

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Comparative Study on the Effect of Professional Ethics Education Using Two Methods, Group Discussion and Multi-Media Software on the Knowledge of Nursing Students.

Khalili A¹, Davodi M², Pouladi S³, Paymard A⁴, Shayan A⁵, Azodi P⁶, Azodi F⁷,
Molavi Vardanjani M⁸, and Jahanpoor F^{9*}.

¹Instructor, Department Of Pediatric Nursing, Hamedan University Of Medical Science, Hamedan, Iran. Bushehr University Of Medical Science, Bushehr, Iran.

²Instructor, School Of Medical And Sergical, Yasuj University Of Medical Science, Yasuj, Iran.

³Assistant Professor, Department Of Nursing Bushehr University Of Medical Science, Bushehr, Iran.

⁴Instructor, Department Of Critical Care Nursing, Hamedan University Of Medical Science, Hamedan, Iran.

⁵Instructor, Department Of Midwifery, Hamedan University Of Medical Science, Hamedan, Iran

⁶Assistant Professor, Department Of Anesthesia, Bushehr University Of Medical Science, Bushehr, Iran.

⁷A Member Of Research Komitteh, Bushehr University Of Medical Science, Bushehr, Iran.

⁸Instructor, Department Of Medical And Surgical Nursing, Hamedan University Of Medical Science, Hamedan, Iran.

^{9*}Associate Professor, Department Of Nursing, Bushehr University Of Medical Science, Bushehr, Iran.

ABSTRACT

Nurses are the largest group of service providers in the health system and need to be knowledgeable about moral language and be familiar with some related concepts. There are studies on lack of adequate knowledge of nursing students concerning professional ethics and education. Therefore, the aim of this research was to determine the effect of educational on the knowledge of nursing students in the field of professional ethics by using two methods which include group discussion and multimedia software. This is a quasi-experimental study with two groups of before and after. The sample is composed of nursing students in 6 and 8 terms in the School of Nursing and Midwifery, Bushehr University of Medical Sciences, who were trained in the form of multimedia and discussion groups. First, all the students were divided into two groups registering for the study and they were entered into two groups randomly, and number of the subjects in each group was 30. The tests were performed during three-step test which includes, before training, immediately after training and four weeks after training using the researcher made questionnaire on nursing ethics after the validity and reliability confirmation. Data was analyzed using the t-test and variance analysis by SPSS version 20 software. The mean score of knowledge was obtained in the multimedia as 11.23 and group discussion as 11.36, respectively. The difference between the two groups was significant and the discussion group had higher scores. No significant difference was observed between gender, education level, and interest in the field and the knowledge. The findings suggest significant differences in the mean scores of pre-test and post-test in the group discussion ($p=0.008$), and also post-test of discussion and multimedia groups ($p=0.005$), respectively. Although, moral education for both discussion and multimedia groups was effective in increasing the student learning of nursing professional ethics, this amount in the discussion group was more than that in the multimedia method. However, it seems that ethics education in nursing school is a requirement for a nursing moral growth. Therefore, both methods, especially group discussion method, can be used to teach professional ethics of nursing.

Keywords: Professional ethics, group discussions, multimedia, nursing students

**Corresponding author*

INTRODUCTION

Nursing ethics is a branch of medical ethics that has been affected by developments of this field. The current global developments include characteristics that have made requirement of ethics approach in the fields of medical-related professions an undeniable necessity[1,2]. One of these changes is using advanced technologies, changing pattern of diseases, increasing the life expectancy, increasing public knowledge and differences in the volume and type of requests related to health services, creating new areas such as organ transplantation and new methods for fertility, and the similar methods[3,4].

Despite the fact that there are books, magazines and multiple sources of professional ethics, teaching ethics is not the case where students can obtain a proper image of moral reasoning issue and in this field, it is required to acquire sufficient competence[5]. In the training programs, two overall patterns of teaching were conducted. The first model is master axis which aims to form behaviors, according to the preset pattern, and the professor mainstay is inclusive. In this model, students learn more and they also forget quickly. The second pattern that considers the learner's requirements and capabilities is called student-centered [6,7]. Multimedia education has increased development in education and has caused significant progresses in the industrial societies by helping the electronic revolution [8,9]. Multimedia software is a software which has three characteristics including text, picture and sound. Of course, some people included interactions in this category and it is called interactive multimedia software. In the multimedia education, all capabilities have been used to develop educational software and is used to train the educational contents by interactive approach in an attractive and diverse space[10]. On the other hand, teaching using discussion method is a student-centered educational method and by using this technique, students participate actively in educational activities and learn to take responsibility which allows them to share their views, opinions and experiences with others [11,12]. However, few teachers are familiar with the procedure and how it is used. Most members undergoing training are resistant against changes in education [13,14]. The research of Nasrabadi and colleagues in Tehran was based on the knowledge level of nurses in Tehran hospitals; 297 master and bachelor degree holders subjects participated. Total knowledge of nurses was not appropriate, the highest lack of knowledge was in making an effective relationship (86.7%) and the problems during medication (49.6%) [8]. In another study, Dehghani and colleagues examined the standards of professional ethics in nursing practice of Tehran, this study was conducted on 138 nurses and most of them had a satisfactory performance in most aspects of responsibility, improving the quality of patient care and respecting the patients (72.5 %). In all the dimensions, the observance of professional ethics was about 71% which had high satisfaction and nurses had a satisfactory performance[6].

Nursing students as well as other people welcome the ethical issues and moral concepts which have a positive effect that develop welcome and love feelings in all. Therefore, ethics concepts for nurses are familiar and valuable concepts; however, ethical decision making in real condition is not only possible by understanding the ethical implications and understanding their values [15]. Several complications that increased the problems through technological progress have occurred. Therefore, nurses must learn how to make ethically appropriate decisions in different circumstances to be qualified in this field[16]. Although, a few studies have been conducted in recent years in the field of knowledge of Iranian nurses on the rules and regulations of the profession which have mentioned this lack of knowledge, these studies have limited samples and have also failed to improve the situations in the proper way. On the other hand, the results and effectiveness of limited measures have not been studied by holding workshops on raising awareness about the rules and regulations of professional nursing [17]. For this reason and also due to the progressive increase of nurses' recruitments to the legal community, the present research determined the effect of group discussion and multi-media software on the knowledge of nursing students on the professional ethics.

MATERIALS AND METHODS

This quasi-experimental study was conducted on two before and after groups. The study population consisted of nursing students in Bushehr University of Medical Sciences that had at least studied for 6 semesters and conducted researches during the fourth-term in clinical practice. The entering criteria for students for the research included the tendency of students to participate in the research and being in 6th or 8th term of bachelor degree course in the Bushehr University of Medical Sciences, while the exclusion criteria included, studying for less than 2 terms. The students of 6th and 8th terms were allocated by simple randomization method for the two groups. After determination of the group discussion and multimedia groups

randomly, the names of students (6th and semester 8th separately) were written on a paper and were put in a box. After that, the students were placed in the pre-determined groups by picking the paper pieces and this was continued until the completion of the work. In the group discussion group, subjects were divided into 5 and 6 members group[18]. The number of students in each group was 30 patients according to the study. Data collection tool included a two-part questionnaire (5 questions) in which personal information was in the first part and the second part contained 21 questions with yes and no responses and the knowledge was evaluated using: correct answer had score 1 and a wrong answer had zero score). For evaluation of tools validity, the questionnaire was given to 10 members of Faculty of Nursing and Midwifery of Bushehr to determine the content validity and content validity index after preparing 21 statements from various sources: nursing ethics researcher with scientific panel (Supervisor and Scientific Advisor, Professor of Statistics) and after collection of data, the content validity and content validity index value were calculated as 0.73 and 0.90, respectively. The suitable score for higher content validity was considered as higher than 0.62 and reliability index of the content was considered as higher than 0.79 [19]. In order to determine reliability, internal consistency and external reliability were calculated. In this regard, Kuder Richardson method was used to measure the internal consistency and the value that was obtained was 0.65, and the Pearson correlation coefficient was calculated in order to assess the reproducibility (0.73). The researcher received the required introduction letter of Bushehr University of Medical Sciences and Health Services after obtaining approval from the Research Council of gaining Code of ethics Committee. After obtaining the approval of the central authorities, the research environment and purpose of the research study was clearly explained to students of both groups. Educational file of multimedia group was a combination of photos, PowerPoint presentations, videos and presentations with clips which was designed in the hospital environment and by nurses based on each single question that was approved after preparing ratification of Worshipful Master Certified Help and 8 professors (Criterion specialized expertise in education and Faculty of Nursing and Midwifery, Bushehr) and then confirmed it was on the CD.

In the first session, primarily, questions were given to the group discussion group and after completion and gathering the questions, the students were divided into the groups with 5 or 6 members and a representative was selected for each group. The considered content (the same questionnaire) was read in a quiet environment for all groups and representative of the group gave their own answers after the discussion on the issue in the group, and then discussion was begun in each group, and the researchers corrected their answers and finally presented right answers to the groups. After discussion and review of each questionnaire content, the post-test was performed. The first post-test was performed in order to evaluate the knowledge of students after the training while the second post-test was conducted in order to assess remembering the information trained on. Two groups discussions lasted for about 4 h. Reminder post-test was performed in this group a month later. After completion of two necessary sessions for the group discussion, the pre-test was performed for multimedia group and after gathering the questionnaire, the prepared multimedia contents for this group was played in a quiet space for 45 min and the researcher did not explain anything to this group and the post-test was performed immediately after the playing of the multimedia. Reminder was also done for this group like the group discussion group after one month. The collected information was analyzed using SPSS statistical software version 20 and descriptive analytical analysis. The descriptive statistics was performed using the descriptive statistics and percentages, minimum and maximum, mean and standard deviation for the participants. To compare mean in the two independent groups, t-test was used for comparison of the average before and after the intervention. In each group, the paired t-test was applied to compare the mean in more than two independent groups using ANOVA. All ethical issues such as freedom, respect for integrity, and compliance were observed in the framework of the research.

RESULTS

According to the results of this study, gender distribution in the two groups had no significant differences. The results of the age distribution of the participants showed that most subjects were in the age range of 23-22 years and few were in the range of 24 to 26 years. In terms of the semester distribution of the participants in this study, it was found that the groups were similar.. Data analysis also showed that majority of the participants in the group discussion were within the average of 14 to 15 and the subjects in the multimedia group were within the mean range of 16.1 and 17 in terms of frequency. In terms of interest in the field of data analysis, it was revealed that majority of the subjects in both group discussion (85.7) and multimedia (66.7) groups were interested in their field, but some students were interested in the group discussion.

Table 1: Average differences of awareness in grades 6 and 8 semesters students with regards to professional ethics in the pre and post-test of the discussion group.

Group comparison		Mean difference	Standard deviation	Significance level
Pre- test of group discussion	Pre- test of multimedia	-1.61	0.46246	0.008*
Post - test of group discussion	Post - test of multimedia	1.68*	0.46246	0.005*

Table 2: The difference in awareness mean score of nursing students with regards to professional ethics before and after training in both group discussions and multimedia groups.

Findings of the research	Comparison of pre- test		Comparison of post- test	
	Pre- test of group discussion	Pre- test of multimedia	Post- test of group discussion	Post- test of multimedia
Score	11.04	10.98	12.66	11.36
Mean	-0.31746		1.682540	
Standard deviation	1.79	2	1.22	1.55
Significance level	0.983		0.005	

DISCUSSION

Results of statistical analysis suggested that although in the pre-test, mean scores of knowledge of professional ethics in the group discussion group was more than that in the multimedia method, this difference is not statistically significant. The results of this part of the study are consistent with the results of Daneshmandi and colleagues [20] on the effect of education on self-aid and buddy aid using lecture and multimedia software package for the performance of military personnel. This study was conducted in Tehran on 300 nurses that are working. The other results of the statistical analysis suggested that the post-test scores of students with regards to ethnics of nursing profession ethics in the group discussion was higher than that of the multimedia group and it is noteworthy that this difference was significant. It seems that the increased awareness in the post-test students in the group discussion was due to the cooperation and collective conclusion in the group discussion method. This finding is consistent with the results of Meshki and colleagues in [21] on the comparison of the effectiveness of nutrition in both group discussions and multimedia methods with regards to women learning and also the study of Vahhabi and colleagues in which the effect of lecture and multimedia software triage were compared in nurses learning on the line. Their results demonstrated that immediately after education math, the learning level through the lecture was more than that of the multimedia method [22]. Additionally, these results are consistent with the findings of Liyaghatdar and colleagues on the effectiveness of group discussion method as compared to lecture on the progress of students of university of Isfahan which shows the effect of group discussion method on increasing awareness level of students in the educational methods [23]. Research of Daneshmandi and colleagues on increasing level of knowledge before and after training on self- and buddy-aid also support the present study [20]. The above findings is also consistent with that of Safari et al. after comparison of two methods, that is, lecture and group discussion in which students after undergoing the discussion method and comparing it with other methods that have been already taught, preferred discussion method which is more appropriate and express new ways as compared to other traditional methods [5]. Group discussion caused a significant increase in interaction skills, problems follow up, increase of confidence, reduction of embarrassment and shyness, and also increase of students' accuracy [18,24]. According to the researcher, since students actively participated in educational activities in the discussion method and opportunity is given to them to make comments, ideas and experiences with each other, they performed excellently when compared with other methods. The comparison of mean score of knowledge in the nursing students on professional ethics before and after training by group discussion method, by the analysis, was performed using paired t-test and ANOVA test which demonstrated a significant difference in students' awareness of ethics in the nursing profession before and after training using group discussion method ($p=0.008$), and students' awareness of the issue of nursing ethics after training with the group discussion method increased significantly and was consistent with the results obtained by Nayere Baghcheghi and colleagues [18] on the increase in the group discussion before and after the intervention when compared with lecture method and group discussion on communication skills with patients in nursing students as well as the results of quasi-experimental study conducted by Hekmatpour and colleagues [25] which establishes the superiority of group discussion over lecture in the course of ritual life. Group discussion

method enhances learning and satisfaction, dependence on members of the group, brainstorming, collective struggles, working in compliance with the group, and increased power to analyze and judge the students[25]. The researchers believe that since in the group discussion methods some cases such as the right to listen, carefulness, the rights of others, respecting the opinions of others, acceptance of the opposition, the formality conversation and dialogue and also silence are considered by students when necessary, therefore motivation and learning in this method is increased as compared to other methods. It should be noted that in group discussion method, all weak and strong students were in a thinking group and used the thoughts and beliefs of each other which strengthened the weak students, and thus, the score of the post-test increased in the group discussion due to the working and thinking atmosphere which did not exist in the multimedia method.

In order to compare the mean score of nursing students' awareness on professional ethics before and after training by multimedia method, the analysis was performed using paired t-test and it was found that there was no significant difference in multimedia teaching methods before and after the intervention ($p=0.963$). These findings are consistent with the results of Vahhabi and colleagues [22] which revealed no significant change in the score of multimedia software before and after the intervention in increasing learning about triage of nurses. This study is also consistent with the study of Mei Ling et al. titled: the comparison of effect of the multimedia and the experimental groups on self-education and basic functions of nurses with regards to patients with joint replacement in 2003. A study by Mei Ling confirmed the superiority of the experimental practices over the multimedia method in education of nurses in terms of hip replacements and there was no significant difference between scores in before and after training in the multimedia method [26]. Being quiet and just a good listener, inactivity and lack of active participation of students in education, lack of applying the opinions of other students, and lack of focus on the issues and not challenges demonstrated can explain the learn level lower-than-expected. In comparing the mean score of knowledge of nursing students on professional ethics before and after training in the group discussion and multimedia, there were differences between the two groups in terms of awareness of the amount of the difference which is related to the first pre-test and also the first post-test.

Group discussion group in the pre-test had slight superiority as compared to the multimedia group in the knowledge score and had higher scores while the difference in the two groups was not significant. This superiority was observed in the first post-test after training. At the first post-test, group discussion gained higher score than the multimedia group and the difference was significant and consistent with the results of studies conducted by Liaghatdar et al[23] Hekmatpour et al[25], Adib Haj Bagheri[16] and Rahmati et al[27]. Communication and social skills in the college nursing students is very important and valuable and was obtained in the discussion group. Students in the group discussion method on one hand, carefully applied the opinion of other members clearly, and on the other hand, they were obliged to provide logical and reasonable answer for acceptance or rejection of their ideas, and both require provisions and principles of logical frameworks for special communication between all the members of the group. Therefore, learning life skills such as cooperation and interaction with others is obtained best through group discussion. In order to evaluate the effect of multimedia, Mollazade et al[28]. stated in their study that despite the lack of apparent differences in teaching methods for students, remembering multimedia techniques requires more time than some other methods. The findings of this study support that of Wahhabi and colleagues. The author believes that memories of a long movie, multimedia content such as videos, PowerPoint, etc. are also designed to remain longer in the minds of students.

CONCLUSION

The results of this study showed that the two methods: group discussion and multimedia methods were both effective in professional ethics for nurses, and both of them can be used to teach professional ethics in nursing, but a significant difference in the group discussion method with regards to the multimedia was observed. The present study confirmed the superiority of the multi-media group discussion. Therefore, according to the findings of this study, the group discussion method can be used as a more effective way to teach professional ethics in nursing.

ACKNOWLEDGEMENTS

This study is part of nursing senior thesis research project in Bushehr University of Medical Sciences. All the students of Bushehr University of Medical Sciences and Research Deputy who were willing to cooperate and participate in the study are sincerely acknowledged.

REFERENCES

- [1] Horton K, Forget A. nurse ethics 2007;14(6):24.
- [2] Moeini B HS, Hosseini Z, Aghamolaei T, Moghimbeigi A. JRHS 2011;11(2):8.
- [3] Borhani F, Mohammadi E. Journal of Medical Ethics 2009;2(3):11.
- [4] Hazavehei SMM, Kargar SG. JRHS 2008;8(1):10.
- [5] Safari M, Ghafarian H, Yazdanpanah SH. Iranian Journal of Medical Education 2006;6(1):5.
- [6] Dehghani A. Journal of Nursing and Midwifery, Birjand 2012;9(3):8.
- [7] Karimi M, Shamsi F, Moradi J, Yavar Ahmadi A, Baghianimoghadam B. JRHS 2013;13(1):4.
- [8] Tefagh MR, Mehran A, Din Mohammadi N. Hayat J 2005;10(23):8.
- [9] Jahanpour F, Khalili A, Pouladi S, Zoladi M, Dehghanian H. Armaghane-danesh 2014; 19(9): 788-796.
- [10] Khani Jeihooni A, Kaveh MH, Hajizadeh E. Journal of Research in Health Sciences 2015;15(1):5.
- [11] Adib haj bagheri M. Journal of Forensic Medicine 2009;17(1):7.
- [12] Hazavehei JA, Hasanzadeh A, Amini SH. Journal of Research in Health Sciences 2010;10(2):8.
- [13] Larijani B, Zahedi F, Motevaseli E. Developing World Bioethics 2006;6(2):4.
- [14] Jahanpour F, Khalili A, Ravanipour M, Nourouzi L, Khalili M, Dehghan F. Armaghane-danesh(YUMSJ).2014;19(3):223-32
- [15] Walerius T, Anderson MA. Clinical Nurse Specialist 2009;23(6):4.
- [16] Adib-Hajbaghery M. Feyz, Journal of Kashan University of Medical Sciences 2010;14(2):8.
- [17] Yaghobian M, Salmeh F, Golmohammadi F, Safari R, Ghanei N, Habibi KH. Iranian Journal of Medical Education 2010;9(4):8.
- [18] Baghcheghi N, Kouhestani, H., Rezaei, K. Iranian Journal of Medical Education 2010;3(10):5.
- [19] Schultz K, Whitney, DJ. SAGE Publications 2005;35(3):5.
- [20] Daneshmandi M, Asgari, A., Tadrissi, A., Ebadi, A., Mokhtari noori J. Iranian Journal of Military Medicine 2011;1(13):4.
- [21] Meshki M, Sayedi sani kh. sums journal 2014;21(3):9.
- [22] colliques VSa. Iranian Journal of Critical Care Nursing 2011;4(1):7.
- [23] Liyaghat dar M, abedi, M., jafari, A., bahrami, F. Institute for Humanities and Cultural Studies Portal Comprehensive Human 2004;5(3):5.
- [24] Goli SH, Moghimbeigi A, Poorolajal J, Heidari Pahlavian A. Journal of Research in Health Sciences 2010;10(2):5.
- [25] Hekmatpour D, Seraji, M., Ghaderi, T., Ghahremani, M., Naderi, M. Qom Univ Med Sci 2013;7(1):6.
- [26] Mei-Ling Y, Hsing-Hsia, Chen., Pi-Hsia, Liu. Patient Education and Counseling 2005;57(2):7.
- [27] Rahmati A, etemadi, A. Journal of Tabriz University of Medical Sciences 2006;1(4):24.
- [28] Mollazadeh H, Kameli, A., Jafari chogan, M., Mirhosseini, F., SHOja, M. Journal of North Khorasan University of Medical Sciences 2014;6(1):6.