article](#)

DOI: [10.32474/SJPBS.2021.05.000208](https://doi.org/10.32474/SJPBS.2021.05.000208)



### Scholarly Journal of Psychology and Behavioral Sciences

#### Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles