

Original Article

Nursing Students' Attitudes Toward Research-Development: Does Taking Research Course Make a Difference?

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Abstract

Objectives: To compare awareness of and attitudes to research and participation in research activities between nursing students taking a nursing research course and those not taking the course.

Methods: A quantitative descriptive-comparative study was conducted in a nursing department of a university in Aegean Region in Turkey between 16 November and 11 December 2015. Totally 860 students were enrolled in the study. Of the 380 students took a research course, and 480 did not take course agreed to participate. No sample selection was performed. The participation rate was 60% (n:522).

Results: The mean age of the students was 20.72±0.95 years, 86.3% of the students were female (n=451). More than half (63.4%) of the students taking a research course and 34.5% of the nurses not taking it reported that they participated in a scientific meetings. A significantly higher rate of the students taking the course participated in scientific meetings ($\chi^2=43.12$, $p=.000$), involvement in a research activity ($\chi^2= 6.55$, $p=.001$), participated in research as a subject ($\chi^2=5.90$, $p=.019$) and collected data on behalf of a researcher ($\chi^2=5.99$, $p=.016$). The students taking the course got the total mean score 121.49±7.30 for the scale and the mean item score 4.19±0.53. Those not taking the course got the mean total score 120.25±6.6 for the scale and the mean item score 4.14±0.54. The former group of the students received higher scores for awareness of and attitudes to research without a significant difference ($U=3.219$; $p:0.33$).

Conclusions: Both groups of the students are similar in terms of their awareness of and attitudes to research and advances in nursing. However, a higher rate of the students taking a research course actively contributed to research by joining scientific meetings and research activities and collecting data for another researcher's study.

Keywords: Awareness, attitude, research, research course, nursing students.

Introduction

Research is briefly defined as “a systematic inquiry that uses disciplined methods to answer questions or solve problems” (Polit & Beck, 2012). Nursing research is an inquiry into professional activities related to nursing interests and responsibilities. Using evidence from

nursing research in nursing practice has been emphasized in the literature (Houser, 2012). Research utilization is of great importance for the next generation of nurses to acquire such skills as conducting research, reading scientific articles, making independent clinical decisions and problem solving. Therefore, creation of interest

in nursing research is a priority for nursing schools and nurse educators (Halabi & Hamdan-Mansour, 2010; Mohsen et al., 2016). International Council of Nurses has stated that professional nursing can only be achieved by evidence based practices and emphasized that it is necessary to offer education for research so that research can be conducted, research capacity can be enhanced and nurses and nursing students can evaluate research critically (International Council of Nurses, 2012).

Undergraduate education has a positive impact on students to acquire a basic viewpoint about research and motivate them to undertake research (International Council of Nurses, 2012). The first step into effective utilization of research, which makes great contributions to improvement of nursing, is training for research during undergraduate education. The research course should be incorporated into all undergraduate education programs and curricula (Finkelman & Kenner, 2013).

So that undergraduate nurses can become an effective research reader and put research findings into practice, they should be able to understand research reports, criticize them and understand stages of research (Cepanec et al., 2013). As Robichaud-Ekstrand reported that having sufficient knowledge about research is instrumental to professional role development and sustaining a research culture (Robichaud-Ekstrand, 2016).

With the introduction of baccalaureate nursing education in Turkey in 1955, an introductory nursing research course started to be offered (Bayik, 2004; Temel et al., 2010). The aim of this obligatory course in nursing education is to encourage students to conduct nursing research, to stimulate interest in data collection and to motivate utilization of research findings in practice. Baccalaureate nursing education allows students to get to know research subjects and to acquire research related values and skills (Akin & Ege 2008). The first nursing studies in Turkey have appeared with the introduction of nursing education at baccalaureate and master of science levels (Emiroglu, 2004). One of the requirements to graduate from a baccalaureate nursing education program in Turkey is to get involved in research cooperatively with health professionals and professionals from other disciplines. One of the objectives of this education is also to enable nursing students to be

able to evaluate research from a critical point of view and to make use of evidence based practices (National Core program in nursing-HUCEP, 2014). It is known that research has many benefits such as accumulation of knowledge, making better decisions, lowering costs and development of individual research skills. It is important to put research findings into practice to offer evidence based nursing practices and high-quality nursing care (Aiken, 2014; Slattery et al., 2016).

Among research activities expected from nursing students are; reading research articles critically, collecting and reporting reliable and valid data, attending nursing conferences, using library resources, and prepare abstract or paper presentation (Slattery et al., 2016). A nursing research course is effective in increasing knowledge about steps of research and getting the ability to evaluate results of research as well as having a positive attitude towards research (McCleary & Brown, 2003).

Many studies have emphasized importance of revealing nursing students' awareness of and attitudes to research (Arthur & Wong, 2000; Ax & Kincade, 2001; Bjorkstrom & Hamrin, 2001; Dobratz, 2003; Halabi & Hamdan-Mansour, 2010). In a study by Hek and Shaw (2006), novice nurses thought that what they learned in a nursing research course at school was not related to clinical practice after three-month experience, but 12 months later they believed that they needed research in their available and future work.

Halcomb and Peters found that nursing students mostly considered research as a complicated process (Halcomb & Peters, 2006). Kennel et al. (2009) reported that nursing students regarded research projects to be intimidating compared to other responsibilities required by their education programs. Although there have been many studies from various countries on opinions and attitudes of nursing students towards research (Bjorkstrom & Hamrin, 2001; Hekkila, 2005; Mattila et al., 2005; Akin & Ege, 2008), there have been few studies on effects of taking a nursing research course on the students' awareness of research and their involvement in scientific activities (Celik et al., 2014; Ertug & Onal, 2014).

Only when the effects of taking the course on awareness of and involvement in research are revealed, education programs and research

activities can be organized in accordance with arising needs. Aim of this study was to compare awareness of and attitudes to research and participation in research activities between nursing students taking a nursing research course and those not taking the course.

Methodology

Study population

This comparative descriptive study was conducted in a nursing department of a university in Aegean Region in Turkey between 16 November and 11 December 2015. The study population includes 860 nursing students. Of the 380 students took a research course, and 480 did not take course agreed to participate. No sample selection was performed in order to reach the whole universe. The participation rate was 60% (n:522).

The nursing faculty in which the present study was done includes nursing research course at the curriculum. The research course was mandatory and offered in the second year/spring semester nursing students. All the students were invited to join the study. Table 1 shows nursing research course program.

The data was collected from volunteer students in the classroom. The paper and pencil technique was used. It took approximately 10-15 min for each of the students to fill in the form. This study was approved by the Ethics Committee of Ege University Faculty of Nursing in Turkey and was conducted in accordance with Declaration of Helsinki. Participation was voluntary, confidentiality was guaranteed and informed consent was obtained from all the participants. In order to ensure anonymity, no identification was done at an individual level, but only at a group level.

Measurements

Data were collected by self-report questionnaire. The questionnaire included three parts. The first part was used to collect the demographic data (age and gender) of the respondents. The second part was developed based on previous literature to include nine questions about scientific activities and the importance of a nursing research course (Bjorkstrom & Hamrin, 2001; Bayik et al., 2008).

The nursing students were asked about participating in a scientific meeting, reading a scientific publication, engaging in research

activity, planning and performing research, taking part in the publication of research, and collecting data. The third part included the Nursing Students' Attitudes Towards and Awareness of Research and Development within Nursing Scale (Version II (Bjorkstrom & Hamrin, 2001). The original scale was developed in English which consisted of 36 items and seven subscales. The Turkish version of the scale was tested by Bayik et al.(2008) for its reliability and validity and was shown to have good psychometric properties. Internal consistency reliability coefficient was .89 for the total scale, and the total item correlation coefficients ranged from .24 to .60. Confirmatory factor analysis revealed that the Turkish version was not similar to the original scale and it would be more valid to use a one-factor structure with 29 items. The scale included 12 negative items (2, 4, 6, 8, 10, 12, 14, 16, 18, 21, 23, and 26) and 17 positive items (1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 20, 22, 24, 25, 27, 28, and 29). Twenty-nine items in the Turkish version of the scale are directed towards revealing attitudes towards nursing research. It is a five-point Likert scale: 5-corresponding to agree to a very great extent, 4-agree to a great extent, 3-agree to a certain extent, 2-agree to a very little extent and 1-do not agree at all. A higher score indicates positive attitude (Bjorkstrom & Hamrin, 2001; Bayik et al., 2008).

Statistical Analysis

Data were analysed using the Statistical Package for Social Sciences (SPSS) for Windows 16.0. When the data were computed, negative statements were changed to positive, with a score of 1 counted as 5 and a score of 5 as 1. The test showed that the values of the scale were not normally distributed (Kolmogorov-Smirnov $Z=0.086$, $p=0.04$), they were analyzed with the non-parametric tests Mann Whitney U test, independent samples t test and Chi-square test. The significance level was set at $p<0.05$.

Results

The students were aged 18-26 years with a mean age of 20.72 years ($SD\pm 0.95$). Female students accounted for 86.4% of the sample. Of all the students, 55.6% were the second year students and 44.4% were the third year students. Table 2 shows the distribution of the students taking a nursing research course by their involvement in research activities.

Table 1. Nursing Research Course Program

Weeks	Course Topics
1st week	Scientific Method, Nursing and Research
2nd week	Stages in the research process
3rd week	Components of the research process
4th week	Study designs- Quantative designs
5th week	Study designs- Qualitative designs
6th week	Populations and samples, types of sampling
7th week	Collecting the data
8th week	Research ethics
9th week	Analyzing the data
10th week	Results and discussion
11th week	Preparing research report /Outcomes research
12th week	The research report and publishing
13th week	Research barriers and research utilization

Twenty-four point six percent of the students taking the course and 23.1% of the students not taking the course reported to follow a scientific publication ($\chi^2=.153$, $p=0.756$).

There was not a significant difference in participating in a scientific meeting ($\chi^2=43.12$, $p=0.000$), involvement in a research activity ($\chi^2=6.55$, $p=0.013$), and collecting data on behalf of a researcher ($\chi^2=5.99$, $p=0.016$) between the groups of the students

Table 3 shows mean item and total scores of the students taking a nursing research course and

those not taking the course for Nursing Students' Attitudes to and Awareness of Research and Development within Nursing Scale (Version II). The nursing students taking the course got the mean total score of 121.49 ± 7.3 for the scale and the mean item score of 4.19 ± 0.52 . The students not taking the course received the mean total score of 120.25 ± 6.6 for the scale and the mean item score of 4.15 ± 0.56 . Although the students taking the course got higher scores for awareness of and attitudes to research, the difference was not significant ($U=3.219$; $p=0.33$).

Table 2. The Distribution of the Students Taking a Nursing Research Course and those not taking the Course by Their Involvement in Research Activities

	Nursing research course (+)		Nursing research course (-)		X ² , p value
	N	%*	n	%*	
Participation in scientific meetings					
Yes	147	63.4	100	34.5	43.12, .000**
No	85	36.6	190	65.5	
Following a scientific publication					
Yes	57	24.6	67	23.1	0.153, .756
No	175	75.4	223	76.9	
Involvement in a research activity					
Yes	67	28.9	56	19.3	6.553, .013**
No	165	71.1	234	80.7	
I planned research					
Yes	21	9.1	23	7.9	0.210, .752
No	211	90.9	267	92.1	
I performed research*					
Yes	21	9.1	25	8.6	0.878, .491
No	211	90.9	265	91.4	
I took part in the publication of research					
Yes	14	6.0	16	5.5	0.064, .851
No	218	94.0	274	94.5	
I participated in research as a subject					
Yes	45	19.4	34	11.7	5.907, .019**
No	187	80.6	256	88.3	
I collected data on behalf of a researcher					
Yes	34	14.7	23	7.9	5.991, .016**
No	198	85.3	267	92.1	
Total	232	100.0	290	100.0	

*The percentages are based on those involved in a research activity

** p< 0.05

Table 3. The mean item and total scores of the students who took and who did not take a nursing research course for nursing students' attitudes to and awareness of research and development within nursing scale ^a

	Nursing Research course(-)	Nursing Research course(+)
Positive Items	Mean±SD	Mean±SD
As a nurse, you must be able to read the literature in English.	3.94±0.94	3.87±0.96
I think it is interesting to read scientific articles about nursing care.	3.66±0.92	3.57±0.92
Nursing science and nursing research describe nursing care and make it visible.	4.18±0.79	4.07±0.87
The research literature on nursing should be available at the workplace	4.18±0.88	4.09±0.95
Being involved in development work in nursing should be part of the nurses' job.	4.00±0.96	4.05±0.84
I am keen to participate in international scientific conferences.	3.92±1.09	3.92±0.95
Lecturers on nursing education programs are/should be a resource in the workplace to stimulate the development of nursing.	4.17±0.87	4.09±0.96
A PhD for nurses should be a prerequisite for certain senior positions in nursing.	3.92±1.09	3.81±1.05
We should have more nurses in clinical work with a PhD/postgraduate education.	4.02±1.06	4.04±1.08
The results of nursing research must be disseminated better to nurses in their work.	4.23±0.79	4.18±0.93
Nursing research is essential for me in my development as a professional nurse.	4.16±0.99	4.21±0.90
Participating in research should be part of the nurse's job.	3.67±1.07	3.75±1.00
Students on the nursing program are/should be resources in the workplace to stimulate the development of nursing.	3.87±1.02	3.79±1.06
It is self-evident that the nursing profession should be based on scientific and reliable experience.	4.28±0.90	4.18±0.95
Nurses should take the time to read research reports.	3.91±0.98	3.90±0.96
Introducing changes and testing new ideas are very important in the nursing profession.	4.20±0.91	4.20±0.81
I think the questions in this questionnaire are important.	3.94±1.04	3.89±1.05
Negative Items		
Participating in development work in nursing does not benefit nursing skills.	4.68±0.74	4.66±0.83
The nursing profession does not require research-based knowledge to the same extent as the medical profession.	4.37±0.99	4.51±0.90
The nursing profession is a practical profession and does not have to include research.	4.56±0.85	4.55±0.92
It is not meaningful to get involved in development work in nursing.	4.65±0.88	4.64±0.80
We do not need nurse scientists to develop patient care; the practice nurses can do it themselves.	4.28±0.93	4.37±0.96
Nursing research complicate the ordinary work of nursing.	4.07±0.99	4.05±1.04
Nursing research does not raise the status of the nursing profession.	4.60±0.90	4.56±0.90
Further training in research and research-based studies is not important for the future.	4.54±0.95	4.40±1.01
Taking part in research does not lead to greater professional skills as a nurse.	4.56±0.84	4.40±0.98
It is unrealistic to believe one can apply research results to practical nursing.	4.40±0.94	4.27±1.06
I do not bother to find out about research results.	4.27±1.02	4.08±1.07
It is not meaningful to devote oneself to research in nursing.	4.26±1.03	4.15±1.01
Item score	4.19±0.52	4.15±0.56
Mean score	121.49±7.3	120.25±6.6

^a All values are presented as Mean±SD.

Discussion

Nursing research is vital to the practice of professional nursing, and the importance of its inclusion during undergraduate instruction cannot be overemphasized. Nursing students are enabled to acquire basic research skills and inquiry skills necessary for nursing practices during their baccalaureate education (Halabi & Hamdan-Mansour, 2010). Therefore, it is very important that the students should participated research activities directed towards training for research. In the present study, more than half of the students taking a nursing research course (63.4%) and more than one third of the students not taking the course (34.5%) reported to participate a scientific meeting. In one study, 42.7% of the nursing students taking a research course noted that they joined a scientific meeting about nursing during their education (Bayik et al., 2008). It is known that reading scientific studies and participating in scientific meetings are effective in development of research evaluation skills of students and are part of education for research (Polit & Beck, 2012). The rate of the students participating scientific meetings was found to be higher which students taking a nursing research course in the present study than that reported in the literature. This suggests that the nursing research course was effective in encouraging the students to participate scientific meetings to keep track of increasing evidence based nursing practices.

In the present study, more than one third of the students taking a nursing research course (28.9%) and one fifth of the students not taking the course (19.3%) noted that they took part in a research activity. These rates were lower than those reported in the literature. One study reported that 65.8% of the nursing students got involved in a research activity (Bayik et al., 2007). One Turkish study noted that there was not a significant difference between research utilization and participation in scientific activities (Ertug & Onal, 2014). Participation in a research process is important in that it contributes to acquisition of a positive attitude to research and improvement of research skills (Chakraborti et al., 2012; Robichaud-Ekstrand, 2016).

In the current study, low rates of the students taking the course (14.7%) and those not taking the course (7.9%) noted that they collected data on behalf of a researcher. In a study by Akin (2004), nursing students reported that it is

necessary to participate in a research project (66.7%) and to perform research under the supervision of an advisor (29.1%) to improve their knowledge and skills about research (Akin, 2004). However, the jargon, complexity and unfamiliarity of nursing research courses can challenge nursing students (Spiers et al., 2012). Therefore, few students may take a role in research by collecting data.

In this study, a higher rate of the students taking a nursing research course were found to actively participate in research activities such as participating scientific meetings, involving research activities, and collecting data for a researcher. In one Turkish study, only on students taking a research course found that attitudes of the nurses were not affected by their experiences in doing research and reading scientific articles (Celik et al., 2014). Another Turkish study reported a significant relation between research education and conducting research (Ertug & Onal, 2014). In the same study the students who had taken a research course conducted more research than the others (Ertug & Onal, 2014). The present study also revealed that the nursing research course had a positive effect on participation in research activities. This indicates importance of a research course in nursing curricula.

Attitudes to research are important indicators of utilizing research in practice and evidence based practices (Halabi & Hamdan-Mansour, 2010). A Greek study reported that that improvement of sensitivity to research should be the main goal of education (Athanasakis, 2013). Several studies have shown that students have a positive attitude towards research (Bjorkstrom & Hamrin, 2001; Mattila et al., 2005) and several others have indicated a relation between a positive attitude to research and research skills (Arthur & Wong, 2000).

In the present study, both the students taking the nursing research course and those not taking the course got the mean item scores of over 4 for awareness of and attitudes to research. This shows that both groups of the students are similar in their awareness of and attitudes to research. Another Turkish study conducted at the same setting as the present study six years ago, the students got lower scores for their awareness of and attitudes to research (Toraman et al., 2013). The difference might have resulted from a change in the student profile and the curricula after the

school was changed into the faculty of nursing in 2011. One study on Swedish nursing students and one study on Turkish nursing students reported awareness of and attitudes to research similar to those in the present study (Bjorkstrom & Hamrin 2001; Celik et al., 2014).

In the current study, both the students taking a nursing research course (4.68 ± 0.75) and those not taking the course (4.65 ± 0.78) got similar scores for the item “Participating in development work in nursing benefit nursing skills” and these scores were the highest item scores the participants received. Both groups of the students also got the lowest scores for the item “I think it is interesting to read scientific articles about nursing care”. Although about one fourth of the students in both groups reported to follow scientific articles, the research course did not increase their interest in reading these articles, which is consistent with results of the prior study by Ertug & Onal (2014).

In the same study no significant differences were found between research utilization and having a research course (Ertug & Onal, 2014). This underlines the necessity for emphasizing importance of research utilization in research courses. Interest in research can be enhanced through love for learning, chances of collaboration support, confidence, coping with research related challenges, research visibility and awareness of the impact of research. In the current study, the students taking a nursing research course got higher scores for awareness of and attitudes to research than those not taking the course, though the difference was not significant, which indicates a similarity between the two groups.

Conclusions

Nursing research influences current and future professional nursing practice; therefore, it is a crucial component of the educational process. The results of this study showed a beneficial effect of taking a nursing research course in scientific activities. These results will provide guidance for nurse educators in evaluation of research education and reorganization of education programs at nursing schools.

In the process of researching, nurse educators could emphasize the role of nurses as researchers during their classes and encourage students to engage in future research projects. All faculty members should support nursing students’

participation in scientific meetings to raise awareness of research. The future research with a larger sample size and different countries or cultures is needed to determine the effect of research course on students.

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