The effect of the SOAPIE nursing notes method on the quality of nursing documentation

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Abstract

Background: Nursing notes are among the most critical tasks for nurses, and not performing it in a correct manner will lead nurses to face numerous issues and problems. Nursing notes can be written in a variety of ways. One approach is the nursing process-based SOAPIE (Subjective, Objective, Assessment, Plan, Intervention, Evaluation) method. Thus, the present research was conducted to determine of the SOAPIE Nursing note Method on the quality of Nursing Documentation.

Methods: The present semi-experimental study was conducted in 2021 at Yasuj hospitals, in Iran. The samples consisted of 120 nurses selected through the convenience sampling method based on the inclusion criteria. The samples were assigned to two intervention and control groups through a random allocation method. Nursing notes using the SOAPIE method was implemented for 3 weeks in the intervention group after obtaining informed consent. The data were collected using the checklist of nursing documentation principles, which involved two sections of demographic information and nursing documentation-related items before the intervention and one month after the intervention. The mean score of each of the eleven principles was determined from the total score of 100. Three levels were considered in the tool's scoring: Poor (0-33), moderate (34-66), and favorable (67-100). The descriptive and inferential statistics methods (the chi-square test, independent t-test, and paired t-test) and SPSS software version 21 were used for data analysis.

Results: The total score of quality of nursing documentation had no statistically significant difference in the intervention and control groups before the intervention (P>0.05). However One month after the intervention, the total score of the quality of nursing documentation showed a statistically significant difference between the intervention and control groups (P=0.001). Before the intervention, the mean total scores of the quality of nursing documentation were 46.66±14.45 and 48.22±12.45 between the two intervention and control groups, respectively, and one month after the intervention, they were 91.53±5.98 and 48.52±12.61, respectively.

Conclusion: According to the results of this study, nursing notes using the SOAPIE method lead to promoting the quality of nursing documentation. Nursing documentation based on the high quality of nursing notes should always be taken into account. It is suggested that the findings of this study be employed for educational and research planning in nursing.

Highlights

What is current knowledge?

- Currently, there is not enough training related to nursing notes for nurses
- Nursing note is one of the heavy duties of nurses, where smallest mistakes and carelessness in this regard can cause professional problems for nurses.

What is new here?

- According to the findings of this study, nursing notes using the SOAPIE method can promote the quality of nursing documentation.

Introduction

Nurses are among the first caregivers of patients, and nursing notes is among the most significant nursing duties, which should be obvious, precise, and comprehensive and contain documentation of a patient's general condition or particular problems (1).

Nursing notes allow for the monitoring of recovery progress and the creation of a clinical record, which is an integral part of care, which is an inseparable component of care, and proves the nurse's collaboration with the patient. Thus, it should contain enough details to reflect that the nurse has successfully carried out his or her care responsibilities (2). The importance of nursing notes was noted by Florence Nightingale in the 19th century when she explained in her notes a formal collection process to evaluate individuals' health history (3). Favorable and high-quality nursing notes facilitates promoted quality of nursing care, efficient communication, and research. The use of nursing notes is a vital element in nursing care because it can make nurses more accountable for the care they provide (4). Nursing notes errors have been reported to be 35%-80% among nurses (5).

The incorrect, unclear, and illegible documentation has no legal value in courts. It has always led to suspicions and accusations against nurses by legal authorities because, from a legal perspective, the functioning of a medical team can be proven merely by documentation, and only a completely documented case is acceptable. Moreover, the majority of the studies carried out in Iran have mentioned the poor ability of nurses in nursing notes and the necessity of conducting a study in this regard in various cities (6).

Nursing notes can be performed in a variety of ways. One approach is the Problem-Oriented Medical Record (POMR), which underlines the patient's problem and encompasses several methods, such as Data, Action, Response (DAR), Subjective, Objective, Assessment, Plan (SOAP), and Subjective, Objective, Assessment, Plan, Intervention, Evaluation (SOAPIE) (7). The SOAPIE method makes it possible for the nurse to take subjective (such as an individual's general behavior) and objective (such as an individual's body temperature) criteria into account at the time of planning for care. This method consists of subjective + objective (S + O), assessment (A), plan (P), intervention (I), and evaluation (E) (8). According to the SOAPIE method, nursing care is based on the nursing notes method, nursing process, and nursing diagnoses proposed by Nanda (9). As demonstrated by the results of Nomura et al.'s study, educational interventions implemented by nurses gave rise to positive changes, improving nursing documentation and, consequently, better care procedures (10). Edith et al. also indicated that nurses' scores of knowledge level and the SOAPIE model were positively associated with the quality of nursing notes in the intensive care unit (ICU) ward (11). Nursing notes are one of the most crucial responsibilities for nurses, and the slightest error and incaution in this regard can lead to professional problems for nurses. A common issue in this regard is errors in the notes regarding the implementation of procedures, history, etc., by nurses. Nursing notes can be carried out in a variety of ways. Due to the existence of limited materials concerning applying this method in various articles, including in Iran, and given that less research has been conducted on the effect of using this method on nurses' quality of nursing notes, the research gap in this field is evident. Hence, this research was conducted to determine of the SOAPIE Nursing note Method on the quality of Nursing Documentation.

Methods

The present semi-experimental research was conducted in 3 educational-medical hospitals in the city of Yasuj, Iran, in 2021. The participants in this research consisted of 120 nurses from the internal, surgical, emergency, pediatrics, ICU,

and dialysis wards selected using a convenience sampling method. The samples were then assigned to two intervention (n=60) and control (n=60) groups based on a block random allocation method. Block random allocation was implemented in this way: The number of groups under investigation (two groups) was first multiplied by 2, and the number of samples in each block was calculated as 4. Then, through factorial calculation (4! =4×3×2×1=24), the number of blocks, 24 calculated blocks, was allocated by considering A (for the intervention group) and B (for the control group). Given that there were 4 people in each block and that the estimated sample size included 120 people, as indicated by the following description, by comparing 30 random numbers produced by the Sample Randomizer software with the numbers of the states mentioned above, the way of arranging 120 people in the research sample and the allocation of each number from 1 to 120 to one of the intervention and control groups were specified, and the block random allocation list was compiled. After explaining and clarifying the study objectives completely, qualified research samples were selected. The intervention group and the control group were selected from various wards and different hospitals, with no relation to each other, and each of them was given a code based on the time priority of referral. By comparing that code with the block random assignment list, the nurses participating in the research were placed into the intervention group or the control group. This process persisted until the estimated sample size was reached. The inclusion criteria included consent to participate in the study, having a bachelor's or master's degree in nursing, and having a work experience of at least one year. The exclusion criteria included previous participation of the nurse in similar studies and completing similar training courses within the past 6 months (12). Using the sample volume formula, based on the sample volume formula, and considering the parameters of α=0.05, 1-α=0.95, z_(1- α/2) = 1.96, β=0.2, 1-β=0.8, $z_1 - \frac{\alpha}{2}$ =0.85, S1=4.98, S2=2.24, μ_1 =24.43, μ_2=19.93 and a similar study (13), the number of samples needed in each group was calculated to be 112 people, and taking 10% probable dropout into account, 60 people participated in each group (intervention and control), and a total of 120 people participated in the study. The required permits and informed consent were obtained from the participants prior to starting the study. The nursing documentation checklist, a researcher-made checklist by Farzi involving two sections of demographic information and nursing documentation-related items, was used to collect the data. Three scores, including complete documentation (score=2), incomplete documentation (score=1), and non-documentation (score= 0), were allocated to each of the eleven principles for scoring the checklist questions. The mean score of each of the eleven principles was calculated from the total score of 100 to facilitate better understanding and comparison of the results and expressed as the percentage. The tool scoring involved three levels: Weak (0-33%), moderate (34-66%), and favorable (67-100%) (14). Farzi and Moladoost confirmed the self-validity of this tool in their study and reported a Cronbach's alpha coefficient of 0.85 for its reliability (14). The Cronbach's alpha coefficient was obtained to be 0.87 in the present research. The data were collected within two periods: Before the intervention and one month after the intervention. The data collection was performed in such a way that the researchers selected three nursing notes in the morning, afternoon, and night shifts from each of the participants and completed the nursing documentation-related checklist. In the following, a report-writing training using the SOAPIE method workshop was held for the participants in the intervention group for 3 weeks and 3 sessions (13). The training content contained explaining the objective, importance, and features of nursing notes in nursing, getting familiar with the framework, components, and steps of nursing notes using the SOAPIE method, mentioning the features of this model, and the way of documenting, repeating, and practicing nursing notes using the SOAPIE method. One month after the interventions (4), three nursing notes in morning, afternoon, and night work shifts were again selected from each participant. At last, at the end of the intervention, the participants re-completed the checklist of nursing documentation principles. No intervention was carried out in the control group. The collected data were analyzed through descriptive and inferential statistics (the chi-square, independent t-test, and paired t-test) using SPSS software version 21 by considering the 95% confidence interval.

Results

The current study aimed to determine the quality of nursing documentation in two intervention and control groups. According to the findings, no statistically significant difference was observed in the participants' demographic information (P>0.05) (Table 1). The results of the independent t-test demonstrated no significant difference between the two groups in terms of the mean total score of the quality of nursing documentation before the intervention, in the intervention group, and in the control group (P>0.05). As the independent t-test results show, one month after the intervention, a statistically significant difference was observed between the two groups regarding comparing the mean total score of the quality of nursing documentation in the intervention group (91.53±5.98) and the control group (48.52±12.61) (P<0.05). The paired t-test results showed that, regarding the within group comparison, the mean total score of the quality of nursing documentation in the intervention group was 46.66±14.45 before the intervention and 91.53±5.98 after the intervention, which was significantly

different (P=0.001). However, in the within group comparison, the control group showed no statistically significant difference in the total score of the quality of nursing notes before the intervention and one month after the intervention (P=0.23) (Table 2).

Table 1. Demographic information related the two intervention and control groups

Variable \ Group		Intervention	Control	Significance level
Age: Mean±SD		32.7±5.91	33.93±6.96	*0.29
Gender: N(%)	Male	18(30)	17(28.3)	**0.5
	Female	42(70)	43(71.1)	
Education level: N(%)	Bachelor	50(83.3)	52(86.7)	**0.39
	Master and above	10(16.7)	8(13.3)	

SD: Standard deviation
* Independent t-test
** Chi-square test

Table 2. Comparing the mean scores of qualities of nursing documentation in the two intervention and control groups

Quality of Nursing Documentation \ Group		Intervention group		Control group		Significance Level (Between groups)*
		Mean	Standard deviation	Mean	Standard deviation	
Morning shift	Pre intervention	45.92	15.02	48.50	14.39	0.34*
	Post intervention	90.27	7.75	48.72	14.59	0.001*
	Significance level (Within group)**	0.001**		0.62**		-
Afternoon shift	Pre-intervention	46.83	17.16	47.36	12.35	0.84*
	Post-intervention	91.63	6.96	47.97	12.46	0.001*
	Significance level (Within group)**	0.001*		0.15**		-
Night shift	Pre-intervention	47.21	15.77	48.80	14.51	0.56*
	Post-intervention	92.69	5.98	48.88	14.19	0.001*
	Significance level (Within group)**	0.001**		0.86**		--
Total score	Pre-intervention	46.66	14.45	48.22	12.45	0.52*
	Post-intervention	91.53	5.98	48.52	12.61	0.001*
	Significance level (Within group)**	0.001*		0.23**		-

* Independent t-test
** Paired t-test

Discussion

As demonstrated by the findings of the current research, comparing the intervention and control groups one month after the research intervention regarding the quality of nursing documentation indicated the effectiveness of the use of the SOAPIE method in nursing notes. It was shown that the quality of nursing notes was better in the intervention group than in the control group. Dutra et al. showed the existence of fewer violations in nursing notes among the nurses regarding date and time documentation, signature, and stamp documentation (professional identification stamp); they finally suggested that educational interventions could help improve nursing documentation (15). Oliveira et al. revealed that the quality of nursing process documentation in clinical decision support systems could help the quality of documentation, care management, observation of nursing actions, and patient safety (15). According to Briscoe et al., the documentation framework using the SOAP (IE) method usefully and positively influences improving nurses' performance. However, researchers have mentioned heavy workload, time limitations, and lack of understanding and instructions as obstacles to the proper and optimal use of the SOAP (IE) framework (17). According to Ramón and Amores, the use of the SOAPIE format by students during nursing internships culminates in the implementation of the nursing care process, and nurses' notes may be documented based on scientific evidence (18). These studies are matched with the present study. Sapkota et al. also suggest that SOAP-based documentation could further reinforce professional networks between pharmacists, physicians, patients, and other healthcare providers everywhere, provided that the notes are able to be incorporated into an electronic system and published through it (19). Furthermore, Moldskred et al. indicated that the quality of nursing documentation was not satisfactory, but the study revealed that clinical audits could help improve the quality of nursing documentation (20). Various nursing documentation approaches can be used in order to promote the quality of nurses' notes. One of these approaches is the SOAPIE method, which, according to the results of the study, has been shown to affect the quality of nursing documentation significantly. Accordingly, Adereti et al.'s study results also demonstrated that the quality of nursing documentation and nursing care plans was promoted using both electronic-based and paper-based documentation (21). Akhu-Zaheya et al.'s study revealed that the electronic health record was better than the paper-based health record regarding process and structure (22). Nevertheless, Sayyah-Melli et al.'s research revealed that the proper and standard medical documentation of a preliminary training course had no effect on amending the documentation and nursing notes process (23). The results of this study are not consistent with the present study; the reason for this inconsistency can be attributed to the intervention method and measurement tool. Some of the limitations of this

research include factors such as the presence of heavy shifts and nurses' fatigue due to the coronavirus disease 2019 (COVID-19), having no concentration, or the presence of mental and personal problems at the time of completing the checklists; the researcher eliminated these limitations by clarifying the study objective and getting the participants' attention, as well as by the coordination made to choose the appropriate place and time for the implementation of the intervention.

Conclusion

The findings of the current research indicate that nursing notes using the SOAPIE method promoted the quality of nursing documentation, leading nurses to write high-quality notes with fewer errors and helping the patient treatment process. Precise documentation and nursing notes are considered among a nurse's critical tasks and responsibilities, which can determine the subsequent status of a patient's treatment and care process. Nursing performance documentation based on the quality of nursing notes should always be taken into account. It is suggested that the findings of this study be employed for educational and research planning in nursing and also to reinforce high-quality and safe services at the bedside.

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Ethical statement

The present study was approved by the Vice-Chancellor of Research and Technology at Yasuj University of Medical Sciences (Code of ethics: IR.YUMS.REC.1400.070). In addition to receiving informed consent from all participants, they were assured of the confidentiality of their information.

Conflicts of interest

The authors declared no conflict of interest in this research.

Author contributions

M.L.R.: Providing the study idea and its guideline; M.S.M. and A.D.: Providing the study design; M.S.M. and M.R.: Conducting the research process and interventions; M.M.Z.: Analyzing the data. The initial draft of the article was prepared by (M.L.R and M.S.M.), and the revisions to the article were conducted by (M.L.R and M.S.M.).

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