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Effectiveness of computer assisted teaching on happy hypoxemia of COVID-19 among client attending OPD in UPHC

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Abstract
Happy hypoxemia is referred where the body has oxygen saturation below 90%, but the patients with silent hypoxia often have other symptoms such as fever or cough. The-disconnect between the severity of hypoxemia and the relatively mild respiratory discomfort reported by the COVID-19 patient's contrasts with the experience of physicians usually treating critically ill patients with respiratory failure. The aim of the study was to evaluate the level of happy hypoxemia of COVID-19 among client attending OPD in UPHC, Porur.

Materials and Methods: Experimental study was carried out with 30 samples that met the inclusion criteria were selected using simple random sampling technique. Structured Questionnaire was used to collect the data among participant which contains demographic variables, pre-test level of knowledge on COVID-19 and happy hypoxemia and followed by computer assisted teaching post-test knowledge was assessed 7 days after the administration of happy hypoxemia video.

Result: The finding of the study reveals that there is no statistically significant association occurs with the post-test level of knowledge on happy hypoxemia of COVID-19 among client attending OPD in UPHC, Porur.

Conclusion: Findings of the present study concluded that, the computer assisted teaching on happy hypoxia among rural people is most effective, in improving the knowledge and prevalence of happy hypoxia among COVID-19. This computer assisted teaching helps to diminish the complications and minimize the length of happy hypoxemia.

Keywords: Computer assisted teaching, happy hypoxemia, COVID-19

Introduction

COVID-19 is a respiratory infection caused by severe acute respiratory syndrome. Coronavirus 2 [SARS-CoV2]. A novel coronavirus was identified in 2019 in Wuhan China [1]. COVID-19 is also known as Coronavirus disease. It is primarily spread person to person through close contact and contaminated surfaces, often via small droplets produced by the infected person through coughing, sneezing or talking. COVID-19 is most contagious immediately after the onset of symptoms, although the spread through asymptomatic cases has been reported [2]. Wuhan is a transportation hub of China; it is a highly dense city and has a large population of more than 14 million in 2019 [3]. The World Health Organization (WHO) had a meeting on January 30, 2020 and they declared the coronavirus outbreak from China a public health emergency of international concern [4]. COVID-19 detection kits have been developed and the test results can be generated within 6 h, which is helpful for early diagnosis, treatment and judgment of the treatment effect [5]. It is the first time for the COVID-19 to infect humans and can be transmitted from person to person. The incubation period can be 2 weeks and even longer. Besides, the virus can spread during the incubation period or recessive infection, which makes it difficult to identify those suspected cases without clinical symptoms for

prompt control [6]. Hospitals have drastically constrained other services to meet the hospitalization needs of the outbreak in Wuhan. At the early stage, with more people getting infected and less of them recovered, medical facilities, personnel and protective supplies were increasingly insufficient [7]. India has now recorded more than 2.5 Lakh deaths from COVID-19 during the lethal second wave of infections in the country, nearly 1 Lakh more than all previous fatalities since the outbreak of the pandemic [8]. Happy hypoxemia is referred as "silent" or "happy hypoxia," where the body has oxygen saturation below 90%, but the patients with silent hypoxia often have other symptoms such as fever or cough. It is emerging condition right now due person can still breathe normally [9]. Happy or silent hypoxemia is not exclusively seen in COVID-19, but may also occur in patients with atelectasis, intrapulmonary shunt (i.e. Arterio-venous malformations) or right-to-left intracardiac shunt. The-disconnect between the severity of hypoxemia and the relatively mild respiratory discomfort reported by the COVID-19 patients contrasts with the experience of physicians usually treating critically ill patients in respiratory failure [10]. A new research study provides possible explanations for COVID-19 patients who present with extremely low, otherwise life-threatening levels of oxygen, but no signs of dyspnea (difficulty breathing).

This new understanding of the condition, known as silent hypoxemia or "happy hypoxia," could prevent unnecessary intubation and ventilation in patients during the current and expected second wave of coronavirus [11]. During our community posting, so many people came for COVID testing, COVID report collection, COVID treatment. In that so many clients are having happy hypoxemia and some death also occurred due to the disease. So, Researcher we are interested to assess the knowledge on general public related to happy hypoxemia. We are planned to assess the level of knowledge of happy hypoxemia through computer assisted teaching.

Materials and Methods
Data was collected after obtaining written permission from the Research Review Board, the data were collected from 10/04/2021 to 17/04/2021 from selected primary health center at Chinna Porur. A total of 30 clients who met the inclusion criteria were selected by simple random sampling techniques. The purpose of the study was explained by the investigator to each study participant and informed consent was obtained. The structured questionnaire was used to collect the baseline variables of client such as age, sex, education, area of living, type of family, religion, any previous health issues of COVID, health information reviewed through and Pre-test knowledge on happy hypoxemia was assessed by structured interview questionnaire and followed by computer assisted teaching

was conducted by the investigator and post-test knowledge was assessed 7 days after the administration of happy hypoxemia video. The data were analyzed using descriptive and inferential statistics.

Result
The demographic variables among client attending OPD in UPHC, Porur, Out of 30 study samples 8 (26.6%) were illiterate, 7 (23.3%) were higher secondary education 15 (50%) were degree holders, 20 (66.6%) were in semi-urban area, 10 (33.3%) were in rural area, 22 (73.3%) belongs to nuclear family 8 (26.7%) belongs to joint family, 12 (40.0%) were Hindus, 11 (36.7%) were Christians and 7 (23.3%) were Muslims, 6 (20%) were COVID positive and 24 (80%) were COVID negative, and 7 (23.3%) received health information from neighbor and friends, 9 (30.0%) were received from health care workers and 14 (46.7%) were received health information from mass media.

The table-1 results show that pre-test and post-test level of knowledge on happy hypoxemia of COVID-19 among client attending OPD in UPHC, Porur. The pretest level of knowledge of happy hypoxemia shows, 20 (66.7%) had inadequate level of knowledge happy hypoxemia of COVID-19 and 10 (33.3%) had moderate level of knowledge happy hypoxemia of COVID-19, and the post-test shows that, 23 (76.7%) had moderate level knowledge of happy hypoxemia and 7 (23.3%) had adequate level of knowledge happy hypoxemia of COVID-19 among clients.

Table 1: Frequency and percentage distribution of level of knowledge on happy hypoxemia of COVID-19 among client attending OPD in UPHC, Porur

Level of knowledge on happy hypoxemia	Inadequate knowledge		Moderate knowledge		Adequate knowledge	
	No.	%	No.	%	No.	%
Pre-test	20	66.7	10	33.3	0	0
Post-test	0	0	23	76.7	7	23.3

The table 1 results show that the effectiveness of computer assisted teaching on happy hypoxemia of COVID-19 among client attending OPD in UPHC, Porur. The pretest mean score level of knowledge of happy hypoxemia was 9.47 with standard deviation 1.91 and the post-test mean score was 14.70 with standard deviation 1.9. The paired 't' test

value of t = 9.814 was found to be statistically significant at $p<0.001$ level. This clearly infers that computer assisted teaching on happy hypoxemia administered to clients was found to be effective in improving the post-test level of happy hypoxemia of COVID-19 among clients.

Table 2: Comparison of pre-test and post-test level of happy hypoxemia of COVID-19 among client attending OPD in UPHC, Porurn = 30.

Level of knowledge on happy hypoxemia	Mean	S.D.	Paired 't' test value
Pre-test	9.47	1.91	t = 9.814
Post-test	14.70	1.91	p = 0.0001, S***

***$p<0.001$, S - significant.

To associate the post-test scoring, interpretation of happy hypoxemia of COVID-19 among clients attending OPD in UPHC, Porur: The current study reveals that there are no statistically significant associations occur with the post-test level of knowledge on happy hypoxemia of COVID-19 among clients with their selected demographic variables.

Discussion
The novel coronavirus disease 2019 (COVID-19) pandemic is a global crisis, challenging healthcare systems worldwide. Many patients present with a remarkable disconnect in rest between profound hypoxemia yet without proportional signs of respiratory distress (i.e. Happy hypoxemia) and rapid

deterioration can occur. This particular clinical presentation in COVID-19 patients contrasts with the experience of physicians, usually treating critically ill patients in respiratory failure and ensuring timely referral to the intensive care unit can, therefore, be challenging. The pretest level of knowledge of happy hypoxemia shows, 20 (66.7%) had inadequate level of knowledge happy hypoxemia of COVID-19 and 10 (33.3%) had moderate level of knowledge happy hypoxemia of COVID-19, and the post-test shows that, 23 (76.7%) had moderate level knowledge of happy hypoxemia and 7 (23.3%) had adequate level of knowledge happy hypoxemia of COVID-19 among clients. The present study finding is supported by Fernando

mejia, carlos medina, Enrique cornneja reported that a total of 369 medical records of client patients with COVID-19 included in analysis, 241 (65.31%) were male (median age 59 years [IQR: 49-68]; 241 (65.31%) male) were included. Most patients (68.56%) reported at least one comorbidity; more frequently: obesity (42.55%), diabetes mellitus (21.95%), and hypertension (21.68%). Our findings also supported by Sebastiaan Dhont *et al*., (2020) in their study reported that the novel corona virus disease 2019 (COVID-19) pandemic is a global crisis, challenging healthcare systems worldwide. In this present study there is no supportive study.

Conclusion
The Findings of the present study revealed that, the computer assisted teaching on happy hypoxia among rural people is most effective, in improving the knowledge and prevalence of happy hypoxia among COVID-19. This computer assisted teaching helps to diminish the complications and minimize the length of happy hypoxemia. And this computer assisted teaching on happy hypoxemia also can be planned to give as awareness campaigns in future. Computer assisted teaching on happy hypoxemia is not cost effective, it can be performed by people's concerns.

Acknowledgment

Author contribution
All the authors actively participated in the work of study.

Conflict of interest
Authors have declared that no conflict of interest.

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