Effect of Online Health Protective Guidelines to Qualify Adult People to Return after Pandemic Curfew of Covid-19

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Abstract

Background: The corona virus pandemic is causing large magnitude loss of life and severe human distress worldwide. It is the biggest public health emergency in living memory. **Aim:** The study aims to evaluate the effect of implementing online health-protective guidelines to qualify adult people to return after the pandemic curfew of Covid-19. **Design:** A quasi-experimental design was utilized. **Setting:** The data collected through an electronic questionnaire using google forms to design then using google drive link to distribute it through using social media. **Subjects:** A convenient sample includes available adult members within 6 months. **Tools:** An electronic self-administered questionnaire was designed by the researchers, it included three parts: Part I. Adult member's socio-demographic characteristics. Part II. Knowledge involves study member's knowledge about Covid-19. Part III. Reported practices. **Results:** illuminates that there were noticeable changes of means ± SD in all tested items of knowledge before and after implementing online health-protective guidelines, with highly statistically significant differences were observed (P <0.000). Also, there was a radical satisfactory improvement among the majority of studied members' total score of reported practices as well there were highly statistically significant improvements were observed in the studied members' mean scores in most of all tested items of reported practice (P <0.000). There was a statistically significant strong relation between total scores of pre-and post-knowledge & reported practices of online health-protective guidelines with their sociodemographic characteristics (p < 0.001). **Conclusion:** Online health-protective guidelines achieved their aim as well as a significant improvement of the studied members' means scores of COVID-19 knowledge and protective reported practices after implementation of online health-protective guidelines about pandemic COVID-19. **Recommendations:** Development of online health-protective guidelines targeting vulnerable population as pregnant, elderly people and school-age students. As well delivering regular and accurate information updates on the COVID-19 healthy protective guidelines is needed.

Keywords: Online Health protective guidelines, Pandemic Curfew, Covid -19

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Introduction

The corona virus is a global health disaster of our time and the greatest contest all the world has faced since its development in Asia in 2019, the virus has proliferated to every. The world has now touched the tragic milestone of more than two million deaths, and the human family is experiencing under an almost intolerable burden of loss **(United Nation Development Program (UNDP), 2021)**

A pandemic is not just a medical event; it has its biopsychosocial effect on people and causes disturbance. As adult people are a component of the community have noticeable impacts on the current pandemic that involves the level of severity, degree of flow, and consequences. Rapid human-to-human spread of the covid-19 resulted in the implementation of local lockdowns which are known as curfew to stop the more distribution of the disease **(Stephen et al., 2020).**

The curfew actions are the main tools to control disease scope, particularly in the absenteeism of cures and vaccines. Several countries are imposing curfews, which relate to quarantine, social distancing, and closure of educational institutions, agencies, and recreation places relegated people to stay in their homes to help break the chain of transmission. However, the restricted actions undoubtedly have affected the social and psychological health of people from across the board **(Bloch et al., 2020)** and **(Steinacker et al., 2020).**

People's return to normal daily life requires adequate qualification to return to their life through adherence to control measures which is affected by their knowledge, and Protective practices towards COVID-19 **(Zhong, et al., 2020).** So, throughout this time of pandemic crisis, there is a great need to advocates adult people's right to learn. Simply through online education of adult people in their homes to qualify adult people to return safely to their normal life after the pandemic curfew of covid-19 **(Ayed, et et., 2020).**

Online health protective guidelines are a safe and viable alternative to ensure the health of adult people and researchers alike, one that

many institutions have already enacted in the face of the coronavirus threat. As well important benefit of online protective guidelines is the ability to provide prompt feedback about the accuracy of adult people's misunderstanding and conclusions **(Moradi, 2018)**

Nurses are important in managing a health crisis because they are a vital link between the people and the rest of the health care team. They are on the front lines caring for patients in hospitals as well as adult people at home during this pandemic crisis **(Anzalone, 2020).**

Significance of the study:

Internationally today, as of 24 January 2021, more than 98.9 million cases have been definite, with more than 2.12 million deaths recognized to COVID-19 **(World Health Organization, (**WHO**), 2021).** In Egypt, variations every day of life have been fast, with a growing death rate. COVID-19 is considered a pandemic in Egypt as part of an ongoing worldwide COVID-19 pandemic. The Egyptian Ministry of Health and Population confirmed that the first case of COVID-19 was on February 14, 2020. As of the evening of June 15, there were 165951 confirmed cases of Covid-19 and 9316 deaths **(Egyptian Ministry of Health and Population, 2021).**

Egypt has applied strict measures in combat against the pandemic. Instigating nationwide curfew in the country, additionally with other interventions, enable the decreasing of infection rate in Egypt. This effectiveness is showed by having the lowest number of cases among all governorates. So, curfew played an important role to fight against such pandemics **(WHO, 2021).**

So, during this period there is an urgent need to offer online education through distance online guidelines to qualify adult people to safely return to their normal life whether to go outside the home such as to work, shopping, traveling, or even to use different means of transportation which will happen through following the special guidelines to allow them to adhere to protective

precautions especially with a high-risk group like elderly, young children or even pregnant women **(Saudi Center for Disease Prevention and Control, (SCDC), 2021)**

Aim of the study:

To evaluate the effect of implementing online health-protective guidelines to qualify adult people for return after curfew pandemic Covid-19 through:

1. Assessing adult people's online health knowledge and reported practice needed to return after pandemic curfew Covid-19.

2. Designing and implement online health protective guidelines for adult People toward improving their knowledge and reported practice to return after the pandemic curfew of Covid-19.

3. Evaluating the effect of implementing online health-protective guidelines for adult People's knowledge and reported practice to return after pandemic curfew of Covid-19.

Research Hypotheses:

H. Online health-protective guidelines will be effective in qualifying adult people's knowledge and reported practices to return after the pandemic curfew of Covid-19.

Subjects and Methods

Research design

A quasi-experimental research design was utilized in this study. a quasi-experimental design aims to establish a cause-and-effect relationship between an independent and dependent variable. However, unlike a true experiment, a quasi-experiment does not rely on random assignment. Instead, subjects are assigned to groups based on non-random criteria (Thomas, 2021).

Setting:

The data collected from Helwan district, Egypt through an electronic online questionnaire using google forms to design then using google drive link to distribute it through using social media like Facebook, WhatsApp.

The electronic questionnaire included an introductory page describing the background and the aims of the study, also ethics information for participants.

Sample:

A convenient sample includes available adult members within 6 months who accepting to participate in the study and respond to complete the questionnaire. The total number was 161 and the studied sample was 145 after conducting the pilot study.

Tools of data collection:

An electronic self-administered questionnaire was designed by the researchers to collect the necessary data after reviewing related literature and articles. It was written in simple Arabic language and it consisted of three parts.

Part I: Covered the adult member's socio-demographic characteristics, such as age, gender, educational level, occupation, and crowding index. Also, Biopsychosocial effect due to home quarantine during the pandemic of Covid-19 including (physical activity, types of activity, eating pattern, types of food, social activity, income and mood effect) Part **II:** Involves questions about study adult people's knowledge about Covid-19 such as meaning, causes, risk group, symptoms, diagnosis, complications, prevention, and guidelines to qualify adult members to return after pandemic curfew.

Scoring system for knowledge:

Knowledge obtained from study members was checked with a model answer and scored as the following: Complete correct answer takes "three", while the incomplete answer takes "two"

And a wrong answer or don't know takes "one". The total score was converted into percentage and construed as follows:

- Poor < 60% with score ranged from 0-12 marks.
- Average 60 - 70% with scores ranged from 13-24 marks.
- Good >70% with scores ranged from 25-36 marks.

Part III: Study members reported practices; it filled by the study members themselves and used to assess study members reported performed practices regarding Healthy hygienic practice about hand washing, healthy social distance instructions, and steps of protective clothes and devices wearing and removing, healthy diet, precautions during sneezing and coughing.

Scoring system for practice:

The performed complete practice was scored "2", and not performed scored " one". The total reported practice was categorized as the following:

- Satisfactory if the total score was 85% or more (≥20 marks)

- Unsatisfactory if the total score was less than 85% (< 20 marks).

II. Operational Design

a- Preparatory phase:

This phase comprised reviewing past and currently available literature and the different studies related to Covid-19 using WHO, Ministry of Health, articles, magazines, and the internet to get a clear picture of the research problem and develop the study tools for data collection.

- **Validity of tools**

The validity of tools refers to researchers' subjective assessments of relevance of the measuring instrument as to whether the items in the instrument appear to be relevant, reasonable, unambiguous, and clear **(Oluwatayo, 2012).**

The study tools were tested for validity through the judgments of 3 experts in Community Health Nursing and Adult Health Nursing (one professor in Community Health Nursing & two professors in Adult Health Nursing).

- **Reliability of the tools**

Testing for reliability is important as it refers to the consistency across the parts of a measuring instrument (**Huck, 2007**). The reliability test for the present study tools (knowledge & practice) was established by using Cronbach's alpha which showed good internal consistency and good reliability as follows: (Cronbach's alpha = 0.899).

- **Ethical considerations**

Participation in the study was completely voluntary and participants who agreed to include in the study. The researchers clarified the objectives of the study to the participants and ensured complete privacy and confidentiality of any information.

All data would use only for the study purpose and their answers are anonymous and confidential. They also have the right to withdraw from the study at any time without giving any reason.

b- Pilot study

A pilot study was done on 10% of 161 total adult members of the study sample. The pilot sample was obtained on the first 16 respondents after sharing the survey platform to evaluate the tool's clarity, applicability, and feasibility and to estimate the time needed for filling in the tools. The pilot study data were analyzed and needed modifications were done on the study tools. So, those 16 questionnaires were excluded from the study.

c- Field work

The researchers started by introducing themselves to the study members through social media and formal consent was obtained from each participant after submission of the questionnaire. The participants were informed with the aim of the study through using an introductory page describing the background and

the aims of the study, also ethics information for participants. As well as using the social media apps such as Google meet, Facebook, WhatsApp groups. The researchers sent the participants a google form questionnaire through a link and 15-20 minutes was needed to complete the questionnaire .

After that, an online health-protective guideline about Covid-19 was implemented. Then, the initial data were collected from the study members. The results were analyzed statistically and manually prepared, and the guidelines were implemented for them based on their educational needs. After completion of the online health-protective guidelines implementation, the evaluation of the studied members was carried out by using the same research tools. Using the google drive link.

The application of the health-protective guidelines was carried out in four phases:

Phase I: Assessment phase: It consisted of the pretest after that the researchers took an appointment from the people involved in the study to start. The researchers were presented using google meet and Zoom meetings and the time chosen based on the studied member applicability and their free time 5 p.m.: 7 p.m. two days per week Friday & Saturday. The researchers greeted the participants, and introduced themselves to them also, explained the aim of the study. An analysis of the obtained pretest collected data was then done to help in the design of the online health-protective guidelines.

Phase II: Planning phase: It involved designing the topics, which were arranged according to the needs of the study participants and the general objective to increase knowledge and reported practices to return after the pandemic curfew of Covid-19. This achieved through the implementing online health-protective guidelines, this based on analysis of the actual needs in pre-assessment by using the pre-test tools. The online health-protective guideline booklet was prepared by the researchers, in simple Arabic language and consistent with the related literature **(WHO, 2021 & Egyptian Ministry of Health and Population, 2021)**. The content of the booklet included data about: Meaning of Covid-19, causes, risk group, symptoms, diagnosis, and complication, the biopsychosocial effect of pandemic curfew effect on people, prevention, and guidelines about protective health precautions to qualify adult people to return after curfew.   As well as performed healthy protective guidelines.

Phase III: Implementation phase:

The online health-protective guidelines designed by the researchers in simple Arabic language and sessions began with an orientation about the program and its objectives. The researchers arranged a suitable free time for the participants to attend online sessions which started after the completion of pre-test three online google meet and zoom webinars from 5:00-7:00 pm. First, they introduced themselves to the participant and gave them a brief idea about the health protective guideline's topics. The time was constant on every session till finishing all knowledge sessions and practice training. Every session took about 40-60 minutes. The total number of members was 145 the researchers divided them into 3 groups every group from 45-50 members, online health-protective guidelines were applied in 2 sessions for every group, one session cover the theoretical part, which included: Meaning of Covid-19, causes, risk group, symptoms, diagnosis, complication, prevention, health-protective guidelines to qualify people to return after pandemic curfew of Covid-19 and another one session cover the practical part which includes for example personal hygienic practices, Hand washing,

wearing and removing of mask and gloves....etc

The teaching methods are designed and developed based on their assessment of educational needs and include lectures, and group discussions to perform healthy protective practices. The media was a booklet, pictures, PowerPoint presentation also, videos on the laptop screen.

Phase IV: Evaluation phase: It includes an online post-test done after one month of the online health-protective guidelines by using the same formats of the pre-test tools to assess the effect of the online health-protective guidelines.

III. Administrative Design

The participants were informed that all data would use only for the study purpose and their answers are anonymous and confidential according to_Google's_privacy_policy (https://policies.google.com/privacy?hl=en) and do not mention their names or contacts data. As well as they could stop participating and leaving the study at any time. The submission of the answered survey was considered as consent to participate in
the study.

IV- Statistical Design:

Data entry and statistical analysis were performed using personal computer software, the statistical package for social sciences (SPSS), version 20. Suitable descriptive statistics were used such as frequency, percentage, mean and standard deviation. A Chi-square test was used to detect the relation between the variables. A paired (t) test was used to compare the mean score between both studied variables. The p-value is the probability that an observed difference is due to chance and

not a true difference. A significant level value was considered when the p-value $\leq$ 0.05 and a highly significant level value was considered when the p-value $\leq$ 0.001, while a p-value > 0.05 indicates non-significant results.

Results:

Table (1) reveals that the mean age of studied members was 30.16 ± 7.268. Regarding gender 42.8% of the studied sample were male and 25.8% of them were smokers. As well 57.2 % of them were females with 9.6% of them were pregnant. Regarding their educational level, 42.0% were university educated. As well as 44.1% of the studied sample was an employee. Concerning their marital status, 62.8% were married and 69.0% were residents in urban places. Regarding their crowding index, 55.9% had two persons per room with 55.2% reporting adequate ventilation inside their homes. 41.4% of the studied members reported they go outside the home once to twice times.

Figure (1) shows that 39% of the studied sample had a previous history of exposure to Covid 19.

Figure (2) Indicates that 35.9 % of the studied sample source of information were from the Ministry of Health.

Table (2): Illustrates that studied members' physical activity; 48.3% of them reported severe effect and only 6.2% reported the mild effect of physical activity. 62.1% of them reported their activity type was watching T.V. and only 20.7 % reported developing new skills. As well 82.3% reported that their eating pattern was affected and reported that the highest percentage prefer eating fresh fruits and vegetables and prepare food at home and lowest percentage. It was to order delivery food at 67.6%, 62.1% & 10.3% respectively. Also, regarding social activity 75.9 limit visiting friends well 48.3% reporting increased family bonding .48.3% of them reported that their income was severely affected. Lastly, 58.6% reported their mood was severely affected.

According to the study hypothesis which confirmed that the online health-protective guidelines will be effective on knowledge,

and reported practices to qualify adult people to return after the pandemic curfew of Covid-19 will be discussed through the following parts of study results; tables (3,4,5,6) and figures (3&4).

Figure (3) Introduces that there was an observed improvement among adult people's total score of knowledge pre- and post-online health-protective guidelines. As well as the figure shows that 49.7% of the studied members had poor knowledge of pre-online health guidelines, while 73.80% of them had good knowledge after the online health guidelines.

Table (3) illuminates that there were noticeable changes of means ± SD in all tested items of knowledge before and after implementing online health-protective guidelines, with highly statistically significant differences were observed (P <0.000)

Figure (4) Proposes that there was marked improvement among studied members' total score of practices pre- and post-online health-protective guidelines. As well as the figure shows that 83.4% of the studied members had unsatisfactory practices pre-online health guidelines, while changed to be 89.0% after the online health guidelines.

Table (4) explains that there were noticeable changes of means ± SD in all reported practice items before and after implementing online health-protective guidelines. As well there were highly statistically significant improvements were observed in the studied members' mean scores in most of all tested items of reported practice (P <0.000)

Table (5) Proves highly statistically significant relationships between studied members' socio-demographic characteristics in all meshed items and total scores of pre-and-post online health-protective guidelines (P= 0.000).

Table (6) Validates highly statistically significant relationships between studied members' socio-demographic characteristics' such as gender and place of residence with the total scores of satisfactorily reported practices pre-and post- online health-protective guidelines (P≤ 0.001) and statistically

significant in rest items as educational level, place of residence and history of previous exposure to covid-19 and p value<0.05.

Table (1): Frequency Distribution of the Adult People's Socio-demographic Characteristic (No. = 145).

| Characteristics	No.	%
Age:		
- >20-29	66	45.5
- 30-39	60	41.4
- ≥40-	19	13.1
Mean ± SD 30.16 ± 7.268		
Gender:		
- Male (25.8% smoker)	62	42.8
- Female (9.6% pregnant)	83	57.2
Educational level:		
- Primary	11	7.6
- Preparatory	19	13.1
- Secondary	54	37.2
- University	61	42.1
Job:		
- Not working	13	9.0
- Housewife	20	13.8
- Student	34	23.4
- Hand working	4	2.8
- Employee	64	44.1
- Free Working	10	6.9
Marital status :		
- Single	46	31.7
- Married	91	62.8
- Divorced	6	4.1
- Widow	2	1.4
Place of residence:		
- Rural	45	31.0
- Urban	100	69.0
Crowding index:		
- ≥ 1	43	29.7
- ≤ 2	81	55.8
- ≤ 3	21	14.5
Home adequate ventilation:		
- Yes	65	44.8
- No	80	55.2
Times of going outside the home:		
- Never go-out	37	25.5
- Once/ Twice	60	41.3
- Three- Four	24	16.6
- More than four	24	16.6
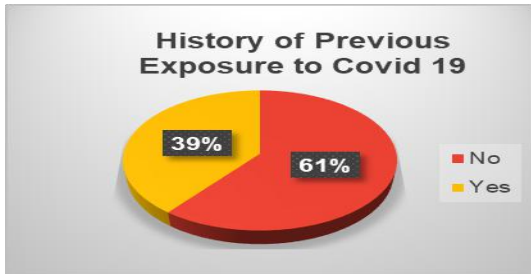
Figure (1): Distribution of History of previous Exposure to Covid 19 among studies members (No. = 145).
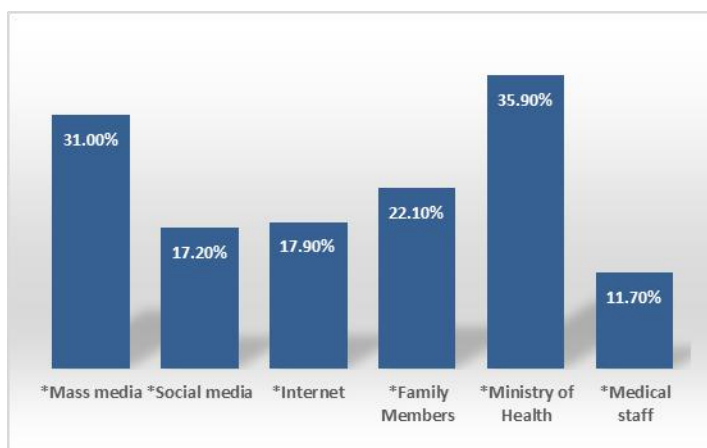
*Total items are not mutually exclusive.

Figure (2): Distribution of The Sources of Information about Covid 19 among studies members (No. = 145).

Table (2): Distribution of Biopsychosocial Effect Due to Home Quarantine During Pandemic Covid -19 (No. = 145).

Biopsychosocial effect	No.	%
Physical activity:		
- Mild effect	9	6.2
- Moderate effect	66	45.5
- Sever effect	70	48.3
***Type of Activity**		
- Home exercises	40	27.5
- Practice household activities	75	51.7
- Develop new skills.	30	20.7
- Watching TV	90	62.1
- Follow the news through social media	85	58.6
Eating pattern:		
- No	25	17.2
- Yes	120	82.8
***Type of food:**		
- Canned food	20	13.8
- Delivery food	15	10.3
- Food prepared at home.	90	62.1
- Fresh fruits and vegetables	98	67.6
***Social activity:**		
- Limit home visiting	85	58.6
- Limit visiting friends.	110	75.9
- Limit visiting family members.	77	53.1
- Increased family bonding	67	46.2
	70	48.3

Income:
- Mild effect	15	10.3
- Moderate effect	60	41.4
- Sever effect	70	48.3

Mood:
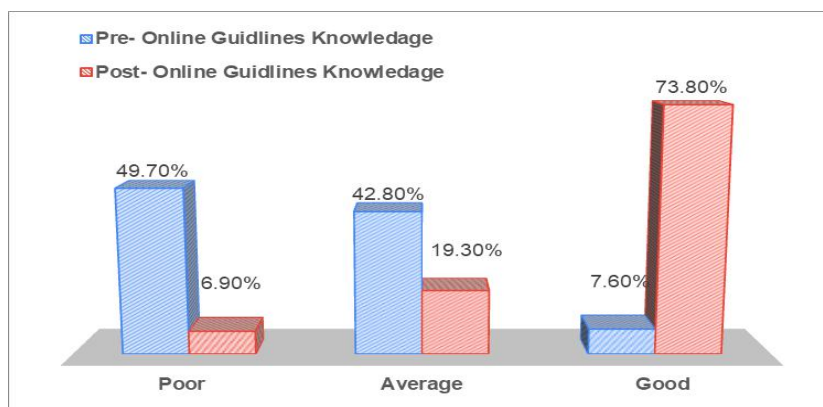|		
- Mild effect	5	3.4
- Moderate effect	55	37.9
- Sever effect	85	58.6

*Total items are not mutually exclusive.

Figure (3): Distribution of Total Scores of Adult people's Knowledge Pre, and Post-Online Protective Guidelines about Covid 19 (No. = 145).

Table (3): Mean Scores and Standard Deviation for Adult people's Knowledge Items Pre, and Post- online Health Protective Guidelines about Covid-19 (No. = 145).

Knowledge Items	Pre- Online Health guidelines Mean ± SD	Post online Health guidelines Mean ± SD	Paired t. test	P-value
Personal Hygiene	1.41±6.73	2.35±0.721	**13.262**	**0.000****
Social Distance	1.19±0.49	2.12±0.80	**12.752**	**0.000****
Protective clothes/equipment	1.32±0.55	2.26±0.68	**13.164**	**0.000****
Healthy diet	1.34±0.56	2.26±0.0.71	**12.840**	**0.000****
Sneezing/ Coughing	1.29±0.51	2.17±0.69	**12.970**	**0.000****
Going outside	1.14±0.40	2.06±0.83	**13.084**	**0.000****
Return to home	1.14±0.48	2.193±0.85	**14.262**	**0.000****
Going to mosque	1.08±0.28	2.21± 0.84	**13.599**	**0.000****
Shopping	1.17±0.46	2.21±0.84	**12.554**	**0.000****
Using means of transportation	1.20±0.51	2.16±0.84	**15.496**	**0.000****
Traveling	1.06±0.25	2.19±0.88	**14.399**	**0.000****
Contact with High risk (Pregnant, children Elderly)	1.10±0.36	2.248±0.84	**14.721**	**0.000****
Total Knowledge	14.49±3.89	26.37±7.48	**16.49**	**0.000****

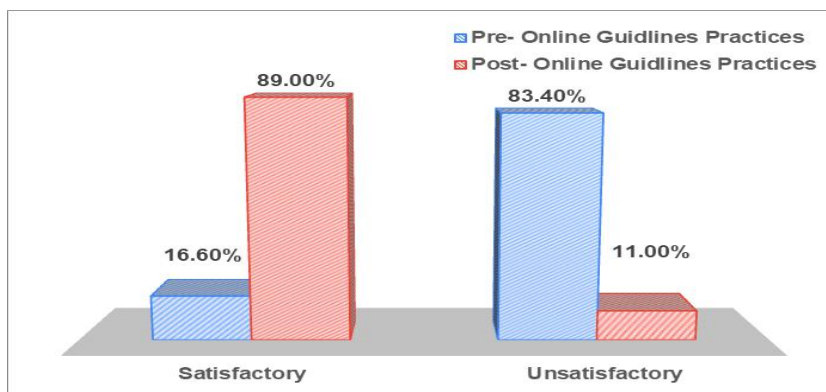**Highly statistically significant at p≤0.001

Figure (4): Distribution of Total Scores of Adult people's Practices Pre, and Post-Online Protective Guidelines about Covid 19 (No. = 145).

Socio-demographic Characteristics	Total scores of Good Knowledge Pre-online health guidelines		Total scores of Good Knowledge Post-online Health guidelines	
	Good No.	X2 P-value	Good No.	X2 P-value
Gender:				
- Male	3	10.753	47	13.827
- Female	8	0.005**	60	0.001**
Educational level:				
- Primary				
- Preparatory	1	17.784	8	19.929
- Secondary	1	0.059**	13	0.030**
- University	3		42	
	6		44	
Job:				
- Not working				
- Housewife	0		7	
- Student	3	33.414	15	34.934
- Hand working	4	0.000**	24	0.000**
- Employee	1		4	
- Free Working	3		48	
	0		9	
Place of Residence:				
- Rural	1	27.809	35	30.185
- Urban	10	0.000**	72	0.000**
Source of Information:				
- Mass Media				
- Social Media	1	82.643	8	74.009
- Internet	1	0.000*	13	0.000**
- Family members	2		15	
- Ministry of Health	0		9	
- Medical Staff	2		35	
	5		42	

History of Previous exposure to Covid-19:				
- No	50	10.457	58	11.962
- Yes	6	0.005**	49	0.003**

Table (4): Mean Scores and Standard Deviation of Reported Practice Items Pre, and Post Online Health Protective Guidelines about Covid-19 (No. = 145).

   **Highly statistically significant at p≤0.001

Table (5): Relation between   Studied Members' Socio-demographic Characteristics, with Total Scores of Good Knowledge Items Pre- and Post-Online Health Protective Guidelines about Covid-19 (No. = 145).

Practice Items	Pre-online Health guidelines Mean ± SD	Post online Health guidelines Mean ± SD	Paired t. test	P-value
Personal Hygiene	1.26± 0.44	1.64±0.48	9.381	0.000**
Social Distance	1.24±0.43	1.70±046	11.122	0.000**
Protective clothes/devices	1.24±0.43	1.77±0.42	12.769	0.000**
Healthy diet	2.26±0.72	1.80±0.0.40	6.743	0.000**
Sneezing/ Coughing	2.18±0.69	1.92±1.72	1.567	0.119
Going outside	2.08±0.83	1.77±0.02	3.673	0.000**
Return to home	2.19±0.85	1.77±0.43	5.516	0.000**
Going to mosque	1.17±0.73	1.80± 0.37	4.741	0.000**
Shopping	1.15±0.36	1.80±0.39	15.810	0.000**
Using means of transportation	1.21±0.41	1.82±0.38	16.541	0.000**
Traveling	1.40±0.49	1.83±0.37	14.910	0.000**
Contact with High risk (Pregnant, children Elderly)	1.20±040	1.89±1.73	10.518	0.000**
Total Practice	14.52±3.33	21.55±4.74	15.44	0.000**

   **Highly statistically significant at p≤0.001

Table (6): Relation between   Studied Members' Socio-demographic Characteristics, with Total Scores of Satisfactory, Reported Practice Items Pre- and Post online Health Protective Guidelines about Covid-19 (No. = 145).

Socio-demographic Characteristics	Total scores of Reported Practices Pre-online Health guidelines		Total scores of Reported Practices Pre-online Health guidelines	
	Satisfactory No.	X2 P-value	Unsatisfactory No.	X2 P-value
Gender:				
- Male	8	9.175	54	10.800
- Female	16	0.002**	75	0.001**
Educational level:				
- Primary	3	3.145	11	4.185
- Preparatory	4	0.076	17	0.041*
- Secondary	8		47	
- University	9		54	
Job:				
- Not working	5		12	
- Housewife	3	5.162	18	3.942
- Student	7	0.023*	29	0.047*
- Hand working	1		4	

- Employee	8		57	
- Free Working	0		9	
Place of Residence:				
- Rural	6	10.586	75	4.161
- Urban	18	0.001**	54	0.041*
History of Previous exposure to Covid-19:	18	6.566	79	2.843
- No	6	0.010*	50	0.032*
- Yes				

* statistically significant at p≤ 0.05&**Highly statistically significant at p≤0.001.

Discussion:

The world is facing the extensive spread of the Corona virus (Covid-19). This epidemic puts intensive pressure on people as well as governs researchers' responsibility to raise people awareness during this crisis, lack of awareness, knowledge, and protective practices would put people and health care staff at risk **(Allam, 2021)**.

The finding of this study underlining socio-demographic characteristics of the studied sample the present study showed that more than half of the adult people were female, of whom nearly a quarter is a pregnant woman. Regarding the age of the adult people, nearly half of them were in the age between (20-<29 years old). Regarding their educational level, nearly half of the studied sample were university educated. As well as nearly half of the adult people were employees & residents in urban places. Concerning their marital status, the majority of the studied sample were married.

This finding was supported by, **(Ammar, et al., 2020),** whose title about Effects of COVID-19 home confinement on eating behavior and physical activity: Results of the ECLB-COVID19 international online survey and conducted in Asia, North Africa, and Europe, reported that the majority of the studied sample was female, from urban countries, employee, university educated and in the age group between (18-35 years old). As well as the study results were similar to **(Ayed, et al., 2021)** whose title about "Effect of educational intervention on secondary school student's knowledge, practices and attitudes regarding COVID-19 in Asyut city and found that 50% of their studied sample were female but their age 15-18 years.

This result was contradicted with **(Jarvis, et al., 2020)**, whose study about Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK reported that the majority of the studied sample had males in the age group between (60–69 years old). These similarities and differences from the researchers' point of view confirm proves the keenness of all researchers worldwide to prepare scientific research that serves all sectors of the community in light of the Covid -19 pandemic.

Regarding the previous exposure to Covid- 19, the current study revealed that about one-third of the adult people had a history of previous exposure to Covid- 19. This finding was supported by**, (Jarvis, et al., 2020),** who revealed that one-quarter of studied participants reported have been tested for COVID-19 with seven testings positive, and two participants still waiting for their results & one-third of the total participants stated they had been in contact with a known COVID19 case. This from the researcher's opinion reinforces the wide prevalence of Covid-19 and the urgent need for scientific research to raise different target awareness.

As regarding the sources of Information about Covid-19 among adult people, the current study indicates that less than one-third of the studied sample source of information were Ministry of Health. These results contradict the results of **(Ayed et al., 2021)** who found 73% of the studied sample obtain their information from social media and only 20% from a medical source.

These massive differences may be due to age differences and showed that the present sample interest to select their source of information about the COVID-19 pandemic to be from an official source.

Regarding the biopsychosocial effect due to home quarantine during Pandemic Covid -19, the current study revealed that nearly half of the adult people were reported Covid -19 has a severe significant impact on their physical activity. As well more than half of the study sample reported their mood was severely affected in the period of curfew in the COVID-19 pandemic.

This finding was supported by, (**Atikovic, et al., 2020**), who conducted their research about The Impact of Coronavirus Disease 2019 (COVID-19) on Physical Activity and Mental Health of Students in Tuzla and Sarajevo, Republic Bosnia and Herzegovina. Reported that inactivity had a more negative effect on the population. Plus, the COVID-19 has a significant negative effect on their physical activity & mental and mood status.

Also, this result in line with **(Bhutani, Cooper & Vandellen, 2020)** whose research was about Self-reported changes in energy balance behaviors during COVID-19 related home confinement: A Cross-Sectional Study. The United States reported that the majority of the studied sample had increases in sedentary activities and decrease in physical activity.

These results supported by **(Moustafa, Mohamed& AlHoufy, 2021)** whose study about "Effects of Home Confinement due to COVID-19 on Physical, Social and Psychological status of Children and Adolescents'" they conducted their study survey on the preparatory, secondary schools, and university students living in Egypt and Saudi Arabia. They found that regarding home confinement effects throughout COVID-19 outbreak on physical health, they revealed that more than 75% of studied subjects suffered from negative effects.

These results may be due to more than half of the decreased physical activity, around three quarters suffered from irregular sleeping, the majority of them suffered from increasing body weight, and slightly less than half of them had decreased appetite. As well this confirming that the negative effect reported among different targets' life

As regarding the effect of curfew period on eating pattern & type of food, the present study reported that more than three-quarters of adult people their eating pattern was affected and reported that the highest percentage prefer eating fresh fruits and vegetables and prepare food at home. This finding was supported by, **(Bhutani et al., 2020)** reported that most adult people reported increasing their intake of fruits and vegetables & increased the consumption of all types of food. This parallels from the researcher's point of view reflect people's preference and confirmation of the importance of fruit and vegetables to prevent infection and raise immunity.

As regarding the effect of curfew period on the social activity the three-quarters of the studied member limit visiting friends & followed by limit the home visiting respectively. This finding was supported by, **(Nasser, et al., 2020)** who concluded that the COVID-19 pandemic is negatively affecting social relationships, which could ultimately lead to negative health implications. Also, these results are supported by **(Moustafa et al., 2021)** who found that 80.7% of their studied sample negative social effect due to pandemic curfew among their studied sample. This confirms the natural fact that the people are socially connected naturally, and this pandemic curfew restricted their sociality.

As regarding the distribution of total scores of studied members' knowledge pre, and post- online health-protective guidelines about Covid 19. The present study reported that there was an observed improvement among adult people total score of knowledge pre- and post-online health-protective guidelines. This finding was supported by **(Alashri et al., 2021)** who conducted an educational bag about Covid -19 among elderly clients at El Amal elderly home, affiliated to Mansoura City and Dar El-Walaa affiliated to Meet Khamr City - Dakahlia governorate-Egypt and found that 48.6% had good knowledge in the immediate post-test. This similarity even though studied research age differences; reflected the positive effect of the people educational program.

The present study also showed that there were highly statistically significant improvements were observed in the adult people mean scores of knowledge in all tested items of knowledge (P< 0.000) after implementing an online health-protective guidelines program. These results agreed with **(Ayed, et al., 2021)** as they reported there were highly significant differences (p=<0.000) in the secondary school students' total knowledge mean scores as pre/immediate post and after three months of educational intervention implementation regarding COVID -19.

Regarding the present study practices, there was marked improvement among adult people total scores of practices. These results were in the same line with **(Elasheri et al., 2021)** they found that 93.1% of their studied sample had immediate satisfactory practices. These from the researchers' point of view confirms that when adult peoples' knowledge improved will be associated with improvement of their reported practices.

As regards the mean scores of the reported practices among the studied sample pre-and post-online health-protective guidelines there were observed changes of mean ± SD in all reported practice items before and after implementing the online health-protective guidelines. As well there were highly statistically significant improvements were observed in the studied members' mean scores in the vast majority of all tested items of reported practice (P <0.000).

These results agreed with **(Ayad, et al., 2021)** they reported that there was an improvement among their studied sample reported practice regarding COVID -19 pre/immediate post and after three-month from intervention implementation, as well there were highly significant differences (P=0.000) about the reported practice of all the preventive measures from COVID -19.

These similarities could reflect the sense of responsibility among different target groups to follow protective guideline practices to control this pandemic Covid 19.

Regarding the relation between the studied members' sociodemographic characteristics of the studied sample with their good knowledge of pre and post online health-protective guidelines there was a highly statistically significant relationship in all sociodemographic characteristics that include gender, educational level, job, and place of residence, source of information and history of previous exposure to covid-19.

These results were congruent with **(Elasheri et al., 2021)** results that showed that there was a highly statistically significant relation between socio-demographic data like age, sex, marital status, educational level, and their total scores of knowledge with P= <.001. This connection could reflect the strong relation

of sociodemographic characteristics with the research knowledge pre-and post-test.

Lastly, the present study also indicated there was a highly statistically significant relationship between the adult people sociodemographic such as gender and place of residence with the total scores of satisfactorily reported practices pre-and post- online health-protective guidelines ($P \le 0.001$) and statistically significant in rest items as educational level, place of residence and history of previous exposure to covid-19 and p value<0.05.

This can be explained by the fact that research hypnosis was achieved and concluded the success of online health-protective guidelines and it affected studied sample reported practice regarding COVID -19 protective guidelines and value the effect of sociodemographic characteristics on the success of these online guidelines.

Conclusion:

Based on the study finding and research hypotheses; it can be concluded that the online health-protective guidelines achieved their aim in enabling the adult people to get ready to return after pandemic curfew through gain the necessary knowledge, perform proper protectives practices toward COVID-19.

A significant improvement of the adult people mean scores of COVID-19 knowledge, protective reported practices implementation of health-protective guidelines about pandemic COVID-19 regardless of their demographic characteristics. The adult people knowledge and reported protective practices levels were improved after the implementation of online health-protective guidelines. A well-proven highly statistically significant relationship with their sociodemographic data was found between adult people knowledge and reported protective practices.

Recommendation:

The study recommended that:
- Development of online health-protective guidelines targeting vulnerable population as pregnant, elderly people and school-age students.
- Delivering regular and accurate information updates on the COVID-19 healthy protective guidelines is needed.
- Further studies are needed to investigate the effect of COVID-19 on Biopsychosocial variables during a pandemic curfew.

References

1. **Abdallah Y Naser, Hadeel T Al-Hadithi, Eman Zmaily Dahmash, Hassan Alwafi, Salwan Salah Alwan, Zainab Ali Abdullah (2020):** The effect of the 2019 coronavirus disease outbreak on social relationships: A cross-sectional study in Jordan. October 25,

2. **Ammar, A.; Brach, M.; Trabesi, K.; Chtourou,H.(2020):** Effects of COVID-19 home confinement on eating behavior and physical activity: Results of the ECLB-COVID19 international online survey, Nutrients Jo, May, 12(1583). Available at research gate.

3. **Anzalone, S. (2020):** The role of nurses in the COVID-19 pandemic, The Lancet Public Health; 2667: 20, 30085.

4. **Almir Atiković, Muhamed Tabaković, Selma Sijerčić, Jasmin**

Bilalić, Emir Ćorić, &Jasmin Mehinovi (2020). The Impact Coronavirus Disease 2019 (COVID-19) on Physical Activity and Mental Health of Students, International Journal of Sport, Exercise and Health Research; 4(2): 55-60.

5. **Bao-Liang Zhong, Wei Luo, Hai-Mei Li, Qian-Qian Zhang, Xiao-Ge Liu, Wen-Tian Li, Yi Li, Int J Biol Sci. 2020;** Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey16(10): 1745–1752. Published online 2020 Mar 15. DOI: 10.7150/ijbs.45221.

6. **Bloch, W.; Halle, M.; Steinacker, J.M. (2020):** Sport in times of Corona <Sport in Zeiten von Corona>. Ger. J. Sports Med., 71, 83–84, doi:10.5960/dzsm.432.

7. **Christopher I. Jarvis, Kevin Van Zandvoort, Amy Gemma, Kiesha Prem, CMMID COVID-19 working group, Petra Klepac, G. James Rubin and W. John Edmunds (2020):** Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK, BMC Medicine Journal; 18:124.

8. **HUCK, S. W. (2007).** Reading Statistics and Research, United States of America, Allyn & Bacon.

9. **Ibrahim Elemam Elashri, N., Ahmed Mohammed Elfadawy,** H., Refaat Alam, R. (2021). Effect of Covid-19 Educational Bag on Knowledge, Attitude and Precautionary Practices of Institutionalized Elderly Persons. *Egyptian Journal of Health Care*, 12(2), 176-194. DOI: 10.21608/ejhc.2021.149447

10. International Journal of Social Psychiatry.

11. **Mabrouk Mohammed Mabrouk Allam, S. (2021).** Nurses' Willingness to Care of Patients with COVID-19: Impact of Work Motivation Training Program. *Egyptian Journal of Health Care*, 12(2), 114-135. DOI: 10.21608/ejhc.2021.147925.

12. **Ministry of Health and Population Egypt "MOHP" (2021):** COVID-19 in Egypt, available at https://www.care.gov.eg/EgyptCare/index.aspx[Acessed 1l2/2021at midnight].

13. **Mohamed Ahmed Ayed, M., abd Elaziem Mohamed, A., Mohamed Mahmoud, T., Mohammed AbdElaziz, S. (2021).** Effect of Educational Intervention on Secondary School Students' Knowledge, Practices and Attitudes Regarding COVID-19. *Egyptian Journal of Health Care*, 12(2), 58-74. DOI: 10.21608/ejhc.2021.145405.

14. **Moustafa, Z.K., Mohamed, M. B., El- Houfey A., A. (2021).** Effects of Home Confinement due to COVID-19 on Physical, Social and Psychological Status of Children and Adolescents. *Egyptian Journal of*

Health Care, 12(1), 105-120. DOI: 10.21608/ejhc.2021.138120.

15. **Moradi, M., Liu, L., Luchies, C., Patterson, M., & Darban, B. (2018).** Enhancing Teaching-Learning Effectiveness by Creating Online Interactive Instructional Modules for Fundamental Concepts of Physics and Mathematics. Education Sciences, 8(3), 109. doi:10.3390/educsci8030109

16. **OLUWATAYO, J. (2012).** Validity and reliability issues in educational research. Journal of Educational and Social Research 2, 391-400.

17. **Saudi Center for Disease Prevention and Control, (SCDC), (2021):** Health protocols for prevention of Covid -19 available at https://covid19awareness.sa/en/archives/10502.

18. **Steinacker, J.M.; Bloch, W.; Halle, M.; Mayer, F.; Meyer, T.; Hirschmüller, A.; Roecker, K.; Wolfarth, B.; Nieß, A.; Reinsberger, C. Merkblatt: (2020):** Gesundheitssituation für Sportler durch die aktuelle Coronavirus- Pandemie (SARS-CoV-2/COVID-19). Dtsch. Z. Sportmed. 71, 85–86.

19. **Stephen C. Newbold, David Finnoff Linda Thunström, Madison Ashworth ·Jason F. Shogren (2020):** Effects of Physical Distancing to Control COVID-19 on Public Health, the Economy, and the Environment, Environmental and Resource Economics. 76:705–729.

20. **Surabhi Bhutani, Jamie A Cooper, Michelle R Vandellen(2020);** Self-reported changes in energy balance behaviors during COVID-19 related home confinement: A Cross-Sectional Study. June 12, medRxiv preprintdoi:https://doi.org/10.1101/2020.06.10.20127753.

21. **Thomas, L., (2021) .** An introduction to quasi-experimental designs Published on July 31, 2020 by Revised on March 8, 2021. Available at: https://www.scribbr.com/methodology/quasi-experimental-design/

22. **United Nation Development Program, (UNDP), (2021)** https://www.undp.org/content/undp/en/home/coronavirus.html. Accessed on March 9, 2021.

23. **WHO, (2021):** WHO Director-General's opening remarks at the mission briefing on COVID-19. 2021. [Online]. Available from: https://www.who.int/dg/speeches/detail/who-directorgeneral- s-opening-remarks-at-the-mission-briefing-on covid- 19 [Accessed on 1st Jan 2021].