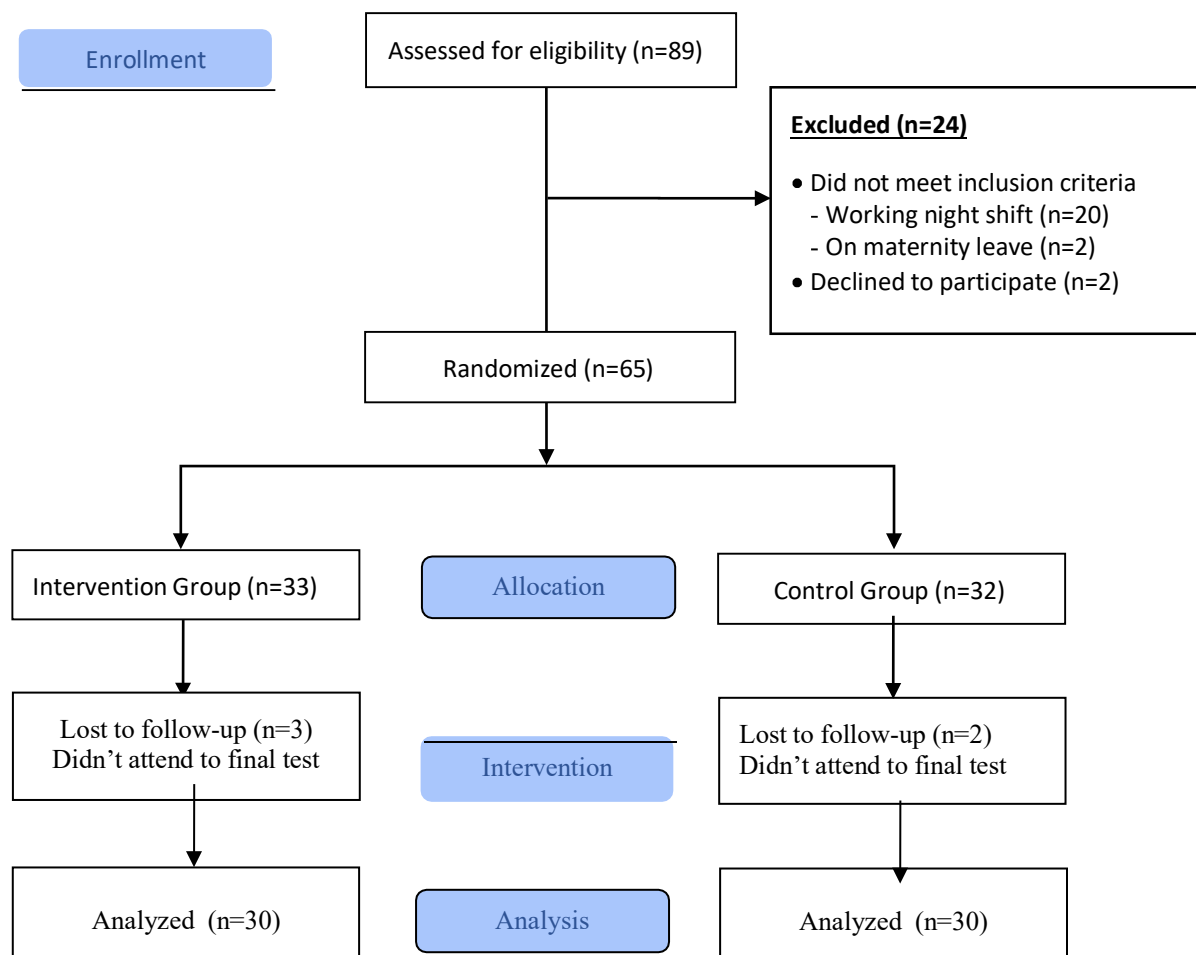# COVER PAGE

STUDY PROTOCOL

OFFICIAL TITLE: The Effects of Motivational Messages Sent to Emergency Nurses during the COVID-19 Pandemic on Job Satisfaction, Compassion Fatigue,and Communication Skills: A Randomized Controlled Trial

DATE OF DOCUMENT: May 06, 2021

STUDY PROTOCOL

The population of the study comprised a total of 60 nurses working in the emergency departments of two training and research hospitals (both designated as pandemic hospitals) affiliated to the Ministry of Health in Istanbul, Turkey between July 31, 2021 and August 31, 2021. Power analysis was performed to determine the necessary sample size using G*Power version 3.1. In a similar study by Shin et al. (2020), the effect size for compassion fatigue was calculated as 0.617 . In the power analysis, we determined that a total of 60 people, 30 in each group, was necessary for a study power greater than 95% at a significance level of 5% and effect size of 0.617 (df=116; t=1.658). Considering potential losses, we decided to include 65 nurses in the sample group, 33 in the intervention group and 32 in the control group. As 3 nurses in the intervention group and 2 nurses in the control group did not respond at posttest, the study was completed with a total of 60 nurses, 30 in each group (Figure 1). Inclusion criteria were working in the emergency department, working only the day shift on weekdays, having a mobile phone and volunteering to participate in the study. In the hospitals where the study was conducted, nurses follow an alternating monthly work Schedule with one month of night shift and one month of day shift. Exclusion criteria for the study included being on leave for any reason (maternity, annual, medical) during the study dates, not completely filling in the data collection forms, or withdrawing from the study.

Figure 1. CONSORT Flow Diagram

RANDOMIZATION

Randomization was performed using a computer-based random number generator (www.random.org). The random allocation sequence and assignment of the participants to the control and intervention groups were performed by the researchers. The participants were numbered according to their order of inclusion in the study and were assigned to the intervention or control group according to the random number sequence on the randomization list. Due to the study design, blinding was not possible because the participants knew about the intervention.

OUTCOMES MEASURES

Due to the COVID-19 pandemic, the first interview with the participants was conducted online and the participants were informed about the study. Data were collected using the personal information form before the intervention (day 1 of the study) and the participants completed the Job Satisfaction Scale, Compassion Fatigue Scale, and Communication Skills Scale once before the intervention (pretest) and again after the intervention (posttest). The primary outcomes of the study were changes in the participants' job satisfaction, compassion fatigue, and communication skills scores after the intervention.

STUDY PROCEDURE

Intervention Group

Before the study, the motivational messages were reviewed by an expert panel consisting of four nurse academicians and two psychologists. The expert panel's evaluation was based on the Davis technique. They scored each statement as irrelevant (1), needs major revision (2), relevant but needs minor modification (3), or very relevant (4). Necessary changes were made to the messages according to the panel's feedback. The resulting 61 messages were determined to have content validity index of 96%. The pretest was performed before the intervention (on the first day of the study). For the next 21 days, participants in the intervention group were sent motivational messages via SMS to their mobile phones 3 times a day (7:00, 12:00, and 16:00). The head nurse allowed participants to take a short break (5-10 minutes) to access the messages when they heard the delivery notification sound. The participants received a different set of motivational messages each day. The posttest was performed at the end of the intervention. Examples of the daily motivational messages are shown in Table 1.

Table 1
Motivational Message Intervention Program

Time	Message Purpose and Example
07:00	A good morning message to start the day with good energy (Example: *Thank you for the difficult and selfless work you do every day. We love and appreciate you and angels like you. Good morning…)*
12:00	Health-promoting message *(Example: Breathing exercises stimulate the vagus nerve, the longest nerve in our body. This puts the body into rest, repair, and calm mode. Come on, it's time to stimulate those nerves. Take a deep breath...!)*
16:00	"Me time" message (*Example: It's time to do something you enjoy that you haven't done in a long time. Life is too short, don't put anything!*

Control Group

Participants in the control group underwent the same pretest and posttest assessments as the intervention group, but did not receive motivational messages during the intervention period.