

Ottawa Decision Support Framework to Improve Iranian Nurses' Decision Coaching Skills

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ABSTRACT

Introduction: Nurses play an important role in providing decision coaching (DC) and developing informed decision-making in families of patients hospitalized in intensive care units (ICUs). Therefore, taking necessary measures to develop nurses' DC skills is essential. The present study was conducted to analyze the application of the Ottawa Decision Support Framework (ODSF) in developing Iranian nurses' DC skills.

Methodology: In this experimental pretest-posttest study, two hospitals (Imam Reza and Shahid Kamyab hospitals) in the city of Mashhad were randomly placed in either the experimental or the control group. Based on a simple random sampling method, 60 ICU nurses were selected. For nurses in the experimental group, a 2-day workshop was conducted based on the ODSF, whereas nurses in the control group received no intervention. Using the SPSS-16 software and statistical tests of paired-samples *t*-test, independent-samples *t*-test, and Chi-square test ($p < 0.05$), the data were analyzed.

Results: Before the intervention, no difference was observed in the mean DC scores obtained by the nurses in the experimental and control groups ($p = 0.891$). However, after the intervention, a significant difference was observed in the mean DC scores obtained by the nurses in the experimental and control groups ($p < 0.001$).

Conclusion: The results indicated that applying the ODSF is effective in improving Iranian nurses' DC skills. It was also indicated that the concepts presented in this framework are consistent with Iranian nurses' cultural backgrounds. Accordingly, the application of the ODSF is offered in Iranian nurses' continuing education programs to improve their DC skills.

Keywords: Decision coaching, Decision support, Intensive care units, Iran, Nurses.

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INTRODUCTION

Life-threatening illness and its subsequent hospitalization in intensive care units (ICUs) often occur unexpectedly. Therefore, patients and their families do not have enough time to prepare for the ongoing situation. This is why hospitalization in the ICUs is disastrous for most people and leads to emotional turmoil, confusion, anxiety, doubt, and an understandable fear of losing a loved one.¹ Patients admitted to these wards mostly suffer from decreased levels of consciousness and are unable to make decisions about the treatment process that is likely to be performed on them.² Almost three quarter of patients admitted to ICUs are unable to take part in the decisions that affect their treatment. Therefore, physicians and nurses have to rely on the families of these patients when making decisions about their treatment process, and this adds to the pressure that these families are already enduring. Meanwhile, the families may not be able to identify their needs at the first phase of the crisis.³ Thus, paying attention to the family is one of the important pillars of patient care,⁴ as one of the roles of nurses is to support the patient's family. When the patient is admitted to the ICU, in addition to caring for him, we should also care for his family members because family members have beneficial effects on patient's response to treatment, high levels of anxiety reduce their ability to support the patient, and even they may transmit the anxiety to the patient.⁵ Clinical decision-making includes interventions and strategies that help to improve the patient's clinical condition to the desired condition.⁶ Decision coaching (DC) performed by nurses improves clients' decision-making skills and prepares them for consultation, reflection about treatment options, and finally making appropriate decisions. In fact, DC is indirect advice to support and address the decision-making needs

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of clients. DC has been mentioned in the literature as a consultation to facilitate the process of decision-making.⁷

Since nurses are more involved in patient care than other healthcare providers, they have a pivotal role in supporting patients and their families.⁸ The effect of correct and timely decisions of nurses in accelerating the progress of patients' treatment, taking more care of them, and reducing treatment costs is evident. Correct and timely decisions of nurses improve the quality of care. Also, the lack of correct and timely decisions can prolong the treatment and care of patients and cause many problems.⁹ Mirsaidi study showed

that participation of the nurses in clinical decision-making is at a moderate level.¹⁰ The Ottawa decision support framework (ODSF) has been developed by the University of Ottawa to assist nurses in three main steps—reviewing and determining decision needs, providing decision support, and evaluating decisions made and their consequences. In fact, this framework provides an operational approach to determine decision-making needs and to design interventions tailored to the decision-making needs of individuals, so that people are confident in choosing the option they want and suffer the least conflict and regret after the decision. This framework has four key concepts: Decision needs, decision quality, decision support, and decision assurance.¹¹

In a study, Drake used an ODSF-based approach to promote informed decision-making about screening for prostate cancer. He showed that subjects' self-determination increased and decision-making conflicts decreased after the implementation of decision support-based interventions.¹² Despite the importance of DC when supporting clients' decisions, no study has been conducted in this area in Iran. Moreover, despite various studies have emphasized the effectiveness of the ODSF in the development of informed decision-making, this framework was used in the present Iranian study for the first time to determine whether this framework is effective in enhancing Iranian nurses' DC skills. Given the importance of appropriate decision-making about the clinical status of ICU patients and nurses' role in advocating and supporting families' decisions regarding these patients, the present study was conducted to study the effectiveness of the ODSF in enhancing Iranian nurses' DC skills.

METHODOLOGY

The present experimental study had a pretest-posttest design. The study population consisted of all ICU nurses in two hospitals (Shahid Kamyab and Imam Reza hospitals) in the city of Mashhad (Iran). The inclusion criteria included consent to participate in the study, having at least a bachelor's degree in nursing, having at least 6-month experience in the ICU, and not participating in DC training courses. To determine sample size, the formula for "determination of sample size for mean comparison between two independent groups" with the confidence level of 95% and test power of 80% was used. The means and standard deviations (SDs) in the pilot study were calculated for 20 nurses (10 nurses in each group). To prevent the release of information between the subjects and to eliminate the possibility of bias, the researchers arbitrarily assigned one hospital as the experimental group and the other as the control group and then nurses working in the ICUs of either hospital were randomly selected as the study's samples. The data collection instrument was comprised of two parts: a demographic questionnaire and the decision support analysis tool (DSAT). The 10-point DSAT assesses the quality of DC in the areas of decision-making status, related knowledge to the available options, preferences, expectations, values, and the roles of others in the process of decision-making. To assess the nurses' DC skills, "standardized" patients were used. The standardized patients were selected from among undergraduate students who were trained to present the conflicts of decision-making process in real-life situations.

Then, facing nurses in the experimental and control groups, the pseudopatients played the role of patients' family members (or the main decision-makers) involved in the conflicts caused by decision-making process. The conversations between nurses and pseudopatients were recorded and their contents were examined

by a blind evaluator. The DSAT has been used in different studies and its validity and reliability have already been confirmed.^{13,14} To use the DSAT in the present study, first, it was translated into the Persian language by one of the researchers and a translator. Then, the translated version of the DSAT was given to 10 faculty members in order to confirm its validity. In order to confirm the reliability of the DSAT, interrater reliability was used ($r = 0.94$). After obtaining permission from the university ethics committee and a written introduction letter from the School of Nursing and Midwifery of Mashhad University of Medical Sciences, the researcher referred to the ICUs of Shahid Kamyab and Imam Reza hospitals. After reassuring the nurses of confidentiality, the participants completed the informed consent form. Before the workshop, nurses in both experimental and control groups participated in the pretest; then, a 2-day workshop (8 hours) was held for nurses in the experimental group. The training package used in this study was provided by O'Connor and Jacobson based on the ODSF. The content of the workshop included the definitions of DC and decision-making and their stages, the necessity of nurses' DC, situations requiring decision support, the definition of conflict and signs of conflict in decision-making process, sources and causes of conflict in family decision-making, the ways to provide patients' families with information, and the stages of the ODSF. Using lectures, Question and Answer sessions, group discussions and group works (in groups consisting of 5–6 people), and based on real-life clinical scenarios, the workshop was held by the research team including two nurses with a PhD degree in nursing, an official in transplantation center of Mashhad University of Medical Sciences, and a Master of Science in Nursing (MSN) student. To develop training scenarios, the researcher determined real and most common decision-making situations (e.g., decisions about organ denoting in patients with brain death and end-of-life caring in dying patients) in which patients' families face decision-making conflicts and then provided clinical scenarios based on real-life situations.

It must be noted that the validity of the provided scenarios was confirmed by experts in the fields of medical education and intensive care. No intervention was conducted in the control group. Posttest was held 45 days after the intervention. Data were analyzed using the SPSS-16 software. To analyze quantitative variables, the tests of Kolmogorov–Smirnov and Shapiro–Wilk were used; to analyze homogeneity of variance for the two groups, independent-samples *t*-test, Mann–Whitney *U*-test, Chi-square test, and Fisher's exact test were used; to describe the demographic characteristics of the subjects, descriptive statistics (mean, SD, and frequency distribution) were used; to compare the mean DC scores before and after the intervention, paired-samples *t*-test was used; and to compare the mean DC scores between the two groups, independent-samples *t*-test was used.

RESULTS

The total number of subjects in the present study was 60 nurses who were randomly assigned to either experimental ($n = 30$) or control groups ($n = 30$). The average ages of nurses in the experimental and control groups were 30.8 ± 6.1 and 30.4 ± 4.8 years, respectively ($p = 0.812$); the average work experience of nurses in the experimental group was 6.2 ± 5.4 years and the average work experience of nurses in the control group was 5.5 ± 4.5 years ($p = 0.634$); in the experimental group, all nurses (100%) had Bachelor of Science in Nursing (BSN) degree, and in the control group, 28 nurses (93.3%) had BSN degree and 2 nurses (6.7%) had

MSN degree ($p = 0.150$); the average work experience of nurses in the ICU was 3.6 ± 2.7 years in the experimental group and 6.3 ± 3.2 years in the control group ($p = 0.964$). It must be noted that before the intervention, both groups were demographically homogeneous based on the results of Chi-square and Fishers' exact tests ($p > 0.05$) (Table 1).

The results indicated that the average DC scores obtained by nurses in the two groups were not statistically different before the intervention; however, a significant difference was observed after the intervention. Based on the results of paired-samples *t*-test, in the experimental group, the average DC score obtained by nurses after the intervention was statistically different from their average DC score before the intervention (Table 2).

DISCUSSION

Based on the results of this study, the ODSF could significantly enhance DC skills in nurses in the experimental group. Accordingly, it was concluded that the application of this framework can enhance DC skills in nurses. The present study was the first Iranian study on the application of the ODSF to improve the DC skills of nurses.

In line with the present study, Stacey et al. conducted a study entitled "Randomized controlled trial of the effectiveness of an intervention to implement evidence-based patient decision

support in a nursing call center." The results showed a significant increase in DC knowledge and skills of nurses in the experimental group. Moreover, from the perspective of nurses, providing decision support was far more beneficial than providing usual care.¹⁵

In another study entitled "Skills training to support patients considering place of end-of-life care: a randomized control trial," Murray et al. reported an increase in mean score and quality of decision support knowledge of staff working in the oncology department. Furthermore, they showed that considering clients' decision-making needs was increased in the intervention group. They concluded that the quality of decision support can be improved through education and provision of decision support tools.¹³ In a study entitled "Decision making in oncology: a review of patient decision aids to support patient participation," Stacey et al. found that after the intervention, knowledge and self-confidence of personnel was increased to provide decision support¹⁶ which was in line with the results of this study. Dealing with sensitive and complicated clinical decisions, patients and their families frequently face decision-making conflicts and are in need of professional support.¹⁷ In this regard, in a study entitled "Developing a decision support intervention regarding choice of dialysis modality," Loiselle et al. showed that providing decision support based on the ODSF can facilitate patients' decision-making and decrease decision-making conflicts.¹⁸ In a study entitled

Table 1: Frequency distributions of subjects in terms of demographic characteristics

Groups Variables		Experimental Number (%)	Control Number (%)	Total Number (%)	Results of Chi-square and Fisher's exact tests
Gender	Male	5 (16.7%)	11 (36.7%)	16 (26.7%)	$p = 0.080$
	Female	25 (83.3%)	19 (63.3%)	44 (73.3%)	
Marital status	Single	13 (43.3%)	13 (43.3%)	26 (43.3%)	$p = 1$
	Married	17 (56.7%)	17 (56.7%)	34 (56.7%)	
Organizational status	Head nurse	0 (0%)	1 (3.3%)	1 (1.7%)	$p = 0.529^*$
	Staff	2 (6.7%)	3 (10%)	5 (8.3%)	
	Nurse	28 (93.93%)	26 (86.7%)	54 (54%)	
Employment	Tenure	2 (6.7%)	0 (0%)	2 (3.3%)	$p = 0.493^*$
	Contractual	12 (40%)	10 (33.3%)	22 (36.7%)	
	Projective	7 (23.3%)	7 (23.3%)	14 (23.3%)	
	Provisional	8 (26.7%)	10 (33.3%)	18 (30%)	
	Contract	1 (3.3%)	3 (10%)	4 (6.7%)	
Shift	Morning	2 (6.7%)	5 (16.7%)	7 (11.7%)	$p = 0.439^*$
	Afternoon	2 (6.7%)	4 (13.3%)	6 (10%)	
	Night	7 (23.3%)	7 (23.3%)	14 (23.3%)	
	Rotating	19 (63.3%)	14 (46.7%)	33 (55%)	

* *p* values reported in Fisher's exact test results

Table 2: Average DC scores obtained by nurses in the experimental group before and after the intervention

DC scores	Experimental group Mean \pm SD	Control group Mean \pm SD	Independent-samples <i>t</i> -test results between the two groups
Before the intervention	1.8 \pm 1.0	1.8 \pm 0.8	$p = 0.891$
After the intervention	3.4 \pm 1.0	1.6 \pm 0.9	$p < 0.001$ $t = 5.5$
Results of paired-samples <i>t</i> -test	$p < 0.001$ $t = 7.7$	$p = 0.202$ $t = 1.3$	

"Effects of decision aids for menorrhagia on treatment choices, health outcomes and costs," Kennedy et al. indicated that providing decision support intervention can facilitate informed decision-making, reduce costs, and increase patients' satisfaction.¹⁹ In another study entitled "Helping patients make informed choices: A randomized trial of a decision aid for adjuvant chemotherapy in lymph node-negative breast cancer," Whelan et al. showed that decision support provided in the experimental group could enhance knowledge and satisfaction of patients in decision-making about choosing the appropriate treatment options.²⁰ These studies indicated the importance of the role health staff play in the process of decision-making and in the development of clients' self-efficacy.

In a study entitled "Evaluation of nurses' perceptions on providing patient decision support with cardiopulmonary resuscitation," Pyl and Menard tried to identify triggers of and barriers to providing decision support from the perspective of nurses. They reported that despite nurses' self-confidence and awareness in providing decision support increased, no significant difference was observed in the mean DC scores between the experimental and control groups. They mentioned issues such as communication skills and the ability to involve families in the process of decision-making as facilitating factors to provide decision support from the perspective of nurses. They also stated lack of time, cultural and linguistic differences, high workload, and the involvement of doctors in providing decision support as barriers to providing decision support from the perspective of nurses.²¹ These results were inconsistent with the results of the present study which could be due to the differences in the duration of their workshops (8 hours in the present study and even less in Pyl and Menard study) or in their educational programs (in the present study, the contents were taught through lectures, group discussions, simulations, and real-life scenarios based on the ODSF, whereas in Pyl and Menard study, only lecture and group discussions were used to teach nurses).

Among the limitations of the present study, time limit for intervention, high workload in nurses' schedules, and lack of time for further meetings can be mentioned. Accordingly, it is recommended to conduct more training programs to further develop the DC skills of nurses. Among the strengths of this study, using standardized patients and an objective assessment of nurses' DC skills can be mentioned.

CONCLUSION

The results of this study showed that the application of the ODSF can enhance the DC skills of nurses. Accordingly, the inclusion of the ODSF in the nursing curriculum is highly recommended in order to improve the quality of nurses' care. Since ICU nurses play an important role in identifying and meeting the decision-making needs of ICU patients' families, they should receive appropriate DC trainings; accordingly, the ODSF-based training package used in this study can be used to train these nurses.

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