# Risk Factors Influencingon the Fear among People during the Coronavirus COVID-19 Outbreak

# عوامل الخطورة التي تؤثر على مستوى الخوف لدى الناس أثناء تفشي فيروس كورونا COVID-19

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**Abstract:**The aim of this study was to investigate the most influential risk factors that could affect on the fear of whom during the Corona virus (COVID-19) outbreak and the correlations between these risk factors.To achieve this, we used the descriptive approach on a sample consisting of (464) participants (23.6 ± 4.3 years). Furthermore, to reduce face-to-face interaction, an electronic questionnaire was administeredby using the Google Forms, which consist of (15) risk factors**,** The results of the study have shown that individuals lack of commitment to public safety measures is one of the most important risk factors that can negatively affect on the fear among the individuals by raising their level of anxiety and the presence of emergency associated with the outbreak of COVID-19.Also associated with a high instead level of anxiety due to the increase the number of infected persons (r = 1), The study showed that there are many factors that affect the level of fear in individuals during this pandemic and this requires health policy makers to pay attention to them in the future.

**Keywords:**Anxiety; Fear; Corona virus; public safety; Risk factors.

**ملخص:** هدفت هذه الدراسة التحقق من عوامل الخطورة الأكثر تأثيرا على مستوى الخوف لدى الناس أثناء تفشي فيروس كورونا (COVID-19)، كذلك العلاقة بين هذه العوامل، ولتحقيق ذلك استخدم الباحثون المنهج الوصفي على عينة مكونة من (464) مشاركا (23.6 ± 4.3) سنة، علاوة على ذلك، ولتقليل التفاعل وجها لوجه، تم تصميم استبيان إلكتروني باستخدام نماذج Google، وبعدها تم إرسال رابط الاستبانة باستخدام تطبيق الوات ساب، حيث تكونت الاستبانة بصورتها النهائية من (15) عامل خطورة؛ وأظهرت نتائج الدراسة أن عدم التزام الأفراد بإجراءات السلامة العامة يُعد من أهم عوامل الخطورة التي يمكن أن يؤثر سلبا على الخوف لدى الأفراد من خلال رفع مستوى القلق لديهم ووجود حالة الطوارئ المرتبطة بتفشي هذا الفيروس، كذلك ارتبط أيضا بمستوى عالٍ من القلق بسبب زيادة عدد الأشخاص المصابين (r = 1)؛ وأوضحت الدراسة أن هناك العديد من العوامل التي تؤثر على مستوى الخوف لدى الأفراد أثناء انتشار هذا الوباء وهذا يتطلب من صانعي السياسات الصحية الاهتمام بها في المستقبل.

**الكلمات المفتاحية:** القلق; الخوف; فيروس كورونا; السياسات العامة; عوامل الخطورة.

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## 1- Introduction

With the emergence of the new Corona virus in Wuhan (China), and to reduce the risk of (COVID-19) outbreak, most countries have taken preventive measures which could reduce the spread of this virus; such as early detection, isolating suspected cases and tracking contacted people. With the rapid spread of this virus, it was accompanied by an escalation of negative psychological reactions such as adaptation disturbances and depression (Wang et al 2020; Shigemura et al, 2020), For these reasons, many countries have taken measures to limit the spread of this virus, such as strict quarantine, imposing home bans and restricting the movement of people, which contributed to the physical isolation of individuals and this negatively affected on the different aspects of individuals' lives (Brooks et al, 2020; Qiu et al 2020).

studies instead that the Corona pandemic caused a serious threat to the physical health of individuals, in addition to high levels of anxiety and stress (Dong & Zheny, 2020; Liu 2020). As well as, the high level of fear, which is directly related to this virus rapid spread and the high rate of infections and deaths, which negatively affects on the way individuals think about this pandemic (Ahorsu et al., 2020), Additionally, with (COVID-19) outbreak, it is normal for individuals to feel stress and high levels of anxiety, for several reasons including: the inability to receive medical care in health facilities for fear of infection with this virus, fear of losing livelihoods, fear of health, fear of ignorance fear of indolence and isolation that leads to bored and lonely (Schimmenti et al, 2020; Taylor et al, 2020), More specifically, the health anxiety, regular use of the media, social media, and the risks to sweethearts are considered as the factors that contribute to the high fear level among individuals during this pandemic (Mertens et al, 2020).

In addition to what was previously mentioned, the fear of contact with individuals who may be infected with this virus is one of the factors that contribute to the high level of fear (Lin, 2020), The level of fear is also related to the rate of transmission of this virus and the rate of death. Nevertheless, we find that countries around the world are mainly concerned with infection control, trying to find an effective vaccine and the rate of cure from the treatment used (Dong et al, 2020), Cuiyan et al (2020) indicates that (53.8%) of the study sample in China during the outbreak of the Corona virus had negative psychological effects ranging from moderate to severe, 16.5% had a moderate to severe depression, (28.5%) had a moderate to severe anxiety level and 8.6% suffer from moderate to severe stress, Similarly Sciensano (2020) indicates that the spread of the Corona virus contributed to an increase in the anxiety level of individuals by (20%) It is known that fear is the individual's adaptive response to challenges and stressful events, as the level of anxiety may arise due to fear of the spread of this virus (Thombs et al, 2020).

The researchers interest in the risk factors that influence in the fear level among people during the coronavirus (COVID-19) outbreak lies on the fact thatthe excessive fear may have harmful effects on the individuals such as mental health problems, and on the societal level such as shopping for fear, and it may lead to the emergence of obsessive hygiene and health anxiety among the individuals (Engelhard et al, 2015), On the other side, those aspects are related to their immune system, as this system is affected by many variables, including social life, mood, depression and anxiety (Woods et al., 2000), Where studies indicate that people who have a high level of stress are more susceptible to infection, due to a defect in the regulation of hormonal secretion, and this reduces their immune response as a high level of cortisol contributes to the inhibition of this response. (Schmidt et al, 2014), What should be noted that the human immune system is affected by many variables, such as the practice of physical activity and social life, as physical activity regularly contributes to reducing stress and increasing self-confidence and contributes to improving mood and this contributes to facilitating the release of endorphins and serotonin, which affects positively on the organ

Human immune modulatory have to deal better by improving the immune response to the infection trend of others (Taspinar et al, 2014; Tesarz et al, 2012; Duman, 2005; Jonsdottir 2000).

The main purpose of this study is to explore the factors that may contribute to raising the fear level of the individuals during the Coronavirus spread and the correlational relationships between these factors. In addition, the fear level is linked to the anxiety level in a positive relationship. Thus, the researchers hope through this study to provide information to health care providers, policy makers, and other researchers, As this information is of great importance in developing strategic plans to deal with immediate and future risks resulting from the high fear level associated with the Corona pandemic and similar circumstances and the fear may lead to more harm than the disease itself.

## 2- Method and Tools:

### Participants and Study Design

To achieve the goals of this study, we used the descriptive approach on a sample that consisted of (n = 464) males, with an average age of (23.6 ± 4.3) years, as the study sample was distributed among the governorates (Amman, Zarqa and Irbid), Due to curfew in the country and to reduce interaction face to face, an electronic questionnaire was administered by using (Google Form), which consisted of (15) paragraphs the dealt with the reasons which could contribute to the negative impact on the psychological aspects of individuals.

### Scientific coefficients of the study tool

To verify the validity of the study tool, we presented it to a committee of (five) arbitrators with competence and experience from the faculty members at the University of Jordan to find out the suitability of paragraphs of this questionnaire and its ability to achieve the goal of the study. In addition, we used the triple Likert scale to measure how participants felt about each paragraph as shown in Table 1.

**Table (1): The estimation scale of the study sample responses**

| The response | Degree | Average | Level |
|---|---|---|---|
| Severe | 3 | 2.34- 3 | **High** |
| Moderate | 2 | 1.66 less than -2.34 | **Moderate** |
| Normal | 1 | less than 1.661 | **Low** |

To verify the consistency of the study tool, we used the Alpha Cronbach coefficient where its value reached (0.83), and this value is considered a high indicator of the stability of the study tool, To address the responses of the study sample, we used percentages, mean, standard deviations and relative importance through the (SPSS) program.

### Ethical considerations

The participants' rights were protected by explaining the purpose and significance of the study, Participants were reassured that their responses would remain anonymous. Theywere informed that their participation in the study would remain anonymous and that their privacy was respected. The respondentswere provided with a comprehensive explanation that their involvement in the study was voluntary and that they could withdraw at any time and written approval was obtained from all study participants, As no blood samples were drawn, the experiment was limited to answering the paragraphs of the study tool.

**Statistical analysis**

To achieve the objectives of the study and answer its questions, the researchers used arithmetic averages and standard deviations by using SPSS version 24.

## 3- Results and Discussion:

This study aimed to investigate the risk factors that could affect on the fear, during the Corona virus (COVID-19) outbreak and the most influential on the fear. Additionally, the correlations between these risk factors. Table 2 indicates means, standard deviations, and the relative importance of study sample responses related to the risk factors that can effect on their fear.

**Table (2): Mean and standard deviations responses among study sample (n=464)**

| Number | Paragraph | Mean | St. Deviation | Percentage % | level | Rank |
|---|---|---|---|---|---|---|
| P1 | I am afraid because of the Corona virus outbreak | 2.31 | 0.75 | 77 | Moderate | **7** |
| P2 | I am afraid because there is no vaccine for this virus | 2.42 | 0.76 | 81 | High | **5** |
| P3 | I am afraid of the long incubation period for this virus | 2.34 | 0.77 | 78 | High | **6** |
| P4 | I am afraid because people are not complying with government regulations | 2.61 | 0.67 | 87 | High | **3** |
| P5 | I am afraid for the future because of the Corona virus | 2.01 | 0.73 | 67 | Moderate | **11** |
| P6 | I am afraid of being unable to receive medical attention in health facilities due to the Corona virus | 1.95 | 0.78 | 65 | Moderate | **14** |
| P7 | I am afraid of losing a livelihood due to Corona virus | 2.01 | 0.73 | 67 | Moderate | **11** |
| P8 | I am afraid of my body accidentally overheating | 1.72 | 0.71 | 57 | Moderate | **15** |
| P9 | I am afraid about what is being reported in the media | 2.01 | 0.73 | 67 | Moderate | **11** |
| P10 | I am afraid about false rumors on social media | 2.11 | 0.79 | 70 | Moderate | **10** |
| P11 | I am afraid about the lack of adequate medical information about the virus | 2.31 | 0.78 | 77 | Moderate | **7** |
| P12 | I am afraid about the people do not adhere to public safety measures | 2.71 | 0.59 | 90 | High | **1** |
| P13 | I am afraid about the a person might be a carrier of the virus without symptoms | 2.51 | 0.71 | 84 | High | **4** |
| P14 | I am afraid about an emergency associated with an outbreak of the Corona virus | 2.17 | 0.75 | 72 | Moderate | **9** |
| P15 | I am afraid about the increased number of injured | 2.63 | 0.59 | 88 | High | **2** |
| | Mean | 2.26 | 0.72 | 75 | **Moderate** | |

(Pn: paragraph number)

Figure 1. presents the mean of the most negative risk factors that influence on the fear level among the study sample.

**Figure (1):Mean of the most negative risk factors that influence on the fear level**

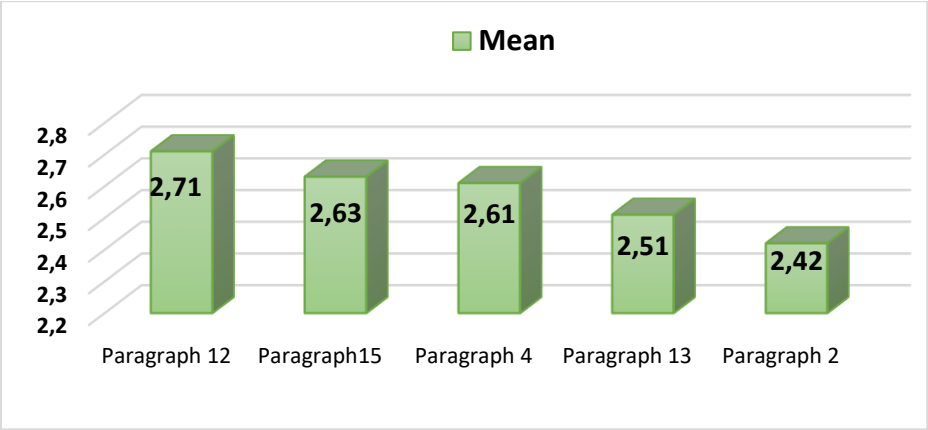


Figure 2 shows the statistically significant correlations between the higher risk factors affecting on the fear level among the study sample.

**Figure (1):Results of Pearson correlation coefficient between the higher risk factors**

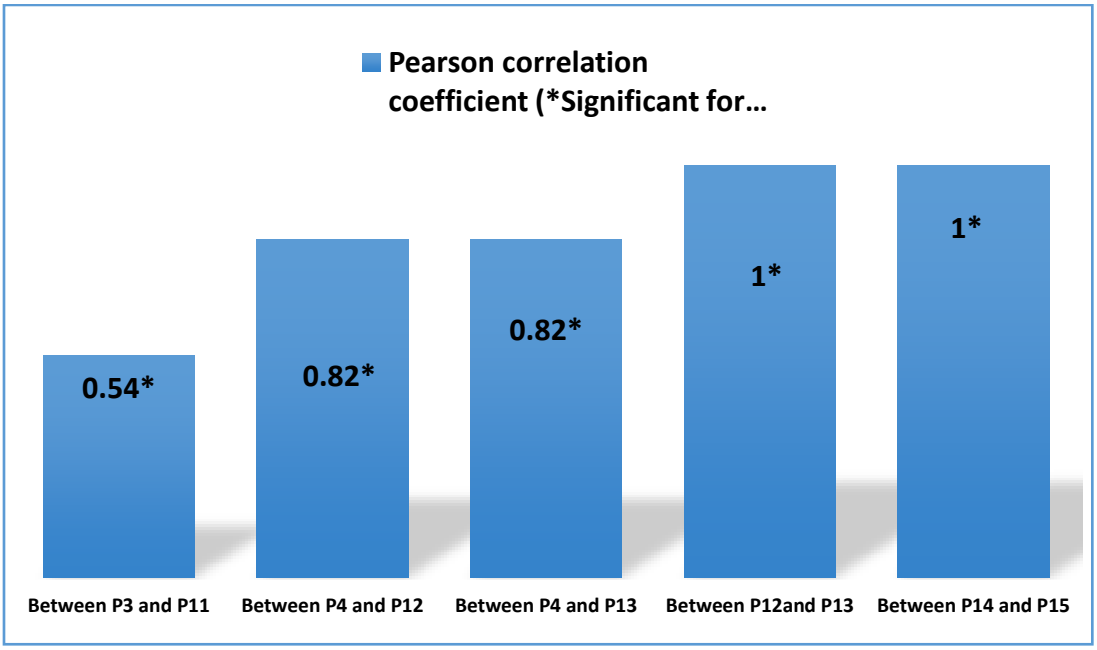


**Fig 2: Results of Pearson correlation coefficient betweenthe higher risk factors**

The aim of this research is to identify the risk factors that can negatively affect on the psychological aspects of individuals, and by reviewing the values of the arithmetic mean for risk factors, we found that the value of the mean for all of the risk factors is (2.26) and a percentage (75%) This is an indication of the importance of these risk factors and their negative role on the psychological aspects of individuals, The responses of the study sample also indicated that peoples lack of adherence to public safety measures is one of the most important reasons that can negatively affect on the psychological aspects of individuals by raising their level of anxiety, in addition to this, the increase in the numbers of people infected with this virus contributes to the increase in the level of anxiety among individuals. Where Baud et al (2020) indicate that a high infection rate is accompanied by a sense of anxiety among individuals, Similarly, Dong et al (2020) indicate that the high death rate and transmission of this virus is directly related to the level of fear in individuals, Where the

outbreak of this virus is accompanied as an escalation of negative psychological reactions such as adjustment disorder and depression, Undoubtedly, the failure of people to follow the instructions issued by government agencies increases the level of fear among individuals, and the long period of incubation of this virus without symptoms appears to increase the level of anxiety forindividuals, taking into account that the lack of a vaccine for this virus contributed negatively to the level of fear among individuals, as these above mentioned reasons came with high averages, So it is time to changebehaviors and adhere to public safety instructions issued by government institutions because divergence and non-mixing are considered the first and important step in facing this epidemic,especially in light of blurring vision, uncertainty about the size of this epidemic, and the lack of knowledge of people who could be infected with this virus and how many of them will die in increasing social isolation.

Therefore, social isolation has contributed to a negative impact on people's social relations as well as their to boredom and loneliness (Mohamed et al, 2015; Kinsman, 2012). Cuiyan et al (2020) indicate that (53.8%) of the study sample in China during the outbreak of Coronavirus had moderate to severe psychological effects, (28.5%) had a moderate to severe level of anxiety, In light of the social divergence, people have a high level of stress and are more susceptible to infection, due to the imbalance in the regulation of hormonal secretion and this reduces their immune response as a high level of cortisol helps to inhibit this response (Schmidt et al, 2014).

It is striking that the results of the study show that there are high correlations between the risk factors that have achieved the highest arithmetic average, as the heightened feeling of fear due to the long incubation period of this virus was associated with the high level of anxiety due to the lack of adequate medical information about the virus, and this requires health care professionals to provide individuals with accurate medical information; based on scientific research. Likewise, the study suggests careful follow-up of speculations and rumors on social media to ensure the reliability and reliability of this information. In addition, the high level of fear due to people's lack of compliance with government instructions was associated with a high level of anxiety among individuals due to people's lack of fulfillment with public safety measures, and that a person may be a carrier of the virus without symptoms, It is linked to health education for individuals by spreading awareness of the importance of caring for personal hygiene, the importance of washing hands and leaving a safe distance between people, while emphasizing the necessity of not leaving the house except for the necessary needs only, because the long incubation period for this virus has negatively affected the level of anxiety of individuals due to the link between people's lack of compliance with public safety measures and the long incubation period for this is for Corona virus (r= 1).The presence of an emergency that is associated with an outbreak of the Corona virus is also associated with a high level of anxiety due to the increase in the number of people infected (r= 1) because the social isolation associated with the emergency has a negative impact on the social relationships of people, and also leads to feeling bored and alone.

## 4- Conclusion:

There is a lack of studies about the reasons that can negatively affect the psychological aspects of individuals, and with the aim of bridging the research gap in this field; the study revealed that there are many factors that can negatively affect individuals during the outbreak of the Corona epidemic, such as the lack of commitment of people to public safety measures in addition to increased number of people infected with this virus and the failure of people to follow the instructions issued by government agencies.This requires health care professionals to focus on exercising regular physical activities during quarantine at home, as well as work on applying some psychological means that this would reduce negative psychological effects on individuals, such as positive conversation with the soul and the practice of yoga because it is related to the safety and effectiveness of the immune system in individuals through

effective regulation of the level of hormones secretion in the body, while not neglecting balanced nutrition and focusing on broadcasting accurate scientific information and monitoring information related to this virus on social communication platforms while urging individuals to make reasonable use of the media and not to overuse social media.

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