

## Limited Impact of a WhatsApp-Based Motivational Messaging Program Grounded in Swanson's Caring Theory on Nurses' Compassion Fatigue and Job Satisfaction

R. R. Woro Sulistiyowati<sup>1</sup>, Fitriana Suprapti<sup>1</sup>, Bantari Wisynu Kusuma Wardhani<sup>1</sup>

<sup>1</sup>Master's Program in Nursing, Sekolah Tinggi Ilmu Kesehatan Sint Carolus, Jakarta

Correspondence: R. R. Woro Sulistiyowati: Jl. Salemba Raya 41, Jakarta Pusat 10440, Indonesia; ulizmommytwin@gmail.com

### ABSTRACT

Compassion fatigue is a form of emotional exhaustion experienced by nurses as a result of repeated exposure to patients' suffering, and this condition can negatively affect job satisfaction. This study aimed to analyze the effect of a motivational message program delivered via WhatsApp on reducing compassion fatigue and its impact on improving nurses' job satisfaction. A quasi-experimental design with a pretest–posttest and control group was employed. The intervention consisted of motivational messages sent regularly for 21 days to the intervention group. Compassion fatigue and job satisfaction were measured before and after the intervention using questionnaire, and the data were analyzed using parametric statistical tests. The paired samples t-test showed no significant difference between pretest and posttest scores in the intervention group ( $p = 0.903$ ), suggesting that motivational messages via WhatsApp alone are insufficient to decrease compassion fatigue. Furthermore, the reduction in compassion fatigue did not have a significant impact on improving job satisfaction. Although there was an average increase of 1.39 points, this change was not statistically significant ( $p = 0.388$ ). Between-group analysis also revealed no significant differences between the intervention and control groups in either compassion fatigue or job satisfaction ( $p > 0.05$ ). In conclusion, the WhatsApp-based motivational messaging program has not been proven effective in reducing compassion fatigue or improving nurses' job satisfaction. Future research should develop more comprehensive interventions, such as peer support group programs, that enable nurses to share experiences and provide mutual support.

**Keywords:** compassion fatigue; motivational message; WhatsApp; job satisfaction; nurses

### INTRODUCTION

Nurses play a pivotal role in the healthcare system as frontline providers of direct patient care, both physically and emotionally. However, high job demands frequently generate substantial psychological strain. In Indonesia, the number of nurses has reached 582,023, yet their distribution remains uneven across regions [1]. In Riau Province, the availability of nurses is still limited, including at X Bagan Batu Hospital, which employs only 169 nurses out of an ideal requirement of 340. This condition illustrates a significant gap between the need for and the availability of nursing personnel, potentially affecting the quality of healthcare services.

The shortage of nurses increases workload, requiring each nurse to care for more patients simultaneously. This situation heightens the risk of physical and emotional exhaustion, which may trigger compassion fatigue [2]. Evidence indicates that emotional fatigue is a primary factor contributing to compassion fatigue [3], particularly in high-pressure work environments such as during the pandemic [4]. Excessive workload has also been shown to contribute to nurse fatigue [5].

Observations at Bagan Batu Hospital reveal a non-ideal nurse–patient ratio, with one nurse responsible for more than 10–15 inpatients, in addition to extra duties beyond nursing care. Similar conditions were found in the ICU and Emergency Department, limiting optimal patient monitoring. These circumstances contribute to increased work fatigue and declining quality of nursing services.

Excessive workload not only elevates the risk of compassion fatigue but also reduces compassion satisfaction and job satisfaction. Compassion fatigue refers to emotional exhaustion resulting from repeated exposure to patient suffering [6,7]. Its consequences may include apathy, reduced empathy, and compromised care quality [8]. Factors such as age, length of service, and excessive working hours further influence this condition [9]. High nurse turnover exacerbates the situation, diminishing service quality and continuity of care.

Field findings indicate symptoms of exhaustion, apathy, communication difficulties, physical complaints, as well as stress, anxiety, and depression among nurses, clear indicators of compassion fatigue. Although overall job satisfaction is relatively high (95%), this does not fully reflect nurses' psychological well-being, underscoring the need for more targeted interventions.

Various interventions have been developed to address compassion fatigue, one of which is motivational messaging, proven to be effective, practical, and efficient [10]. This intervention can enhance job satisfaction, communication skills, and reduce compassion fatigue without requiring substantial cost or additional time. Consistent with findings reported by [11], structured educational interventions reinforced through digital platforms such as WhatsApp significantly increased compassion satisfaction ( $p < 0.001$ ) and reduced burnout ( $p < 0.001$ ), secondary traumatic stress ( $p < 0.001$ ), and moral distress ( $p < 0.001$ ). The use of technology such as WhatsApp enables motivational messages to be delivered easily, quickly, and flexibly [12], making it a relevant solution to support nurses' psychological well-being.

This motivational messaging program is grounded in Kristen Swanson's Caring Theory, which emphasizes emotional support, empathy, and belief in one's ability to face difficult situations [13]. However, the application of technology-based interventions to address compassion fatigue among nurses in Indonesia remains limited [14]. Therefore, this study is essential to examine the effectiveness of a WhatsApp-based motivational messaging program rooted in Swanson's Caring Theory in reducing compassion fatigue and improving job satisfaction among nurses at Bagan Batu Hospital.

### METHODS

The present study employed a quantitative approach using a quasi-experimental pretest–posttest control group design to evaluate the effect of motivational messaging on nurses' compassion fatigue and job satisfaction. The quantitative paradigm is grounded in positivism, which emphasizes objective measurement and statistical analysis [15], while the quasi-experimental design enables comparison between intervention and control groups without full randomization. The study was conducted from May to December 2025 across three Class-C hospitals within the X Hospital Group. The study population consisted of 165 inpatient-unit nurses, from which a sample of 117 respondents was determined using the Slovin formula [15]. Sampling procedures involved purposive sampling to identify respondents who met the inclusion criteria, followed by simple random sampling to allocate participants into intervention and control groups.

The independent variable was the delivery of motivational messages based on Kristen Swanson's Caring Theory, emphasizing the dimensions of knowing, being with, and enabling as psychosocial support mechanisms. The dependent variables were the levels of compassion fatigue and job satisfaction among nurses. Data collection utilized a structured questionnaire that had undergone validity testing using Pearson correlation and reliability testing using Cronbach's alpha.

The research procedure consisted of a pretest, followed by a 21-day intervention in which motivational messages were delivered via WhatsApp three times daily (morning, afternoon, and evening), including on non-working days, with different content each day. Respondents were required to activate the double-blue-tick read receipt feature to allow monitoring of message readability, recording of reading time, and documentation on daily checklist sheets; this requirement was explicitly stated in the informed consent. The messages were developed based on Swanson's Caring Theory (particularly the knowing and enabling dimensions) to provide emotional support, positive reinforcement, and a sense of meaning and appreciation for nurses' professional roles.

Data analysis was conducted using SPSS. Statistical tests included normality testing (skewness–kurtosis), homogeneity testing (Levene's test), and both paired t-tests and independent t-tests to examine differences before and after the intervention as well as between groups [16]. Ethical approval for this study was obtained from the Ethics Committee of STIK Sint Carolus Jakarta, and all procedures adhered to core principles of nursing research ethics, including informed consent, anonymity, confidentiality, beneficence, and non-maleficence [17].

## RESULTS

Based on Table 1, the findings indicate that most respondents were young female nurses (17–35 years old), predominantly holding a professional nursing degree (Ners). In the intervention group, the majority had relatively short work experience (6 months–1 year), whereas the control group consisted of more experienced nurses (>2 years). These characteristics suggest that respondents were in a productive age range with high job demands and considerable psychological pressure.

Table 1. The distribution of respondent characteristics

Characteristic	Intervention group	Control group	Conclusion
Age	Dominant 17–25 years (52.5%)	Dominant 17–25 years (55.2%)	Majority young adults (generation Z)
Sex	100% female	100% female	Reflects nursing workforce dominance
Education	Professional nurse (84.7%)	Professional nurse (84.5%)	Predominantly professional nurses
Length of service	6 months–1 year (37.3%)	>2 years (43.1%)	Intervention group includes more novice nurses

Based on Table 2, for compassion fatigue, both the intervention and control groups initially showed similar conditions, predominantly within the moderate category. After the 21-day motivational messaging intervention, no meaningful change occurred. Although the intervention group showed a slight decrease in mean compassion fatigue scores (from 33.34 to 33.22), the change was minimal and statistically insignificant ( $p = 0.903$ ). A similar pattern was observed in the control group (from 33.59 to 33.16;  $p = 0.602$ ). Thus, motivational messaging did not demonstrate effectiveness in reducing compassion fatigue. Both groups experienced very small decreases in mean scores, but these changes were not statistically significant, indicating that compassion fatigue levels remained relatively stable before and after the intervention.

Regarding job satisfaction (Table 3), most nurses were already in the moderate to high category at baseline. After the intervention, the intervention group showed a slight increase in mean job satisfaction scores (from 57.27 to 58.66), but this change was not statistically significant ( $p = 0.388$ ). The control group exhibited a similar pattern (from 57.93 to 58.48;  $p = 0.688$ ). Motivational messaging did not significantly improve job satisfaction. Although both groups experienced small increases in mean scores, these changes were statistically insignificant, indicating that job satisfaction remained stable before and after the intervention.

Based on the hypothesis testing results (Table 4), compassion fatigue decreased slightly in both the intervention group (0.12 points) and the control group (0.43 points). However, these reductions were not statistically significant ( $p = 0.806$ ), indicating that motivational messaging was not effective in reducing compassion fatigue. For job satisfaction, the intervention group showed an increase of 1.39 points, while the control group increased by 0.55 points. Despite these increases, the changes were not statistically significant ( $p = 0.692$  for the intervention group;  $p = 0.691$  for the control group). These findings suggest that motivational messaging delivered via WhatsApp did not effectively reduce compassion fatigue or enhance job satisfaction among nurses.

Several factors may explain the limited impact of the intervention, including high workload, shift work systems, physical and emotional fatigue, and the one-way nature of the messaging intervention, which lacked direct interaction. Additionally, the intervention may not have fully addressed the broader spectrum of emotional support required by nurses, resulting in limited influence on psychological well-being and job satisfaction.

## DISCUSSION

The findings of this study indicate that the 21-day WhatsApp-based motivational messaging intervention was not sufficient to significantly reduce compassion fatigue or enhance job satisfaction among nurses. This suggests that a simple, unidirectional motivational intervention is inadequate for addressing the complex psychological challenges experienced by nurses. This conclusion aligns with the work of [10], which

Table 2. The distribution of compassion fatigue

Category	Intervention (Pre)	Intervention (Post)	Control (Pre)	Control (Post)
Low	37.3%	40.7%	34.5%	37.9%
Moderate	54.2%	52.5%	60.3%	56.9%
High	8.5%	6.8%	5.2%	5.2%

Table 3. The distribution of job satisfaction

Category	Intervention (Pre)	Intervention (Post)	Control (Pre)	Control (Post)
Low	5.1%	8.5%	5.2%	1.7%
Moderate	45.8%	39.0%	41.4%	24%
High	49.2%	52.5%	53.4%	33%

Table 4. The hypothesis testing results

Variable	Group	Mean change	p
Compassion fatigue	Intervention	↓ 0.12	0.806
Compassion fatigue	Control	↓ 0.43	0.806
Job satisfaction	Intervention	↑ 1.39	0.692
Job satisfaction	Control	↑ 0.55	0.691

emphasizes that compassion fatigue is a multidimensional condition requiring more comprehensive interventions; such as psychosocial support, counseling, and sustained organizational approaches rather than brief motivational strategies alone.

Most respondents were young nurses (Generation Z), a demographic known to be more vulnerable to psychological pressure, emotional exhaustion, stress, and burnout due to demanding workloads, social expectations, and high digital exposure [2,18]. The predominance of female nurses in this study also reflects global trends, where more than 80% of the nursing workforce consists of women as primary caregivers [19]. These characteristics are associated with heightened empathy and emotional involvement in nursing practice, which, while beneficial for care quality, simultaneously increase the risk of compassion fatigue [10]. This underscores the need for psychosocial support, resilience-building programs, stress management strategies, and sustained digital and emotional well-being initiatives to help nurses maintain mental health without compromising caring quality.

Several contextual workplace factors may explain the non-significant reduction in compassion fatigue observed in this study. High workload, large patient volumes, and elevated patient dependency levels increase the complexity of nursing tasks and contribute to physical and emotional exhaustion [20]. Additionally, shift work; particularly night shifts has been shown to exacerbate fatigue by disrupting biological rhythms and rest patterns [21]. These conditions require nurses to provide continuous intensive attention, make rapid decisions, and engage empathetically for extended periods, leading to cumulative physical fatigue, psychological strain, and emotional exhaustion that cannot be effectively mitigated through motivational messaging alone.

From a nursing theoretical perspective, the results indicate that the intervention did not fully address all dimensions of Swanson's Caring Theory. The motivational messages primarily covered the *knowing* (understanding needs) and *enabling* (providing informational support) dimensions, but did not incorporate other essential components such as *being with* (emotional presence), *doing for* (direct assistance), and *maintaining belief* (sustaining hope and confidence) [13,22]. The absence of direct interaction in digital messaging reduces emotional closeness, thereby limiting the intervention's effectiveness.

Regarding job satisfaction, the intervention did not produce meaningful improvements because most nurses already exhibited moderate to high levels of job satisfaction at baseline, leaving limited room for further enhancement. This finding is consistent with the understanding that job satisfaction is an affective response influenced by multiple factors, including working conditions, workload, interpersonal relationships, recognition, and organizational support [23]. This is further supported by [24], which found a negative correlation between compassion fatigue and job satisfaction; nurses experiencing emotional exhaustion tend to show reduced motivation, engagement, and sense of meaning in their work.

Interpersonal relationships in the workplace also play a critical role in shaping job satisfaction. Suboptimal relationships between supervisors and nurses can diminish feelings of appreciation and motivation, ultimately affecting job satisfaction [25,26]. This highlights that individual-level interventions such as motivational messaging are insufficient without a supportive organizational environment.

Overall, this study reinforces that digital motivational interventions have inherent limitations in improving nurses' psychological well-being. More effective approaches must be comprehensive, addressing individual, environmental, and organizational dimensions. Strategies such as clinical supervision, mentoring, counseling, and direct interactive interventions are essential to provide deeper and more sustained emotional support. Furthermore, integrating all dimensions of caring theory; particularly emotional presence and direct support is crucial for enhancing the effectiveness of future nursing interventions.

This study has several limitations that should be considered when interpreting the results. First, the research was conducted exclusively among inpatient-unit nurses, limiting generalizability to other units such as critical care or emergency departments, where work-related stress is typically higher. Second, the intervention was unidirectional, delivered solely through WhatsApp messages without direct interaction, which restricted its ability to provide meaningful emotional support.

## CONCLUSION

The study demonstrates that the 21-day WhatsApp-based motivational messaging intervention was not effective in reducing compassion fatigue or improving job satisfaction among nurses. Although slight positive trends were observed, the changes were minimal and did not indicate meaningful improvement. These findings suggest that a simple, one-way digital motivational approach is insufficient to address the complex psychological challenges faced by nurses. Future research should consider developing more comprehensive, interactive, and sustained interventions; such as peer support groups, counseling, or psychosocial programs involving direct engagement to produce more substantial effects on compassion fatigue, psychological well-being, and job satisfaction among nurses.

## Ethical consideration, competing interest and source of funding

- Ethical approval for this study was obtained from the Ethics Committee of STIK Sint Carolus Jakarta, and all procedures adhered to core principles of nursing research ethics, including informed consent, anonymity, confidentiality, beneficence, and non-maleficence.
- The author declares that there is no conflict of interest in this study. All research procedures were conducted objectively without any influence from individuals, groups, or organizations that could compromise the integrity or independence of the research findings.
- This study was fully self-funded by the author without any financial support from sponsors or external institutions. No external funding sources were involved in either the implementation or the preparation of this research.

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