



The impact of video calls on the anxiety level among patients' caregivers at Viet Duc Hospital during covid-19 pandemics

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ABSTRACT

Objectives: To assess the impact of video call on the anxiety level of caregivers at the intensive care unit 2 at Viet Duc Hospital during COVID-19 pandemics. **Research participants and methods:** Intervention study comparing 2 groups on 62 caregivers of patients who were treated at Intensive Care Unit 2 of Viet Duc Hospital from January 2022 to November 2022 based on Zung Self-Rating Anxiety Scale. **Results:** Assessing the level of anxiety in the video call group: Severe anxiety was 71%, no pathological anxiety and very severe anxiety was 0%. Among the research participants in the video call group, the proportion of people who felt panicked for no reasons accounted for 71%, and 61.3% felt more impatient and anxious than usual, those felt limbs swaying, trembling, weak and easily tired, breathing in and out easily were 3.2%, 3.1%, 3.2% respectively. Anxiety level in video calls at mild to moderate anxiety accounted for the highest rate of 93.5%; The rate of very severe anxiety is 0%. **Conclusion:** Video calls for caregivers significantly reduced anxiety proportion compared to non-video calls.

Keywords: Anxiety, caregiver, video call

INTRODUCTION

Currently, the COVID-19 pandemic is deeply affecting the world, one of the severely affected countries is Vietnam. Implementing the government's policy, the Ministry of Health applies social distancing to limit infection, but the rate of Covid infections in our country is still high, especially at medical facilities including Viet Duc hospital.

In order to minimize the number of infected people, the hospital has taken measures to prevent outbreaks, including

limiting family members from taking care of patients and promoting comprehensive care. However, this has an impact on the exchange of treatment information between doctors, nurses and patient caregivers. Complete quarantine disables direct communication between medical staff and family members about the patient's condition, and does not allow caregivers to take care their loved ones.

Many studies indicated that receiving honest, understandable and timely information is one of the top concerns of family members of patients ^{1, 2}. They

wanted to feel like there was hope for their loved ones, and they often wanted to know the patient's progress on a daily basis³. Those who were not able to care for their hospitalized family members often felt worried about their family members' recovery. Understanding the worries and insecurities of family members, the staff of the ICU not only gave calls but also video calls so that the family members could feel secure and reduce stress and anxiety and find peace of mind.

Research by Giovanni Mistraletti et al. 2017 concluded that providing information through leaflets and websites helped improve family members' understanding and reduce their incidence of stress symptoms⁴. However, there were also family members who saw a serious illness that made them feel scared, helpless, and suffer from not being able to be there to take care of their loved one when they were seriously ill. Realizing that calling has an impact on family members' psychology, we conducted the research with the objectives: To assess the impact of video call on the anxiety level of caregivers at the intensive care unit II of Viet Duc Hospital during the period affected by the COVID -19 epidemic

RESEARCH PARTICIPANTS AND METHODS

Research participants

The caregivers of patients who was being treated at the Intensive Care Unit 2 of Viet Duc Hospital.

Inclusion criteria: Caregivers of patients who were treated in the Intensive Care Unit 2 for >7 days during COVID-19

Exclusion criteria: Do not agree to participate in the research.

Research time and location: The study was conducted from January to November at Intensive Care Unit 2 - Viet Duc Hospital

Research Methods: The intervention study compared 2 groups using the total sampling method. During the research period, we selected 62 participants.

-The study was conducted when a nurse called the patient's caregiver to inform the patient's health status during the COVID-19 lockdown period at Intensive Care Unit 2. These participants were divided into 2 groups (31 people each group):

+ Group 1: The nurse calls the patient's caregiver without video.

+ Group 2: The nurse calls the patient's caregiver with video.

- At the end of each call, the nurse asked and explained the research to the patient's caregivers. If they agree to participate, the research team would make an appointment to call back the patient's caregiver the next day with pre-prepared questions in about 10-15 minutes, including 2 parts:

+Part 1: collect demographic information of participants including gender, age, living area, qualification, marital status, history of chronic disease, marital status, relationship with patient.

+ Part 2: assess the level of anxiety of the patient's caregiver through calls with and without videos using 6 questions based on the content of the Zung scale.

Anxiety was measured using the Zung Self-Rating Anxiety Scale, which consisted of 20 items scored from 1 – 4 (1 = not at all, 2 = sometimes, 3 = usually, 4 = most or all of the time). Results were evaluated according to the table:

Table 1. Anxiety level according to the Zung scale

Level	Point evaluation
No pathological anxiety	20 - 44
Mild to moderate anxiety	45 - 59
Severe anxiety	60 - 74
Very severe level	75 - 80

Data analysis: The data were analyzed and processed using SPSS 20.0 software. Results are presented as numbers and percentages. Compare the proportion of qualitative variables using the Chi-square test.

Ethical issues: The study was approved by the board of directors, department leadership and scientific research department of Viet Duc Hospital. This study only aims to understand whether communication between medical staff and family members by video calling affects the anxiety level of family members to find the right form of communication during the quarantine period. Family members' information was kept confidential and only used for this research

RESULT

The majority of participants were female which accounted for 62.9%. The age group from 35 to 60 accounted for the highest proportion of 75.8%, the age group from 18-34 accounted for the lowest proportion of 11.3%, and the age group over 60 years old accounted for 12.9%.

Table 2. Anxiety level of video calling group (n = 31)

Content	Almost none or insignificant	Sometimes	Usually	Most or all of the time
	1	2	3	4
I feel more impatient and anxious than usual	0	0	0	100
I feel scared but don't know why	0	0	6.5	93.5
I get confused easily and feel scared	3.2	3.2	3.2	90.3
I felt as if I had been hit and my body was broken into pieces	12.9	61.3	25.8	0
I feel like everything is good, nothing bad happened	0	0	16.1	83.9
My arms and legs shook and trembled	6.5	45.2	45.2	3.2

Content	Almost none or insignificant	Sometimes	Usually	Most or all of the time
	1	2	3	4
I'm suffering from headaches, neck pain, and back pain	3.2	19.4	38.7	38.7
I feel weak and get tired easily	0	0	35.5	64.5
I feel calm and can easily sit still	0	0	38.7	61.3
I feel my heart beating fast	0	38.7	58.1	3.2
I am uncomfortable and dizzy	6.5	41.9	48.4	3.2
I fainted and felt close to it sometimes	67.7	25.8	6.5	0
I can exhale and inhale easily	22.6	58.1	19.4	0
I felt numbness like there were ants crawling at the tips of my fingers and toes	22.6	45.2	32.3	0
I'm suffering from stomach pain and bloating	0	16.1	54.8	29.0
I always have to go to the bathroom	0	22.6	77.4	0
My hands are often dry and hot	3.2	61.3	32.3	3.2
My face is often hot and red	3.2	19.4	71.0	6.5
I fall asleep easily and always have a good sleep	0	0	38.7	61.3
I often have nightmares	16.1	12.9	31.3	9.7

100% of participants felt more irritable and worried than usual during most of the time in a day. They felt scared without knowing the reason which accounted for 93.5%, easily confused and felt scared which accounted for 90.3%.

Table 3. Anxiety level in non-video calling group (n = 31)

Level	Point evaluation	n	%
There is no pathological anxiety	20 - 44	0	0
Mild to moderate anxiety	45 - 59	9	29
Severe anxiety	60 - 74	22	71
Anxiety at a very severe level	75 - 80	0	0

Mild to moderate anxiety accounted for the highest proportion of 29%, severe anxiety was 71%.

Table 4. Anxiety level of video call group (n = 31)

Content	Almost none or insignificant	Sometimes	Usually	Most or all of the time
	1	2	3	4
I feel more impatient and anxious than usual	0	9.7	29.0	61.3
I feel scared but don't know why	0	6.5	22.6	71.0
I get confused easily and feel scared	0	6.5	61.3	32.3
I felt as if I had been hit and my body was broken into pieces	29	54.8	9.7	6.5
I feel like everything is good, nothing bad happened	0	38.7	48.4	12.9
My arms and legs shook and trembled	12.9	71.0	12.9	3.2
I'm suffering from headaches, neck pain, and back pain	9.7	54.8	29	6.5
I feel weak and get tired easily	6.5	45.2	45.2	3.1
I feel calm and can easily sit still	0	12.9	80.6	6.5
I feel my heart beating fast	9.7	71.0	19.4	0
I am uncomfortable, dizzy	12.9	77.4	9.7	0
I fainted and felt close to it sometimes	83.9	12.9	3.2	0
I can exhale and inhale easily	29.0	54.8	12.9	3.2
I felt numbness, like there were ants crawling at the tips of my fingers and toes	19.4	71.0	9.7	0
I'm suffering from stomach pain and bloating	19.4	32.3	45.2	3.2
I always have to go to the bathroom	6.5	54.8	32.3	6.5
My hands are often dry and hot	16.1	71.0	12.9	0
My face is often hot and red	19.4	80.6	0	0
I fall asleep easily and always have a good sleep	6.5	48.4	38.7	6.5
I often have nightmares	67.7	25.8	6.5	0

The percentage of those who felt panic attack for no reason accounted for 71%, and 61.3% was more impatient and anxious than usual, a group of people who felt limbs swaying, trembling, weak and easily tired, breathing in and out easily accounted for 3.2%, 3.1%, 3.2% respectively.

Table 5. Assessment of anxiety level in video call group (n = 31)

Level	Point evaluation	n	%
There is no pathological anxiety	20 - 44	1	3.2
Mild to moderate anxiety	45 - 59	29	93.5
Severe anxiety	60 - 74	1	3.2
Anxiety at a very severe level	75 - 80	0	0

Mild to moderate anxiety accounted for the highest proportion of 93.5%. No one had anxiety at a very severe level.

Table 6. Impact of video and non-video calls from medical staff on caregivers(n = 31)

Level	Point evaluation	Group 1	Group 2	p
		Video calls	Non-video calls	
		Ratio %	Ratio %	
There is no pathological anxiety	20 - 44	3.2	0	0.01 ^f
Mild to moderate anxiety	45 - 59	93.5	29	
Severe anxiety	60 - 74	3.2	71	
Anxiety at a very severe level	75 - 80	0	0	

The proportion of mild to moderate anxiety in group 1 was higher than group 2 and the proportion of severe anxiety in group 2 was higher than group 1 (the difference was statistically significant with $p < 0.05$).

DISCUSSION

Our study implemented on 62 family members who were taking care of patients in the Intensive Care Unit 2 during the COVID-19 quarantine period of whom 25 caregivers were male, accounting for 37.1%, and 37 caregivers were female accounting for 62.9%. Our research results were different from Nguyen Truong Giang's results in 2021, the ratio of men was higher than that of women ⁵. This result presented the role of women because Vietnamese people often emphasize the role of women in housework, family management, taking care of husbands, children, parents. Therefore, if a family member is sick, the woman in that family would be caregiver. This result

shows the role of women. Vietnamese beliefs often emphasize the role of women in housework and family management, gently and attentively taking care of husbands, children, parents, arranging housework, and establishing plans to develop social networks. members and family. Therefore, if a family member is sick, the caring hands of a woman are indispensable. There is 1 participant who is Catholic, acco.

The COVID-19 pandemic has caused huge losses to all humanity over the past 2 years, claiming the lives of more than 4.5 million people, causing heavy economic and social losses, along with invisible pain which is unmeasurable. Mental issues play an important role in the concept of health.

During the over-2-year-lasting COVID-19 epidemic, every day we have been flooded with measurable numbers such as: infected cases, severe cases, deaths, number of people recovering from the disease etc. But there is still one intangible issue - the indirect consequences of the pandemic which could not be counted such as stress which is severe, long-lasting psychological trauma, causing many serious consequences.

During the COVID-19 pandemic, intensive care unit (ICU) applied complete isolation to reduce the spread of the SARS-CoV-2 virus. The normal integration among relatives, family meetings for joint decision-making, direct care, and regular communication were no longer possible which led to a particular burden for relatives of patients in the ICU. Understanding the worries and insecurities of family members, the staff of the ICU not only calls but also calls with videos for the caregivers, therefore, the patients' family could feel secure, reduce stress, worry, and create peace of mind.

The result of non-video call group was that: 100% said "I feel more impatient and anxious than usual". The percentage of caregivers who felt "fear for no reason" was 93.5%, those were easily confused and scared, accounting for a very high percentage of 90.3%. However, in the group with video calling, the anxiety rate decreased significantly, specifically only 61.3% felt that "I feel more impatient and anxious than usual" compared to 100% in the group without video. The proportion of caregivers who felt "fear for no reason" was 71%, caregivers were easily confused and scared accounted for 32.3%. Severe anxiety in the non-video call group was 71% which was much higher than that of the video call group (3.2%). Our result were similar

to Sonam Zamir's study in 2018 which indicated the importance of seeing each other's faces in the communication process. It was especially important to see facial expressions, eye contact and head direction, thus reducing social distance, which could be lost in a non-video call. Therefore, Sonam Zamir concluded that video calls reduced anxiety and fear for patient's family members in critical care cases where they could not visit. They had reduced anxiety after being video-called twice within 48 hours of treatment in the intensive care unit ⁷. In 2018, the organization "Lehigh Valley Health Network" (USA) used smartphones to send surgery status updates to family members and friends of the patient which reduced anxiety while waiting for the patients' surgery. According to Patrick de la Roza, co-founder and CEO of Electronic Access to Surgical Events, when you had a loved one in the family undergoing surgery, your anxiety spikes every 30 minutes if you did not hear any information ⁸.

Research by Niki R. Kennedy concluded that non-video and video calls with family during COVID-19 provided many benefits including meeting communication goals. Video calls had superior results compared to non-video in conveying information about patients to families ⁹.

Our study indicated that mild to moderate anxiety in the video call group accounted for 93.5% which was higher than that in non-video call group (29%). This presented that video call could bring negative things to the patient's family, but the level was not serious. This means that when giving patient's family members, we need to learn more about their characteristics such as age, job, place of residence, psychology before giving information about the patient to them.

CONCLUSION

By assessing the anxiety level of 62 caregivers in Intensive Care Unit 2, we drew the following conclusions:

Video calls to caregivers significantly reduced the proportion of severe anxiety compared to non-video calls (3.2% vs. 71%).

Video calls to caregivers significantly increased the proportion of mild to moderate anxiety compared to non-video calls (93.5% vs. 29%).

REFERENCES

1. JR Curtis, DL Patrick, SE Shannon, et al. The family conference as a focus to improve communication about end-of-life care in the intensive care unit: opportunities for improvement. *Crit. Care Med.*, 29 (2001), p. N26. doi: 10.1097/00003246-200102001-00006.
2. Wood GJ, Chaitin E, Arnold RM. *Communicating in the ICU: Hold a family meeting*. 2018
3. AA Kon, JE Davidson, W. Morrison, et al. Shared decision-making in intensive care units. executive summary of the american college of critical care medicine and american thoracic society policy statement. *Am. J. Respir. Crit. Care Med.*, 193 (2016), p. 1334. doi: 10.1164/rccm.201602-0269ED.
4. Giovanni Mistraretti, Michele Umbrello, Elena Silvia Mantovani, Benedetta Moroni, Paolo Formenti, Paolo Spanu, Stefania Anania, Elisa Andrich. A family information brochure and dedicated website to improve the ICU experience for patients' relatives: an Italian multicenter before-and-after study. *Intensive Care Med.* 2017 Jan;43(1):69-79. doi:10.1007/s00134-016-4592-0
5. Nguyen Truong Giang. Level of anxiety, depression and related factors of patient caregivers at Intensive Care Unit 2 - Viet Duc Hospital in 2021. *Journal of medicine and pharmacy* No. 41 January 2022
6. *Population and Housing Census (2019)*, editor, United Nations Vietnam, Hanoi. <https://vietnam.un.org/vi/28931-ket-qua-tong-dieu-tra-dan-so-va-nha-ou-nam-2019>.
7. Zamir, S., Hennessy, C. H., Taylor, A. H., & Jones, R. B. (2018). Video-calls to reduce loneliness and social isolation within care environments for older people: An implementation study using collaborative action research. *BMC Geriatrics*, 18(1), 1–14. <https://doi.org/10.1186/s12877-018-0746-y>
8. Using smartphones to provide real-time information to the family members about the patient's condition in the operating room. Ho Chi Minh City Department of Health, People's Hospital 115, October 18, 2018. <https://medinet.gov.vn/cai-cach-hanh-chinh-y-te-thong-minh/mot-mo-hinh-can-duoc-nghien-cuu-va-van-dung-trien-khai-tai-cac-benh-vien-su-dun-cmobile>
9. Niki R. Kennedy. Perspectives on Telephone and Video Communication in the Intensive Care Unit during COVID-19. *Ann Am Thorac Soc.* 2021 May;18(5):838-847. doi: 10.1513/AnnalsATS.202006-729OC.