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RESEARCH ARTICLE

The Quality of Family Interpersonal Communication during COVID-19

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Abstract:

Background:

The occurrence of the COVID-19 pandemic has significantly impacted the general lifestyle of people across the globe, especially with the new safety directives, which have affected people's interactions in many different ways.

Objective:

The aim of the study was to examine the quality of interpersonal communication among family members during COVID-19 restrictions in Saudi Arabia. The study objective was achieved through investigating the three main questions: How is the pandemic influencing the connection and communication between the family members? How do the family members stay connected during the COVID-19 restrictions in Saudi Arabia? And lastly, what type of social media platforms are families using to stay connected with each other?

Methodology:

The present research used a Google survey form as a tool to receive responses from 400 participants in Saudi Arabia.

Results

The results have shown that COVID-19 has greatly affected people's interactions, including family interpersonal communication. Families have been forced to adapt modern forms of communication rather than indulging in normal face-to-face interactions, as various governments across the world encourage virtual communication.

Conclusion:

IMO has become very popular among various family members; however, some other applications have also been used to stay connected with the family, like Twitter, Facebook, and WhatsApp.

Keywords: COVID-19, Interactions, Virtual communication, Communication, Interpersonal, Family members.

Article History

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1. INTRODUCTION

Only a few people in the world may have remained unaffected by COVID-19, as this pandemic has disrupted the lives of the majority of people around the globe in one way or the other. According to Zhang *et al.*, COVID 19 is a coronavirus and a member of the SARS family of syndromes that was first reported in China in 2019 [1]. The virus causes severe damage to the respiratory system, with its main symptoms being difficulty in breathing, loss of smell, shortness of breath, and fatigue. Bai *et al.* supported the contentions of Zhang *et al.* by stating that the first COVID-19 or Coronavirus cases were witnessed in Wuhan [2]. It is important to note, however, that the coronavirus was first characterized in the early 1960s, and since then, it has been responsible for a greater proportion of upper respiratory tract infections [3]. As

of the year 2003, several coronavirus strains have been identified, with the latest one being identified as COVID-19 [3]. According to Bai *et al.*, the impacts of COVID 19 extend beyond the healthcare industry, *i.e.*, to the general world economy and people's interactions [2]. COVID-19 is a contagious disease that is mainly spread by the droplets of the infected individuals through talking, sneezing, or coughing [4].

Currently, the occurrence of the COVID-19 pandemic has significantly impacted the general lifestyle of people across the globe, especially with the new safety directives, which have affected people's interactions in many different ways [5]. People are expected to avoid movements from one place to another to minimize exposure to the virus. In the same way, contact with other people is discouraged, an aspect that has significantly affected the traditional operational approaches of different families that necessitate physical closeness when communicating with one another [6]. For avoiding the risk of

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getting infected with the COVID-19 virus, people are urged to maintain physical distance, being at least one and a half meters apart, and this has affected the way humans interact with each other [7]. The present increase in the uncertainties emanating from COVID-19 has significantly affected the behaviour of family members as they are encouraged to stay away from one another. The present increase in the uncertainties arising from COVID-19 has significantly affected the behaviour of family members as they are encouraged to stay away from one another. The pandemic escalated people's desire associated with life behaviour, leading to changes in their interaction.

There is no doubt that the quality of family interpersonal communication has severely been impacted by the COVID-19 pandemic as large gatherings are discouraged [8]. Families are forced to use some other channels of communication other than the usual face-to-face oral conversation. Various governments across the world have encouraged virtual communication, especially among family members who are stuck in different parts of the world. Zoom meetings have become much popular due to such orders. Other people seem to communicate with the members of their families through video conferencing, films, and social media platforms, such as Twitter, Facebook, and WhatsApp [9]. There are some other modern technologies that are also being used for family communication during the present pandemic. They include e-mails and Skype.

The study by Goutam has investigated the numerous forms of communication which when practiced in an effective manner, can be of great benefit for the interpersonal relationships among family members [10]. Effective communication always plays an essential role in coping up with long-distance relationships among members of a family. Goutam has outlined further that communication among members of the family can always take numerous forms and might have a long-lasting effect on the general motivation of the individual family members [10]. When an individual feels that there is effective communication coming from other family members, this definitely results in a higher level of individual motivation, commitment to each other, and an increased level of trust among family members. Barua affirms the fact that human beings are always surrounded with people, and to feel their existence, there must be communication between the people [11].

As further argued by Barker & Gower, effective communication is the foundation of a proper interpersonal relationship among the family members [12]. It is therefore essential for any family to cultivate a culture of effective communication with all its members, whether such members are away or are close. This culture has, however, been greatly affected by the present pandemic as physical meetings and discussions are discouraged [13].

The situation is no different in Saudi Arabia, where the first COVID-19 case was reported on 1st March 2020, and since then, the government has issued a number of containment measures which include a restriction on movement and face-to-face meetings [14]. Such restrictions never augured well with the families in Saudi Arabia who commonly live together in the same building and blocks and in the same cities unless they are away for work.

The aim of this present paper is to evaluate the quality of interpersonal communication among family members during COVID-19 restrictions in Saudi Arabia. In order to achieve this aim, this study investigated three main questions, which were as follows:

(1) How has the pandemic influenced the connection and communication among the family members?

(2) How do family members stay connected during the COVID-19 restrictions in Saudi Arabia?

(3) What type of social media families use to stay connected?

2. METHODOLOGY

A preliminary scale was drafted with reference to the research questions. As far as the question items are concerned, a number of questions were generated to explain how the pandemic has influenced the ways in which family members communicate with each other, how family members stay connected during the COVID-19 restrictions in Saudi Arabia, and the type of social media the families use to stay connected. The questions were meant to assess the interpersonal communication strategies, communication skills, self-efficacy, quality of relationship, and the type of social media used for communication. Great emphasis was placed on the perception of family members regarding how well they use the communication skills and strategies to connect with other members of the family during this period of COVID-19. The families were grouped into family members who live together (in the same building) and the family members who live away from each other (in different buildings or cities).

2.1. Study Design

A cross-sectional research design was employed that seeks to understand the phenomenon by emphasizing on the total picture as opposed to separating it into numerous variables. A Google survey was prepared, and it was used to collect the data for analysis. Additionally, the quantitative methodology has been used to investigate the level of detail required in the assessment of the quality of interpersonal communication capabilities of family members during COVID-19 restrictions in Saudi Arabia.

2.2. Study Subjects and Sampling Process

The study was conducted using a Google survey involving 400 participants from Saudi Arabia. Accordingly, the researcher designed a Likert scale questionnaire in order to answer the research questions.

The five-point Likert scale questionnaire was distributed on the researchers' Twitter and Facebook, asking people to participate in the study. A letter of introduction and request for participation was designed, and together with the survey, it was shared with the potential participants through Twitter and Facebook. The participants were asked to complete the questionnaire and share them back within two weeks. A sample size of 400 participants in the present study was sufficient as it is large enough to enable the researcher to unfold new and richly textured data for understanding the quality of

interpersonal communication capabilities of family members during COVID-19 restrictions in Saudi Arabia. Comrey and Lee presented a general rule for adequate sample sizes: 50 represents a ‘very poor’ sample, 100 is ‘poor’, 200 is ‘fair’, 300 is ‘good’, 400 is good, and 500 is very good [15]. Thus, a large sample is critical for generalizing findings to the targeted population. Since the researcher was not sure of getting a 100% answer rate, the total number of surveys that were spread to participants was 600, which was greater than the recommended sample. Regarding the response rate, it was considered very good too as the researcher achieved a 66% response rate; since 433 participants answered the survey and after data cleaning (*i.e.*, removal of questionnaires with un-complete answers), 400 of 600 was considered the final sample. The sampling technique used was the simple random sampling technique in which every participant had an equal chance to participate in this research.

As had been mentioned, the researcher evaluated whether the interconnected family members were able to apply a portion of communication skills effectively during the present time of the COVID-19 pandemic. Thus, the study focused more on self-efficacy, the belief that an individual is capable of doing something based on their past performance [16]. Self-efficacy comprised domain-specific self-efficacy and generalized self-efficacy. The characteristics of self-efficacy were applied in the present study, which is actually the generalized self-efficacy of individuals so as to help examine the validity of the criteria applied.

Moreover, the research did account for personal biases, which had the potential of influencing the findings. The researcher estimated Cronbach’s Coefficient Alpha and conducted a pilot test on 30 participants to ensure that the questionnaires were well structured and therefore, able to measure the research objectives (Table 1).

Table 1. Cronbach's alpha.

| Items' Name | Cronbach's Alpha Pilot/30 |
|--|---------------------------|
| Living with family | 0.81 |
| Family relationship has been impacted | 0.82 |
| Family relation has been affected | 0.93 |
| Communication with my parents during COVID-19 | 0.83 |
| Connection with others | 0.86 |
| Social media platform use | 0.81 |
| Effective use of social media in communication | 0.84 |
| Frequent use of social media platforms | 0.86 |

2.3. Data Collection and Analysis

The quantitative data were gathered through closed-ended questionnaires. The questionnaire consisted of 10 questions designed depending on the research questions and objectives. The participants were contacted through social media (Twitter and Facebook). The survey was released online on the 17th of April and completed on the 27th of July. The distribution of the questionnaire enabled the researchers to gather data from many people within a short period. The questionnaire was administered through an online survey considering the adverse

impacts caused by COVID-19 in Saudi Arabia. A questionnaire was used as the participants find it convenient and cost-effective given their perceptions regarding the research questions. The questionnaire was administered within ten days before being analyzed through the statistical method. Following the confirmation of response by the participants, the analysis of data did commence. All the data collected were first edited for the purpose of consistency. The data were then summarized and coded numerically before being entered into SPSS version 21.0. Simple statistical analysis was carried out, and information was presented in the form of frequencies, mean, S.D., and tables. A total of 400 people selected through a simple random sampling technique filled the survey.

2.4. Ethical Considerations

While collecting, analyzing, and interpreting data, various ethical principles were considered to ensure that credible results have been developed. The main principles that were considered during the research included information, anonymity, and confidentiality. The principle of anonymity was achieved by keeping the identity of the participants a secret. Identifiers, such as the name and the address of the participants, were removed from the data to enhance anonymity and confidentiality. Individuals were provided with sufficient information concerning the research. Some of the information that was provided to the participants included the importance of the study, their roles, potential risks, the information required, and methods of data collection. The participants were provided with adequate information regarding the study, and it was ensured that their involvement in the study was voluntary.

3. RESULTS

3.1. Demographic Information

The valid response rate was 80%, with the male sex being the dominant (60%, n = 240), while females accounted for 40% of the participants. Most of the participants were young aged 18 - 30 years, while those 55 years comprised the minority. It is essential to highlight the fact that all the participants were from Saudi Arabia. The illustration is shown in Table (2) below.

Table 2. Demographic information.

| Participants (N = 400) | | Number | Percentage % |
|------------------------|----------|--------|--------------|
| Sex | - | - | - |
| | Male | 240 | 60% |
| Age | Female | 160 | 40% |
| | - | - | - |
| | 18 to 30 | 160 | 40% |
| | 31 - 40 | 120 | 30% |
| | 41 - 50 | 40 | 15% |
| | ≥ 50 | 20 | 5% |

3.2. Family Relationships

Only 0.9% of the participants reported living with their family members during this pandemic period, which was considered a high level, as demonstrated in Table (3) below.

Table 3. The Mean and S.D. of the research questions.

| S.No | Question Items | Mean | S.D |
|------|---|-------------|-------------|
| 1. | I live with my family during the pandemic | 0.90 | 0.72 |
| 2. | COVID-19 has a moderate impact on family relationships | 2.92 | 0.77 |
| 3. | Family gatherings have been reduced | 2.87 | 0.73 |
| 4. | I mainly communicate with my parents during the pandemic | 3.83 | 0.72 |
| 5. | I feel isolated from others during the pandemic | 2.73 | 0.81 |
| 6. | Social media are effective and efficient during the COVID-19 restrictions | 2.57 | 1.02 |
| 7. | Every day I use social media platforms | 2.47 | 1.04 |
| | Average score | 2.61 | 1.70 |

2.9% of participants reported that COVID-19 has highly affected their family social relationships. 2.8% of participants reported that family visits and family gatherings have extremely been reduced. Around 40% of the study participants stated that they mostly communicate with their parents, 30% with their children, 20% with their siblings, and 10% with other close relatives, indicating a mean of 3.8.

The study sought to establish how the pandemic tends to influence the way people feel connected with one another. From the results, 2.7% of the participants declared that they feel very isolated, physically and psychologically. Some participants highlighted that they feel more connected to their families during the pandemic than they were before the pandemic.

As noted by the participants, the manner in which people are connecting to one another during the present pandemic is changing in an incredible manner. People are generally social beings, and they long for connection which becomes more apparent in the low times, like the present pandemic. The participants were, however, of great concern that if the pandemic continues for several months, then the lasting impact of social isolation might actually get distressing. It is not clear how such prolonged social isolation will impact the interaction of people with their family members and the time period to which such effects are likely to last.

A greater proportion of the population across the world has confined itself to homes as the world continues to experience the great COVID-19 pandemic [6]. This is something that will not pass any time soon as experts have already projected that coronavirus is likely to lead to permanent societal changes, with more people continuing to spend much of their time at home.

By statistics, one on one interaction in the home has presently increased by a mean of more than 10% from February when the World Health Organization declared the disease as a matter of global health emergency. Interactions of family members who live together and those who live away have been greatly impacted. Such interactions are projected to continue being affected by the present crisis [6]. Communications have equally been impacted as more people have been confined to their homes during this period of the pandemic, shunning most forms of public interactions.

Regarding how family members stay connected during the

COVID-19 restrictions in Saudi Arabia, 2.5% of the participants outlined that they use social media platforms to stay connected with their family members. For instance, 80% of Saudi families stated that they use IMO to chat with their family members who are away. Others reported that they use Facebook (70%), WhatsApp (60%), Twitter (55%), and others like Instagram and Telegram. It is worth noting that only 1% of the participants reported that they never used any of the social media platforms to interact with their family members during the COVID-19.

The participants were of the thought that such social media platforms have always been effective in spreading information on behavior change among family members as the world is called upon to maintain one-meter social distancing. The results of this study indicate that 2.4% of the participants used social media platforms to interact with their family.

The participants reported that responsible communication is not only about sending messages but occurs when relevant responses are received in communication, whether done *via* mail, social media platforms, or through physical facial expressions or *via* IMO. The participants highlighted that one of the communication skills required during the current period of the COVID-19 pandemic is a timely response. Also, it is important to understand the context of communication and respond amicably. Important information has to be shared among the family members so as to ensure continuity of interpersonal relationships, thus, collaboration is very important among members of a given family. As outlined by the participants, this is specifically important during the present time of the COVID-19 pandemic. Increased economic problems and stress levels have, however, eroded the individuals' abilities to communicate with other members of the family in an appropriate manner.

4. DISCUSSION

Social media platforms are an effective means of interaction, which is also evidenced by the responses of the study group in this study. Whatsup and Imo are the most effective social media platforms that connect families together. The effectiveness of social media platforms is facilitated by their nature to enable people to comply with the COVID-19 restrictions; for example, due to the restriction of movements from one country to another, social media platforms facilitate families to connect with each other effectively. The rate of effectiveness of the social media platform reflects the quality of interaction among people during the COVID-19 pandemic. Additionally, the quality of interaction among people can be measured by considering the frequency of the most effective means of communication throughout the COVID-19 pandemic. From the study above, it is evidenced that the majority of the people used social media platforms to interact with their loved ones.

The results have shown that COVID-19 has affected family social relationships, especially after various governments across the world have initiated lock-down policies, restricting people from movements. Due to this, family visits and family gatherings have been reduced. As reported by Abrams & Greenhawt, the government guidelines on social distancing and

lockdowns have severely impacted the interaction among different family members [17]. This has necessitated the need to shift from the traditional forms of communication, such as face-to-face interactions or physical meetings among family members who had been away from one another [18]. With restrictions on movement and WHO directives for people to remain indoors and keep their distance, alternative ways of communication have been established. Indeed, family members have been found to stay connected during the COVID-19 restrictions in Saudi Arabia through the use of social media platforms. The specific social media platforms used include IMO, Facebook and WhatsApp. These findings confirm the arguments by Hart, Turnbull, Oppenheim and Courtright, who indicated that the government policies of maintaining physical distance have discouraged one on one physical communication among relatives [19]. The physical distance policies, in this case, offer a great sense of privacy and isolation among the respective individuals. The health status of a given family member can also act as an obstacle to effective communication and interaction among family members, as such, members who are vulnerable to COVID-19 are encouraged by the government to stay away from other people [20]. The vulnerable population, in this case, comprises those aged 58 years and above, children, and those with pre-existing conditions like Asthma, Diabetes, and other relevant conditions.

Timely and effective communication is always important among the shareholders, and this has become even clearer as the medical and public health communities work towards stopping the spread of the COVID-19 pandemic across different parts of the world. The basic public health concepts, such as flattening the curve and social distancing, have become highly understood through a high level of concerted communication efforts by organizations, such as CDC and WHO, as well as departments of public health in various countries.

As argued further by Gurwitsch, Salem, Nelson and Comer, effective communication is the foundation of having a proper interpersonal relationship among different family members [21]. It is, therefore, crucial for family members to cultivate a culture of effective communication with one another, whether such members live together or they live far away from each other. With the reduced instances of physical meetings, however, there has been a shift from face-to-face interpersonal interactions to either conducting virtual meetings or communicating through social media platforms, such as IMO, Facebook, Instagram, Twitter, and WhatsApp. The study results have shown that the common social media platforms can efficiently and effectively be relied on to enhance family interactions and communications. For example, IMO was identified by the individual participants as the most used social media platform for connecting with family members. Through such platforms, the quality of the interpersonal relationships among family members has been good and satisfying, as reported by the participants.

CONCLUSION

The present COVID-19 pandemic has had a severe impact

on the lifestyle of people across different parts of the world, and even more with the new safety directives that require people to keep a distance from one another. People are prohibited from making unnecessary movements across different parts of the world so as to minimize exposure and spread of the virus. On the same note, contact with many people has seriously been discouraged, an aspect that has significantly influenced the traditional ways of interaction among families. The present paper had sought to evaluate the quality of interpersonal relationships and communication among family members during COVID-19 restrictions in Saudi Arabia. The study implied to investigate how the pandemic is influencing how family members feel connected towards one another, how family members stay connected, and the type of social media families use to stay connected. The results have shown that COVID-19 has greatly affected the ways people interact, including interpersonal communication within the families. Families have been forced to shift from normal face-to-face interactions to modern forms of communication as various governments across the world have encouraged virtual communication. IMO meetings have become very popular among various family members. Still, some people communicate with the members of their families through video conferencing and social media platforms, such as Twitter, Facebook, and WhatsApp.

CONTRIBUTION OF THE STUDY

The present study is of great significance to the general public, especially family members, as it informs them how to maintain interpersonal communication even during this hard time of the pandemic. Since physical meetings have been highly discouraged, families can still interact through IMO. Moreover, families can effectively interact through social media platforms, such as Facebook, Instagram, Twitter, and WhatsApp. Therefore, the findings of this study may help family members to take informed decisions on how they can enhance interpersonal communication even during the present period of the pandemic. The study has also pointed out the need for various family members to invest in digital technology so that their interpersonal communication can be maintained. The government in Saudi Arabia, especially the ministry of health, can use the present data to encourage members of the public to use digital media platforms in order to stay in touch with family members during the pandemic. The findings of the present paper might be quoted during academic conferences to highlight how COVID-19 has affected interpersonal communication among family members, and as such, might advise the public on how to enhance family interactions even during the pandemic. Lastly, the present study has added to the existing scholarly literature in the field of interpersonal communication, as it outlines how communication can be maintained even during times of crisis, like the current COVID-19 pandemic. For that reason, other scholars can use data or information from the present study as a reference point for their future studies.

STUDY LIMITATIONS AND RECOMMENDATIONS FOR FUTURE STUDY

Like any other study, the present study has its own

limitations. For example, the researcher mainly applied a cross-sectional study design which involved the usage of quantitative data with minimal triangulation. This might reduce the reliability and validity of the research findings. Equally, the study was specific to Saudi Arabia, and therefore, the study results might not be applicable to other parts of the world. Therefore, further studies are recommended on the same topic, which do not only involve triangulation but also cover a larger geographical area and other regions of the world. Such studies need to investigate how interpersonal communication can be enhanced further using various social media platforms during critical times. Moreover, such future studies need to involve a larger sample size from several countries across the world. This will make the results more representative to the general population across the world.

ETHICAL STATEMENT

The study protocol was approved by the Media Department (female section) of Umm Al Qura University, Saudi Arabia.

CONSENT FOR PUBLICATION

The participants were provided with adequate information regarding the study, and it was ensured that their involvement in the study was voluntary.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Declared none.

APPENDIX I: QUESTIONNAIRE

QUESTIONNAIRE ON THE QUALITY OF FAMILY INTERPERSONAL COMMUNICATION DURING COVID-19

This study was conducted by (The name has been hidden for double-blind review process) a researcher at (The name has been hidden for double-blind review process) University. The purpose of this questionnaire is to examine the quality of interpersonal communication and capabilities used by family members during COVID-19 restrictions in Saudi Arabia.

PLEASE ANSWER THE FOLLOWING QUESTIONS:

1- Please indicate your gender:

- Male
- Female

2- Please choose your age category:

- 18-30 years old
- 31-40 years old
- 41-50 years old
- Above 50 years old

3- Do you live with your family members during the present pandemic?

- Yes
- No

4- COVID-19 has impacted the family relationship

- severely impacted
- moderately impacted
- no effect

5- How has your family relation been affected?

- family visits reduced
- family gatherings reduced
- family calls reduced

6- Whom do you mainly communicate with during these COVID-19 restrictions?

- parents
- children
- siblings
- other close relatives

7- How connected do you feel to others during the present pandemic?

- very isolated, both physically and psychologically
- more connected
- no change

8- Which social media platform do you use most to communicate to your family members

- IMO
- Facebook
- WhatsApp
- Twitter
- Others
- Never

9- How effective is the use of social media in communication during the COVID-19 restrictions

- less effective and less efficient
- effective and efficient
- very effective and very efficient

10- Frequency of using social media platforms

- Everyday
- After every three days

o On a weekly basis

If you have an other opinion, please provide

REFERENCES

- [1] Zhang Y, Xiao M, Zhang S, *et al.* Coagulopathy and antiphospholipid antibodies in patients with COVID-19. *N Engl J Med* 2020; 382(17):e38 [http://dx.doi.org/10.1056/NEJMc2007575] [PMID: 32268022]
- [2] Bai Y, Yao L, Wei T, *et al.* Presumed asymptomatic carrier transmission of COVID-19. *JAMA* 2020; 323(14): 1406-7. [http://dx.doi.org/10.1001/jama.2020.2565] [PMID: 32083643]
- [3] Cotten M, Watson SJ, Kellam P, *et al.* Transmission and evolution of the Middle East Respiratory Syndrome coronavirus in Saudi Arabia: A descriptive genomic study. *Lancet* 2013; 382(9909): 1993-2002. [http://dx.doi.org/10.1016/S0140-6736(13)61887-5] [PMID: 24055451]
- [4] Faass J, Greenberg M, Lowrie KW. Defending a moving target: H1N1 preparedness training for the transit industry. *Health Promot Pract* 2013; 14(1): 24-9. [http://dx.doi.org/10.1177/1524839911399432] [PMID: 21460256]
- [5] Baker SR, Bloom N, Davis SJ, Kost K, Sammon M, Viratytosin T. The unprecedented stock market reaction to COVID-19. *Rev Asset Pricing Stud* 2020; 10(4): 742-58. [http://dx.doi.org/10.1093/rapstu/raaa008]
- [6] Szabo TG, Richling S, Embry DD, Biglan A, Wilson KG. From helpless to hero: Promoting values-based behavior and positive family interaction in the midst of COVID-19. *Behav Anal Pract* 2020; 13(3): 1-9. [http://dx.doi.org/10.1007/s40617-020-00431-0] [PMID: 32328219]
- [7] He H, Harris L. The impact of COVID-19 pandemic on corporate social responsibility and marketing philosophy. *J Bus Res* 2020; 116: 176-82. [http://dx.doi.org/10.1016/j.jbusres.2020.05.030] [PMID: 32457556]
- [8] Handfield RB, Graham G, Burns L. Corona virus, tariffs, trade wars and supply chain evolutionary design. *Int J Oper Prod Manage* 2020. [http://dx.doi.org/10.1108/IJOPM-03-2020-0171]
- [9] Turner T, Qvarfordt P, Biehler JT, Golovchinsky G, Back M. Exploring the workplace communication ecology. In: Proceedings of the SIGCHI conference on human factors in computing systems. 2010; pp. 841-50. [http://dx.doi.org/10.1145/1753326.1753449]
- [10] Goutam A. Effective communication at workplace Irc's international journal of multidisciplinary research in social & management sciences 2013.
- [11] Barua S. Understanding coronanomics: The economic implications of the COVID-19 pandemic. *J Dev Areas* 2021; 55(3): 435-50. [http://dx.doi.org/10.1353/jda.2021.0073]
- [12] Barker RT, Gower K. Strategic application of storytelling in organizations: Toward effective communication in a diverse world *J Business Comm* 1973; 47(3): 295-312.
- [13] Batty M. The Coronavirus crisis: What will the post-pandemic city look like?.
- [14] Nooh HZ, Alshammary RH, Alenezy JM, *et al.* Public awareness of coronavirus in Al-Jouf region, Saudi Arabia. *J Public Health (Bangkok)* 2020; 1-8. [http://dx.doi.org/10.1007/s10389-020-01209-y] [PMID: 32206545]
- [15] Comrey AL, Lee HB. *A First Course in Factor Analysis*. 2nd Edn. [http://dx.doi.org/10.4324/9781315827506]
- [16] Kelly K. A different type of lighting research—A qualitative methodology. *Light Res Technol* 2017; 49(8): 933-42. [http://dx.doi.org/10.1177/1477153516659901]
- [17] Abrams EM, Greenhawt M. Risk communication during COVID-19. *J Allergy Clin Immunol Pract* 2020; 8(6): 1791-4. [http://dx.doi.org/10.1016/j.jaip.2020.04.012] [PMID: 32304834]
- [18] Risk communication and community engagement readiness and response to Coronavirus Disease (COVID-19): Interim guidance, 19 March 2020 (No WHO/2019-nCoV/RCCE/20202). World Health Organization 2020.
- [19] Hart JL, Turnbull AE, Oppenheim IM, Courtright KR. Family-centered care during the COVID-19 era. *J Pain Symptom Manage* 2020; 60(2): e93-7. [http://dx.doi.org/10.1016/j.jpainsymman.2020.04.017] [PMID: 32333961]
- [20] Brock RL, Laifer LM. Family science in the context of the COVID-19 pandemic: Solutions and new directions. *Fam Process* 2020; 59(3): 1007-17. [http://dx.doi.org/10.1111/famp.12582] [PMID: 32663330]
- [21] Gurwitch RH, Salem H, Nelson MM, Comer JS. Leveraging parent-child interaction therapy and telehealth capacities to address the unique needs of young children during the COVID-19 public health crisis. *Psychological Trauma: Theory, Research, Practice, and Policy* 2020.

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