

ORIGINAL PAPER

The Effect of Touching for Level of Anxiety and Skills to Advanced Practice of Nursing Students

Nazan Kilic Akca, PhD, RN

Asist. Professor, University of Bozok, School of Health, Department of Medical Nursing
Yozgat, Turkey

Esin Arslan, RN, MSc

Research Asist. University of Bozok, School of Health, Department of Psychiatric Nursing
Yozgat, Turkey

Mürüvvet Baser, PhD, RN

Assoc. Professor University of Erciyes, Health Science Faculty, Department of Gynecology and Obstetric
Nursing, Kayseri, Turkey

Emine Gul Kuzucu, RN, MSc

Erciyes University Children's Hospital, Kayseri, Turkey

Correspondence: Asist. Prof. Nazan KILIÇ AKÇA, University of Bozok, School of Health, Department of Medical
Nursing, 66200 Yozgat / Republic of Turkey E mail: nazanakca7@hotmail.com

Abstract

Aim: The anxiety of nursing students about the administration of intramuscular injection reduced nursing skill performance. The research was conducted in order to evaluate the effect of touching among the students who performed the administration of intramuscular injection on a model for the first time upon the level of anxiety and success.

Design: Single blind experimental study.

Methods: The study was conducted with the first year nursing students (n=49). The students whose school numbers were even number were assigned to the intervention group (n=24) whereas the students whose school numbers were odd numbers were assigned to the control group (n=25). The shoulders of the students in the intervention group who administered injection were touched for averagely 3-5 minutes while the students in the control group were not done anything. The data of the research were collected using a personal information form, guide for intramuscular injection administration skills and state-trait anxiety inventory. The necessary official permissions for the research and informed consents of the students were obtained. The data were evaluated using Wilcoxon, Kruskal-Wallis and Man-Whitney U test.

Results: The level of anxiety of the students who were touched was significantly lower than that of control group. The level of stress had a dealing tendency and the nursing skill performance level was significantly higher than that of control group.

Conclusions: Touching suggested as an effective nursing intervention did reduce the anxiety and promoted nursing skill performance of nursing students. Touching may be used by the academic personnel so that nursing students can get psycho-motor skills during the intramuscular injection administration.

Key Word: Intramuscular injection, touching, anxiety, success, nursing education, nursing students

Introduction

An education of high quality plays an important role in the increased nursing knowledge and professionalism of nursing. Therefore, nursing education should be provided by the instructors who had high self confidence and good interpersonal communication, use appropriate educational techniques have high level of clinical knowledge and skills and encourage the students to adopt critical thinking (Karadağ-uçan 2006, Kılıç Akça 2009). Anxiety exists in almost everybody at different levels. Particularly, learning a new skill may lead to anxiety for the individuals. A certain amount of anxiety increases motivation and facilitates learning while an anxiety level over moderate decreases learning productivity (Cüceloğlu 1996). Undoubtedly, teachers have big responsibilities for decreasing anxiety of the students during professional practices. New teaching methods have been tried in many nursing schools so that professional skill trainings can be more productive and useful. Touching, an important type of communication is such a different need that it should not be confused with other important communication types and plays a key role in healthy growth of the individuals (Routasalo 1999). Communication through touching is a positive behavior that is simple, honest, direct and excites the individual yet increases the sense of confidence. Touching helps individuals to concentrate on what they do by creating a positive effect upon their perception-understanding skills (Bozkut 2008, Gleeson- Timmins 2005, Arslan 2010).

The experience/idea that intramuscular injection administration, which is one of the invasive professional skills in nursing, will be administered for the first time on models and humans may cause anxiety by threatening psychological and physical health of the students. Intramuscular injection administration not only increases students' state anxiety but also may affect the success of injection and the level of their future professional success negatively (Sabuncu et al. 2008, Tel et al. 2004, Baydil 2009). In the nursing education, it has become compulsory to use alternative methods –

apart from traditional methods- in order to improve the education of laboratory and clinical skills of the students (Kılıç Akça 2009). Touching is a practicable method that may be used by the nurse instructors because it does not require a special training (Arslan 2010, Buckle 1998). If nurse instructors use touching in the clinical teachings, self confidence of the students increases during the practice and enables them to concentrate on the practice and may increase the level of success (Bozkurt 2008, Gleeson- Timmins 2005).

Study aims

1. to determine the effect of touching upon the level of anxiety among the students who administered intramuscular injection on a model for the first time.
2. to assess the effect of touching upon the level of success among the students who administered intramuscular injection on a model for the first time.

Methods

Participants

This is a single blind and experimental research conducted in order to evaluate the effect of touching among the first year nursing students who performed the administration of intramuscular injection on a model for the first time upon the level of anxiety and success. First year students of a nursing school participated in the study. The Course "Nursing Fundamentals" taught in first year at the Nursing School includes theoretical and applied topics related to basic nursing skills. After the theoretical part of the course has been finished, the students are expected to practice some basic nursing skills in the practice-laboratory until they become proficient in these skills. The students who become sufficiently proficient in these skills go on the phase of hospital internship.

All of the first year nursing students (n=49) who practiced in the practice-laboratory for nursing fundamentals and accepted to participate in the study were included in the research. The students whose school numbers were even number were assigned to the intervention group (n=24) whereas

the students whose school numbers were odd numbers were assigned to the control group (n=25).

Data collection instrument

The data of the research were collected using a Personal Information Form designed by the researchers, Guide for Intramuscular Injection Administration Skills and State-Trait Anxiety Inventory. Personal Information Form (PIF) included 7 questions that aimed at some characteristics (age, sex, family type, etc.) of the students. State-Trait Anxiety Inventory (STAI) was developed by Spielberger et al. and its Turkish adaptation was performed by Öner and LeCompte. The inventory measures levels of behavior/quality, state anxiety and trait anxiety. The inventory consists of 2 scales containing 20 items. While answering the state anxiety scale; according to the severity of the feelings, thoughts or behavior that the item corresponds; an option is marked (“not at all”, “somewhat”, “moderately so”, “very much so”). As for answering the trait anxiety scale; according to the frequency of feelings, thoughts or behavior that the item corresponds; an option is marked (“almost never”, “sometimes”, “often”, “almost always”) (Öner 1994). Guide for Intramuscular Injection Administration Skills (GIMIAS) was developed so that intramuscular injection can be administered by everybody in a standard, correct and proper way. Each item of the guide that has 18 items is marked as “needs to be improved”, “enough” and “proficient”. If the students cannot perform the phase of the procedure at all or perform the phase wrongly or confuse the order of the phase, they get 1 point; if they perform the phase of the procedure correctly according to its order but there are missing parts and/or if the students need the help or reminder of the instructor, they get 2 points and if the students perform the phase correctly, straight away and without any help and without confusing the order, they get 3 points (Technical Skill Guide 2009).

Intervention: The practices in the practice-laboratory were performed with intramuscular injection models. A quiet and calm physical atmosphere was created both for intervention group

and control group so that they could concentrate on the practice.

First, the students were asked to fill in PIF and STAI. An instructor softly touched the shoulders and arms of the students in the intervention with hand for averagely 3-5 minutes while the group was administering intramuscular injection on the model and an oral communication between the instructor and the student was maintained during the administration of intramuscular injection. Another instructor watched and recorded the practice of the student according to GIMIAS. The students in the control group were taken to the practice-laboratory together with intervention group but they were not touched. While the students in the control group were administering intramuscular injection, an instructor continued oral communication and coached them. Another instructor watched and recorded the practice of the student according to GIMIAS. The procedure was repeated until the students of both intervention group and control group performed all phases correctly and they filled in STAI again at the end of the procedure.

Ethical considerations

The research was conducted after written official permissions from the directorate of nursing school and written informed consents of the students were obtained. The students were asked only to fill in PIF and STAI without giving information about touching procedure which would be provided to the students.

Data analysis

Statistical analyses of the survey data were conducted using the computer software, Statistical Package for Social Science. The data of the study were presented in numbers, percentages, means, medians and standard deviations. The analysis of the data was performed using Wilcoxon T test, Kruskal-Wallis and Man-Whitney U test.

Results

Demographic data

It was found out in the intervention group that mean age was 19.9 years, 58.3% was girl students

and 45.8% of the girl students told to have a passive personality. More than half of the students (58.3%) chose the nursing profession voluntarily and 91.7% told to be happy with being a nursing student. As for the control group, 76% was girl students and mean age was 19.6 years. 40.0% told to have a passive personality and 52% preferred the nursing profession voluntarily and nearly all of them (92%) told to be happy with being a nursing student. Mean school success of the intervention group was 2.1 whereas mean school success of the control group was 2.2 over 4 point grading system (Table 1).

It was found out that there was an increase in median scores of the state anxiety by 15.3% in the intervention group after touching process ($p<0.05$) whereas there was a decrease in the median scores of the state anxiety by 25% in the control group after touching process ($p<0.001$). It was noted that median score of the trait anxiety in the intervention

group increased by 31.4% ($p<0.01$) whereas the increase of median score of the trait anxiety in the control group was by 40.7% ($p<0.01$). State anxiety scores and trait anxiety scores of the both groups - before and after touching procedure- were found to be statistically different in terms of intra-group and inter-group analysis ($p<0.05$, Table 2).

62.5% of the students in the intervention group performed 15 of the 18 phases of GIMIAS correctly while it was by 37.5% in the control group. 20.8% of the intervention group completed the first intramuscular injection without any errors while only 4% of the control group finished the first intramuscular injection without any errors (Table 3). It was observed that intramuscular injection administration skill was better and number of the phases performed correctly for the first time was higher among the intervention group ($p<0.05$, Table 4).

Table 1. Descriptive Characteristics of the Students

Characteristics	Intervention group (n=24)	Control group (n=25)
Mean age (years)	19.9 (18-27)	19.6 (18-23)
Mean grades	2.1 (0-4)	2.2 (0-4)
Sex	n (%)	n (%)
Girls	14 (58.3)	19 (76.0)
Boys	10 (41.7)	6 (24.0)
Self perception		
Passive	11 (45.8)	10 (40.0)
Assertive	8 (33.3)	9 (36.0)
Manipulative	3(12.5)	4 (16.0)
Aggressive	2 (8.3)	2 (8.0)
Choice of Nursing		
Voluntarily	18 (75.0)	18 (72.0)
Involuntarily	6 (25.0)	7 (28.0)

Table 2. Distribution of Means and Medians of Anxiety Scores of the Students before and after Toughing

Parameter	Intervention group		z p	Control group		z p
	Before the procedure $\bar{X} \pm SD$ Median (min-max)	After the procedure $\bar{X} \pm SD$ Median (min-max)		Before the procedure $\bar{X} \pm SD$ Median (min-max)	After the procedure $\bar{X} \pm SD$ Median (min-max)	
State Anxiety	52.3 ± 3.7 52 (46-58)	56.0 ± 7.5 60 (24-65)	-2,132 .033	52.0 ± 5.3 52 (39-60)	39.7 ± 8.8 37 (23-60)	-3,837 < 0.001
Trait Anxiety	26.5 ± 7.0 25.5 (16-42)	32.2 ± 8.0 27 (17-36)	-3,204 .001	28.5 ± 5.1 27 (17-36)	37.8 ± 5.6 38 (28-45)	-3,630 < 0.001
U P	294.50 0.912	70.00 < 0.001		230.0 0.160	180.5 0.017	

Table 3. Distribution of Intramuscular Administration Skills of the Students

	Intervention group (n=24)		Control group (n=25)	
	n	%	n	%
Skill in the first practice				
1 (needs to be improved)	1	4.2	8	32.0
2 (enough)	18	75.0	16	64.0
3 (proficient)	5	20.8	1	4.0
The number of the phases performed correctly in the first practice				
11 phases correctly performed	0	0.0	1	4.0
12 phases correctly performed	1	4.2	2	8.0
13 phases correctly performed	4	16.7	4	16.0
14 phases correctly performed	4	16.7	9	36.0
15 phases correctly performed	2	8.3	4	16.0
16 phases correctly performed	3	12.5	1	4.0
17 phases correctly performed	5	20.8	3	12.0
18 phases correctly performed	5	20.8	1	4.0

Table 4. Success Status of the students in terms of Intramuscular Injection

Success Status	Intervention group (n= 24)	Control group (n= 25)	U <i>p</i>
	$\bar{X} \pm SD$ Median (min-max)	$\bar{X} \pm SD$ Median (min-max)	
Skill Status *	2.2 ± 0.5 2 (1-3)	1.7 ± 0.5 2 (1-3)	185.5 0.005
The number of the phases performed correctly in the first practice	15.6 ± 2.0 16 (12-18)	14.6 ± 1.8 14 (11-18)	199.5 0.041

* 1 (needs to be improved) 2 Enough 3 Proficient

Discussion

Nursing education is a profession that includes theoretical and practical educational experiences and its main objective is to train nurses who can fully use all of their potentials. The theoretical knowledge given is turned into practical skills through models used in the practice laboratories or practices of the volunteer students to each other due to the authenticity. During the time when the theoretical knowledge given is turned into practical skills, the obscurity causes anxiety at different levels among the students. Therefore, academic personal take big responsibility in order to keep the students' anxiety at a level that does not decrease success and to increase the practice success. In the current study, it was aimed to decrease the students' anxiety and to increase their performance by touching due to the assumption that their anxiety level would increase when they administered intramuscular injection –a painful intervention- on model for the first time. However, in light of research findings, the state and trait anxiety experienced by the intervention group before the intramuscular injection administration procedure increased after the procedure. As for the

control group, state anxiety which was high before the intramuscular injection administration procedure decreased after the procedure whereas their trait anxiety increased (Table 2). Yet, trait anxiety of the intervention group was lower than that of control group and the increase was smaller. In the study of Sabuncu et al. (2008) in which anxiety levels of the students who administered intramuscular injection administration were investigated; it was reported that state anxiety levels increased before the intramuscular injection administration compared to the normal time and then these levels decreased. The study of Tel et al. (2004) pointed out that more than half of the students experienced moderate level of state anxiety and almost all of them experienced moderate level of trait anxiety before the intramuscular injection administration at the practice-laboratory. Unlike our study, the study of Speck (1990) indicated that guided imagery decreased anxiety level of the students before the intramuscular injection administration.

Although touching did not decrease the anxiety level of the students, it increased the success of intramuscular injection administration ($p < 0.005$)

(Table 4). In the first practice, the number of the students who performed ≥ 15 of the 18 phases of GIMIAS correctly was 15 in the intervention group whereas this number was 9 in the control group (Table 3,4). Also, it was noted that skill of the intervention group was better than control group (Table 4).

The study of Suk et al. (2002) reported that guided imagery decreased anxiety level of the students and increased the performance level of the intramuscular injection administration significantly compared to the control group. Anxiety, increasing at a certain level before the procedure, is also an indicator of help and support the individual needs. Therefore, it is very important for the instructors to explore the anxiety experienced by the students before the intramuscular injection administration and to manipulate it positively. It is emphasized in literature that instructors may give messages to the students using touching. It is suggested that such messages as sincerity, respect, attention, safety, comfort, warmth, encouragement and acceptance are conveyed via touching (Arslan 2010).

Communication with touching is simple, honest, direct and exciting behavior but it also increases sense of confidence positively. Touching somebody helps individuals to concentrate what they do by creating a positive effect upon their perception-understanding skills (Educational Psychology, Arslan 2008). Therefore we can use touching not only in the practice-laboratory of the course of the nursing fundamentals but also in other applied courses in order to increase the success of the students.

Conclusion

Touching used during the training of intramuscular injection skill increased both anxiety and success levels of the students.

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