

Impact of An Educational Session about Foot Reflexology on Nursing Students' Knowledge and Attitude: A Quasi Experimental Study

Mona Afifi¹ Jipi Varghese² Shatha Alharbi³ Bayan Alqarni⁴ Dalal Aldossari⁵
^{1, 2} RN, MSN, PhD, RN, MSN, PhD ^{3, 4, 5} Bachelor Nursing Students
¹ Asst. Professor, ² Lecturer, ^{3, 4, 5} Undergraduate Nursing Student
King Saud bin Abdulaziz University for Health Sciences– Riyadh, Kingdom of Saudi Arabia

Abstract

Introduction: Reflexology is a part of alternative medicine. Researches done around the world indicate the physiological and psychological positive benefits of foot reflexology. There are no courses about foot reflexology in nursing colleges and there are no researches done in Saudi Arabia about awareness of foot reflexology. The aim of this study is to assess the effect of foot reflexology awareness session on nursing students' knowledge and attitude. **Method:** A quasi-experimental design was used to collect the data from a convenience sample of 41 female senior nursing students in King Saud bin Abdul-Aziz University for Health Sciences in Riyadh city. Two tools were developed to collect the data: knowledge assessment and opinion regarding foot reflexology questionnaire and evaluation sheet for the educational session. The educational session conducted in 40 minutes. Validity and reliability of the questionnaire were ensured. **Results:** Forty-one students were included (30 level 7 and 11 level 8). Mean age was 21.61 (\pm , 703) years and the majority of the student 68.3% did not hear about foot reflexology. There were significant differences regarding all topics included in the knowledge assessment tool ($p = .000$). The mean and standard Deviation of overall knowledge in post-tests result (51.66 ± 2.19) was higher compared to pre-test result (46.88 ± 4.48). Regarding students' opinion of foot reflexology, the result revealed that 58.5% on a pre-test of nursing students agreed that therapeutic touch is an integral part of nursing profession whereas 92.7% agreed on post-test. Majority of the participants 63.4% believe in the effect of foot reflexology on the pre-test and 85.4% on post-test. **Discussion and Conclusion:** This study revealed that knowledge level in the post-session was high and better than in pre-session. Also, it showed that the participants' attitude toward foot reflexology changed after the session.

Keywords: Foot Reflexology, Awareness Session, Knowledge Level and Attitude

I. Introduction

Alternative medicine is used as a substitute for traditional therapy when the complementary medicine is used along with traditional therapy. An example of alternative medicine would be a cancer patient who is using a special diet to treat cancer instead of a method that oncologists suggest. Alternative therapy includes dietary supplements, massage therapy, herbal preparations, special teas, and spiritual healing (National Center for Complementary and Alternative Medicine (NCCAM), 2005).

The history of Alternative therapy has links with many different cultures. From eastern philosophy, the ancient Chinese based their healing on the importance of the body and spirit being in balance. Much of the philosophy of Chinese Medicine is based on the belief that a person and their environment are closely interlinked. Chinese Medicine works at restoring balance in different ways including herbal medicine, breathing, acupuncture and movement (Tai Chi and Qigong) and also through diet. In the West, the History of Alternative therapy goes back around 3000 years. When in Rome, treatments such as hydrotherapy were popular with the Romans and Greeks. The widespread use of alternative medicine in its different forms decreased during the 20th Century (Kellie Cotton, 2008). Treatment of patients became more focused on the use of hospitals and Pharmaceutical Drugs.

Reflexology is an example of alternative medicine done by appropriate pressure to specific regions on the feet, hands, or ears with particular techniques by thumb, finger, and hand. This therapy is effective for promoting good health, reducing pain and for relieving symptoms of stress, anxiety, and illness. Reflexologists work from special maps of different pressure points that are located on the hands, feet, lower legs, face or ears. These pressure points are thought to be connecting directly through the nervous system and affect the bodily organs, glands and encourage the blood flow as well (Dictionary, Encyclopedia, and Thesaurus - The Free Dictionary, 2003-2015).

Since reflexology is an ancient practice, its origin and history are difficult to follow. However, reflexology is thought to be recorded first as a pictograph on the Egyptian tomb along with other procedures. Reflexology symbols are also recorded on the feet of statues of Buddha in India and later China. In the 1300s, Marco Polo translated a Chinese massage book into Italian, thus introducing reflexology and massage to Europe. The zone therapy "a book on an integral element of reflexology" was first published in Europe in 1582 by Dr. Adams and

Dr. A'tatis. In the United States, Dr. William Fitzgerald developed 'Zone therapy'. In 1719, Dr. William wrote about ten vertical zones that extended the length of the body. He found that reflex areas on the feet and hands were linked to other areas and organs of the body within the same zone. Dr. William's work was expanded by Dr. Shelby Riley, who developed a detailed map of reflex points on the feet and hands. He also suggested pressure points on the outer ear. In the 1930's, Eunice Ingham, a physiotherapist who worked for Dr. Riley, she developed the feet maps that still in use until today (the Center for Spirituality & Healing and Charlson Meadows., 2015). Nowadays, reflexologists commonly follow Ingham's methods. These methods have been developed and are very much in use. The reflexology methods like, Foot/Hand/Ear reflexology that are the most common methods of reflexology. Vertical Reflexology which is cover the stimulation of the pressure points on the dorsal aspects of the feet and hands, and Flocco method which thought to be helpful in reducing premenstrual syndrome. (Buzzle, 2014-2015).

There are many studies around the world indicate positive benefits of reflexology for treating various situations. Reflexology is a good intervention for reduces pain, enhance relaxation and sleep, stimulate nerve function, increases energy, eliminate toxins, and reduce the psychological symptoms, such as anxiety and depression. Also, reflexology works by restoring the body balance and it is an effective method for diabetic patients who have peripheral neuropathy by promoting the circulation. Furthermore, it can help the treatment of cancer and even help to soothe the pains of pregnancy, and premenstrual syndrome as well (Organic Facts, 2015)

A study was done for the effect of foot reflexology on cancer patients, a group of 87 controlled patients receiving foot reflexology, whereas the other goes giving a placebo. Hodgson (2000) found 100% improvement in the reflexology group in quality of life categories of appearance, appetite, breathing, communication (with doctors, family, and nurses), concentration, constipation/diarrhea, fear of future, isolation, mobility, mood, nausea, pain, and sleep. On the other hand, the placebo group reported 67.6% improvement in these categories (the Center for Spirituality & Healing and Charlson Meadows., 2015).

The relationship between foot reflexology and nursing: Foot reflexology is a method to fulfill the goals of therapeutic touch and provide the holistic nursing care. Reflexology as complementary and alternative medicine (CAM) modalities is considered to promote well-being and quality of life in adults with chronic diseases. The study showed that reflexology is effective in reducing seizures in patients with intractable epilepsy, anxiety and pain in patients with cancer and fibromyalgia syndrome. In conclusion, these findings can be used by nurses to educate patients with these chronic conditions about the reflexology as an alternative therapy. (Elna Steenkamp, Belinda Scrooby, Christa van der Walt, 2012).

II. Aim of the Study

To assess the effect of foot reflexology awareness session on nursing students' knowledge and attitude

III. Research question:

- a. What is the knowledge level of foot reflexology among undergraduate nursing students?
- b. What is the effect of Foot reflexology awareness session on the undergraduate nursing students?
- c. What is the nursing students' attitude toward foot reflexology?

IV. Hypothesis:

The awareness sessions about foot reflexology will significantly improve the nursing students' knowledge and attitude

V. Review Of Literature

A study conducted about Student Nurses' Knowledge and Perceptions of Alternative and Complementary therapies on College of St. Benedict/St. John's University show that familiarity was highest for massage therapy (100%), spiritual healing (95%), and nutritional supplements (95%), 80% student agreed that knowledge of Alternative and Complementary Therapies will be essential for nursing field in future, yet 42.5% disagreed about receiving adequate exposure to Alternative and Complementary Therapies during their study years (Tamara J. Keimig, March 2003).

Another study done about Nurse Attitudes towards the use of complementary and alternative therapies in critical care show that level of knowledge found by 138 nurse respondents was highest for diet, prayer, exercise, massage and music therapy. Use of therapies was related to knowledge and beliefs of perceptions of beneficial effects (Mary Fran Tracy, Ruth Lindquist, Shigeaki WatanMary, Jo Kreitzer, Brian Berman, Kay Savik, 2003).

Furthermore, a research designed on Qatar about Knowledge, Attitudes and Practices of Oncology Nurses towards Complementary and Alternative Medicine for Cancer Care showed that 11% of respondent oncological nurses had never heard about Complementary and Alternative Medicine (Hassan A, Allam A, Al Kindi S, Abu Zeinah G, Eziada S and Bashir, 2014).

A cross-sectional survey was done in Riyadh region, Saudi Arabia, to find out the knowledge and attitude of

health professionals toward complementary and alternative medicine (CAM), of 306 health professionals, 88.9% had some knowledge about CAM. Participants with doctorate degree represented (94.74%) of the knowledge of CAM whereas, master's degree represented (68.75%, 76.67%, and 85.41%, respectively, $P = 0.004$). Bachelor's degree (92.53%) they had a higher knowledge of CAM than participants with a diploma. Mass media (60.1%), family, relatives, and friends represented (29.08%) and health educational organizations (14.71%), (Abdullah M AlBedah1, 2012). From that, there are no enough studies conducted to assess the level of knowledge and perceptions of foot reflexology among undergraduate nursing students in Saudi Arabia.

The effective of foot reflexology has been investigated through researches, making an evidence base for its uses. For example, an experimental, crossover design study with nursing home residents tested the efficacy of foot reflexology in individuals with mild-to-moderate stage of dementia. Especially, the study examined whether a weekly foot reflexology intervention affected the resident outcomes of decreased physiological distress, pain, and enhanced the impact. This study was done at a large nursing home in suburban Philadelphia and random samplings of 21 nursing home residents with mild-to-moderate stage of dementia were assigned to two groups. The first group took 4 weeks of weekly foot reflexology treatment sessions followed by 4 weeks of a control state of friendly visits. Whereas, the second group took 4 weeks of friendly visits followed by 4 weeks of weekly foot reflexology treatment sessions. Study findings explained that who got foot reflexology treatment sessions had significant reduction of pain, as compared to the control state (Hodgson and Andersen).

VI. Research Methodology

The present research was conducted using quasi-experimental study design. The aim was to assess the effect of foot reflexology awareness session on nursing students' knowledge and attitude. The researchers select king Saud bin Abdul-Aziz University for health science as their setting to conduct the study.

The study sample was the female nursing students in King Saud bin Abdul-Aziz University for health science. The selected students were senior nursing students in level 7 and 8 who finished their major nursing courses (fundamentals of nursing, Adult 1, Adult 2 and Health assessment). Because after finishing their basic nursing courses, they have got through disorders and they may know from it the alternative medicine can be used to manage these disorders. Data were gathered in November 2015 the number of samples was estimated 41 students (30 students from level 7 and 11 students from level 8). Permission was taken from each student and data collection was in classrooms after they finished their lecture. The researchers were telling the participants about the aim of the study and informed written consent were taken from the students. The participants were also notified that the data will be confidential and they have the right to withdraw from the study.

VII. Tools and Measurements of Data Collection

In this study, the researcher developed two tools. The first tool was knowledge assessment and opinion regarding foot reflexology questionnaire. It has three parts, the first part is the social demographic part which includes age, gender, academic level, marital status, If they heard about foot reflexology or not and if they have been through any foot reflexology session before. The second part has 21 statements related to foot reflexology. Concept and knowledge of foot reflexology have 4 questions, effects and indications of foot reflexology have 8 questions, contraindications of foot reflexology has 3 questions, peri-procedure care of foot reflexology has 4 questions, nursing and reflexology has 1 question. The third part is Opinionnaire on Foot Reflexology consist of 12 statements. The second tool was evaluation sheet for the educational session. The questionnaire was found to be reliable in assessing nursing students' knowledge (Cronbach's Alpha .930). Pilot study was carried out on 20% of the students to test clarity and applicability of the tool. Modification was done before data collection for the actual study.

VIII. Ethical Consideration:

There is no risk to the participants associated with this study; the students were notified about the aim of the study and the freedom to withdrawal. Written informed consents were taken from the students. Participants' confidentiality maintained through the study. No subjects' identifier will be in the final manuscript for publication.

IX. Sampling criteria

a. Inclusion criteria:

Students included were undergraduate senior nursing students in level 7 and 8 who finished their major nursing courses.

b. Excluded criteria:

Students excluded were undergraduate nursing students in level 1, 2, 3, 4, 5 and 6 who are not yet finished their major nursing courses

X. Data Collection Methods and Procedures

The researchers start to collect data in 8th of November 2015 from the participants considering the inclusion and exclusion criteria. All participants should be undergraduate senior nursing students in KSAU-HS who finished their major nursing courses. The sample size was 41 students (30 students from level 7 and 11 students from level 8). The participants were told about the aim of the study and informed written consents were taken from them. After that, pre-test questionnaire were distributed to assess students' knowledge and attitude about foot reflexology. Then, the researchers conduct a 40-minute educational session about foot reflexology. All participants undergo the session. The objectives of the session were to educate and improve knowledge and attitude of nursing students. Outlines of the session were; definition of foot reflexology, history of foot reflexology, theories of reflexology, how dose reflexology work, physiological effect of foot reflexology, indication, contraindication, peri-procedure care, foot reflexology and nursing. After finishing the educational session post-test, questionnaire was distributed to assess the effect of the session on students' knowledge and attitude about foot reflexology.

XI. Data Analysis

The data was analyzed using IBM Statistical Package for Social Sciences (SPSS®) version, 16 (Chicago, Illinois, USA). Data entry was done using SPSS version 16. Data cleansing was done upon entry. The data for knowledge assessment questionnaire was agreed, disagree and do not know. The total items were 21, For every correct answer participant score 3 out of 3, for an incorrect answer participant score is 2 out of 3, and if do not know participant score 1 out of 3. The significance level is $P < 0.05$. The data for opinionnaire and evaluation sheet was agreed, disagree and neutral. The total items were 22 and no correct answer.

XII. Results

In these sections, a sample size of 41 was described in terms of frequency and percentage. Data are presented in table 1, 2, 3, 4 and 5.

a. Section 1: Demographic data

Table1-A: Demographic data

Variable	M+SD
Age	21.61±.703

Table 1-A shows the description of senior nursing students according to age. It indicates that the average age is 21.61 years.

Table1-B: Frequency and percentage distribution on selected sample (N=41) characteristics of nursing students based on Demographic data

Variable	No (%)
Academic level	Level 7 30(73.2%)
	Level 8 11(26.8%)
Marital status	Married 4(9.8%)
	Single 37(90.2%)

Table 1-B depicts the description of senior nursing students according to academic level& marital status. The percentage of the academic level is 73.2 % for level 7 students and 26.8%level 8 students. On the other hands, it presents that majority of the students 90.2% were single and 9.8% of students were married.

Table1-C: Frequency and percentage distribution on selected sample characteristics of students based of their Demographic data

Variable	Yes		No	
	n	%	n	%
Heard about foot reflexology.	13	31.7	28	68.3
Have been through any foot reflexology session before.	2	4.9	39	95.1
Have been through any complementary and alternative medicine session before.	7	17.1	34	82.9

Table 1-C presents the description of senior nursing students whether or not they heard about foot reflexology. It indicates that the majority of the student 68.3% did not hear about foot reflexology. At the same time, the majority of students stated that they have not been through any foot reflexology session before or complementary medicine by 95.1% and 82.9 %respectively.

b. Section 2: comparison the total knowledge score in the pre and post foot reflexology awareness session

Table 2 Comparison of pre and post knowledge score of foot reflexology awareness session

Knowledge questions	Pre M+SD	Post M+SD	“P” value
Concept and Knowledge of foot reflexology.	7.88 ± 2.39	11.34 ± .69	.000
Effects and indications of foot reflexology.	20.05 ± 6.28	28.54 ± 2.55	.000
Contraindications of foot reflexology.	5.39 ± 2.19	8.22 ± 1.01	.000
Peri-procedure care of foot reflexology.	9.76 ± 3.66	14.36 ± 1.13	.000
Nursing and reflexology.	1.95 ± .89	2.90 ± .43	.000
Overall knowledge	46.88±4.48	51.66±2.19	.000

Table2: compare the total knowledge score in the pre and post foot reflexology awareness session. It shows a significant difference regarding all topics included in the knowledge assessment tool (p=.000). The mean and standard Deviation of overall knowledge in post tests result (51.66±2.19)is fairly higher compared to the mean and standard Deviation in pre-test result (46.88±4.48)

c. Section 3: nursing students’ opinionnaire on Foot Reflexology.

Table3: nursing students’ opinionnaire on Foot Reflexology.

Sl.no	Opinions regarding foot reflexology	pre			post		
		Agree No.(%)	Disagree No.(%)	Neutral No.(%)	Agree No.(%)	Disagree No.(%)	Neutral No.(%)
1	Therapeutic touch is an integral part of nursing profession	24(58.5)	7(17.1)	10(24.4)	38(92.7)	2(4.9)	1(2.4)
2	Do you believe in the effect of foot reflexology	26(63.4)	2(4.9)	13(31.7)	35 (85.4)	0	6(14.6)
3	Do you agree to perform foot reflexology as a part of your nursing interventions	16(39.0)	12(29.3)	13(31.7)	24(58.5)	14(34.1)	3(7.3)
4	Do you prefer analgesics for pain management	22(53.7)	9(22.0)	10(24.4)	26(63.4)	9(22.0)	6(14.6)
5	Do you prefer foot reflexology for pain management	21(51.2)	9(22.0)	11(26.8)	30(73.2)	6(14.6)	5(12.2)
6	Therapeutic effect induced by foot Reflexology is placebo.	13(31.7)	7(17.1)	21(51.2)	17(41.5)	17(41.5)	7(17.1)
7	I recommended foot reflexology for my family members.	20(48.8)	8(19.5)	13(31.7)	34(82.9)	1(2.4)	6(14.6)
8	Patients should inform their doctors if they are undergoing foot reflexology sessions	18(43.9)	8(19.5)	15(19.5)	34(82.9)	5(12.2)	2(4.9)
9	Knowledge about foot reflexology is important to me as future practicing health professional.	20(48.8)	7(17.1)	14(34.1)	28(68.3)	6(14.6)	7(17.1)
10	Foot reflexology better done by a specialist.	20(48.8)	6(14.6)	15(36.6)	39(95.15)	1(2.4)	1(2.4)
11	Foot reflexology is a safe procedure for patients.	22(53.7)	2(4.9)	17(41.5)	31(75.6)	5(12.2)	5(12.2)
12	I would prefer to attend a training program in foot reflexology.	21(51.2)	4(9.8)	16(39.0)	33(80.5)	6(14.6)	2(4.9)

Table 3.The data presented in the table indicates the nursing students’ Opinions about foot reflexology. The table demonstrates that 58.5% agreed that therapeutic touch is an integral part of nursing profession on pre-test whereas 92.7% of the participant agreed on the post-test. Furthermore, it also shows that majority of the participants 63.4% believe in the effect of foot reflexology on the pre-test and 85.4% agreed after the foot reflexology session. In addition, 48.8% of nursing students recommend foot reflexology for their family members and this increases to 82.9% after the foot reflexology session. Likewise, 43.9% of the participants

agreed that patients should inform their doctors if they are undergoing foot reflexology sessions on pre-test, the percentage of agreements increase on post-test to 82.9%. Moreover, 48.8% of nursing students stated that foot reflexology better done by specialists on pre-test on the other hand 95.15% agreed on post-test.

Also, the table shows 17.1% of students on pre-test disagree that therapeutic touch is an integral part of the nursing profession and on post-test the disagreements decrease to 4.9%. Furthermore, 29.3% of nursing students disagree to perform foot reflexology as a part of their nursing interventions on the pre-test and the percentage of disagreements increase on post-test to 34.1%. Moreover, 17.1% disagree on pre-test that therapeutic effect induced by foot Reflexology is placebo and this increases to 41.5% on post-test.

d. Section 4: Nursing students' evaluation of foot reflexology session.

Table4: Nursing students' evaluation of foot reflexology session.

Serial	Items	Agree	Neutral	Disagree
		No.(%)	No.(%)	No.(%)
1.	Session objectives were clearly presented	40(97.6)	1(2.4)	0
2.	Session objectives were met	39(95.1)	2(4.9)	0
3.	The program was conducted at a very effective pace	40(97.6)	1(2.4)	0
4.	I felt that the main points were well covered and clarified	39(95.1)	2(4.9)	0
5.	The program facilitators are knowledgeable in the subject	41(100)	0	0
6.	The information given is highly relevant to my professional work	40(97.6)	1(2.4)	0
7.	The information and/or skills presented were useful to practice	40(97.6)	1(2.4)	0
8.	The duration of the program was reasonable	38(92.7)	3(7.3)	0
9.	I gained usable skills and will be able to apply them.	40(97.6)	1(2.4)	0

Table 4 depicts the nursing senior students' evaluation of foot reflexology session. The table demonstrates that 100.0% of the participants agreed that the program facilitators were knowledgeable in the subject. Also, it shows that the majority of participants 92.7% agreed that the duration of the program was reasonable. Furthermore, 97.6% of the participants stated that session objectives were clearly presented, the program was conducted at a very effective pace, information given was highly relevant and useful to their professional work and the skills presented were useful to practice. In addition, 95.1% of participants concurred that the objectives were met and the main point was well covered and clarified.

e. Section 5: overall evaluation of foot reflexology session

Table5: Distribution of subject according to their overall evaluation of foot reflexology session

Overall evaluation of foot reflexology session.					
Excellent		Good		Poor	
N	%	N	%	N	%
41	100	0	0	0	0

Table 5 demonstrates that the nursing senior students' overall evaluation of foot reflexology session. The table indicates that 100% of the participants evaluated the session as excellent. However, none of the participants evaluated the session as good or poor.

XIII. Discussion

In the present study, the researchers select undergraduate senior nursing students because foot reflexology is done by touching the patient and touch is consider as an integral part of the nursing profession as it increases the nurse-patient relationship beside the therapeutic benefits of foot reflexology. From that foot reflexology should be included in nursing courses and the students should have a training program. Despite barriers to familiarity about complementary and alternative medicine, many factors support the incorporation into nursing education including the expanding consumer use and interest, support and governmental recognition (NCCAM, 2002). Most schools of nursing had gone ahead and include certain complementary and alternative medicine in their nursing education (Breda & Schulze, 1998; Halcon, Leonard, Snyder, Garwick, & Kreitzer, 2001; Kreitzer, 1997; Pepa& Russell, 2000; Richardson, 2003).

The utilization of foot reflexology by nurses is simple and useful as noted by one researcher nurse who reported that foot reflexology is an approach to improve the nurse-patient interrelationship. It offers a strategy to satisfy human needs for touch and comprehensive nursing considerations. It is a non-invasive procedure, does not interfere with patients' privacy and can be done at many body areas (Stephenson and Dalton).

In this study, an educational session for 40 minutes was given to 41 undergraduate senior nursing students, 4th year in the College of Nursing-Riyadh, KSAU-HS. The session focused on different aspects of foot

reflexology such as definition, history, theories, physiological effect of foot reflexology, indication, contraindication, and foot reflexology and nursing. The knowledge and attitude were assessed before and after the session. A descriptive study design in the United States was done to assess the knowledge, attitudes, and practices of nursing faculty and students related to complementary and alternative medicine. The result has arranged a plan for a professional development program for faculty and students (Avino, 2011).

The participants were from 4th-year undergraduate senior nursing students, 73.2% of the total respondents were from level 7 and the other 26.8% were from the level 8. The average age of the participants was 21.61 years old. In marital status, 9.8% of students were married and 90.2% were single. The majority of student, 68.3% viewed that they have not heard about foot reflexology and most of them do not know what foot reflexology.

The current study revealed that there is a significant difference in all topics in foot reflexology pre and post awareness session in undergraduate senior nursing students. Post-test results exhibited an increase in mean score for all topics and the overall knowledge which shows a significant difference between the pre and post awareness session (46.88 and 51.66 respectively $p=0.000$). The undergraduate senior nursing students have a fewer score in pre-test because the majority did not know what foot reflexology is and they did not take it in their nursing courses. In addition, it indicated that the awareness session helped in improving the undergraduate senior nursing students' knowledge and attitude. However, in a study conducted on College of St. Benedict/St. John's University had showed that the familiarity and use of some Alternative and Complementary Therapies among nursing students were high (Tamara J. Keimig, March 2003).

Moreover, a cross-sectional survey design was done to compare between nurses' and patients' knowledge of, experience with and attitudes towards complementary and alternative medicine (CAM) in Korea. A convenience sample was used of 485 nurses and 367 patients. The result was most of the nurses and patients had found out about CAM, yet few of them had adequate knowledge to perform CAM. Nurses had more learning, experience and positive attitudes regarding CAM than patients, also, nurses had significantly higher mean scores in their knowledge of CAM than patients. Study conclusion, the nurses should be knowledgeable about CAM to provide a good support for their patients (Yom and Lee).

It was also determined in this study that the nursing students' Opinions about foot reflexology. 58.5% of them agreed that therapeutic touch is an integral part of nursing profession on the pre-test and their agreement increased to 92.7% on the post-test. The majority of the participants 63.4% believe in the effect of foot reflexology on the pre-test and 85.4% agreed after the foot reflexology session this indicating that their belief in the effect of foot reflexology changed. In addition, 48.8% of nursing students recommend foot reflexology for their family members then their recommendation increased to 82.9% after the foot reflexology session.

However, 29.3% of nursing students disagree to perform foot reflexology as a part of their nursing interventions on the pre-test and the percentage of disagreements increased to 34.1% on post-test. This means they do not want to perform foot reflexology as a part of their nursing interventions, but 95.15% stated that foot reflexology better done by specialists on post-test to be more effective.

Many studies suggest that Foot reflexology more effective if it done by specialists. A Clinical trial study was done in Iran to view the effect of foot reflexology on the anxiety of patients undergoing coronary angiography. A convenience sampling of 70 patients was selected then randomly divided into two intervention and control groups. The control group received no reflexology and the intervention group received foot reflexology for 20 minutes done by specialists. The result showed that a significant difference between control and intervention groups in anxiety mean scores before the intervention, immediately after intervention, and half an hour after intervention. (Gholamhosyn, Mostafa, & Hamidreza, 2014)

The overall evaluation of foot reflexology awareness session indicated that all of the participants, 100% evaluated the session as excellent, which indicates a great satisfaction from the undergraduate senior nursing students of the foot reflexology awareness session. This entails that the foot reflexology awareness session helps the undergraduate senior nursing students in gaining knowledge and changing their attitude toward foot reflexology and the entire undergraduate senior nursing students get the benefit of foot reflexology awareness session.

XIV. Conclusion

This study assessed and measured foot reflexology knowledge and attitude among undergraduate senior nursing students. It revealed that the level of the knowledge in the post session was high and better than in the pre-session. Also, it showed that the participants' attitude toward foot reflexology changed after the session. However, nursing students still need more improvement in their knowledge by providing specific courses of foot reflexology.

XV. Recommendations

Nowadays foot reflexology is becoming worldwide used in different aspects of disease management and more people find amazing advantages for their health. Based on the results of the conducted study the researchers

recommend that foot reflexology should be addressed as a part of therapeutic management and nursing care. Nurses as members of multidisciplinary healthcare team, they should have an idea about foot reflexology and should be aware of its action, indication, physiological effect and contraindication. Besides, they should have a positive attitude and willingness to practice foot reflexology as a part of their care.

After the educational session, nursing students show a willingness to acknowledge and practice foot reflexology, but in a scientific way like most of them stated that foot reflexology better done by specialists. Moreover, the researchers recommend that foot reflexology course should be involved on the major nursing courses. Also, recommend increasing the awareness sessions of foot reflexology on undergraduate studies and promote post-graduate studies of foot reflexology

Furthermore, foot reflexology course should not be dedicated to nursing college only but all other health-related courses should be embedded with such classes in order to empower future health care professionals. In addition, researches recommend replicating the study on a larger sample to generalize the result, using valid and reliable tools, using both qualitative and quantitative approaches, inviting specialists for foot reflexology courses and conducting true experimental (or interventional) studies of foot reflexology then view the effect of foot reflexology on the disease management.

XVI. Limitations

Researches faced some limitations, which are the educational session was limited to 40 minutes only, relatively small sample size and the study was conducting only on undergraduate senior nursing students in the collage of nursing in KSAU-HS in Riyadh city.

References

1. Abdullah M AlBedah1, A. T.-O. (2012, jun 10). Knowledge and attitude of health professionals in the Riyadh region, Saudi Arabia, toward complementary and alternative medicine. *journal of family and community medicine* , pp. 93-99.
2. Avino, K. (2011). Knowledge, attitudes, and practices of nursing faculty and students related to complementary and alternative medicine. *Holistic Nursing Practice*
3. Breda, K.L., & Schulze, M.W. (1998). Teaching complementary healing therapies to nurses. *Journal of Nursing Education*, 37, 394-397.
4. Buzzle. (2014-2015, AUG 5). Different Types of Reflexology. Retrieved (NOV 2015), from <http://www.buzzle.com/articles/different-types-of-reflexology.html>
5. Dictionary, Encyclopedia and Thesaurus - The Free Dictionary(2003-2015) <http://medical-dictionary.thefreedictionary.com/reflexology>
6. Elna Steenkamp,Belinda Scrooby,Christa van der Walt. (2012 йил 18-May). Facilitating nurses' knowledge of the utilisation of reflexology in adults with chronic diseases to enable informed health education during comprehensive nursing care. *Health SA Gesondehid Journal of intredisciplinary Health Sciences*.
7. G. M., M. G., & H. B. (2014). Effect of foot reflexology on anxiety of patients undergoing coronary angiography. *critical care nursing* , 235-242.
8. Hassan A Allam A, A. K. (2014, December 10). Knowledge, Attitudes and Practices of Oncology Nurses towards. *Journal of Anesthesia & Clinical Research* .
9. Hodgson, Nancy A., and Susan Andersen. "The Clinical Efficacy Of Reflexology In Nursing Home Residents With Dementia". *The Journal of Alternative and Complementary Medicine* 14.3 (2008): 269-275. Web.
10. Kellie Coton. (2008). The History of Alternative Medicine. Retrieved NOV 2015, from "Alternative Medicine Answers" : http://www.alternativemedicineanswers.com/articles/Oct_Dec_08/History.html
11. Mary Fran Tracy, R. L. (2003, may- june). Nurse attitudes towards the use of complementary and alternative therapies in critical care. *heart and lung the journal of acute and critical care* , pp. 179-209.
12. National Center for Complementary and Alternative Medicine (NCCAM). (2005, April). Thinking About Complementary & alternative medicine . Retrieved NOV 4, 2015, from <http://www.cancer.gov/publications/patient-education/367NCINewV2.pdf>
13. National Center for Complementary and Alternative Medicine (NCCAM, 2002, Oct. 21 and 2004, May 24).
14. Stephenson, Nancy L. N., and Jo Ann Dalton. "Using Reflexology For Pain Management: A Review". *Journal of Holistic Nursing* 21.2 (2003): 179-191. Web. 14 Dec. 2015.
15. Tamara J. Keimig, R. (March 2003.). Student Nurses' Knowledge and Perceptions of Alternative and Complementary Therapies. Retrieved from <http://juns.nursing.arizona.edu/articles/fall%202004/keimig.htm>
16. The Center for Spirituality & Healing and Charlson Meadows. (2015, September 25). Reflexology. Retrieved NOV 2015, from <http://www.takingcharge.csh.umn.edu/explore-healing-practices/reflexology>

17. What is complementary and alternative medicine (CAM)? Retrieved March 8, 2003 and August 4, 2004, from <http://nccam.nih.gov/health/whatiscam/>.
18. Yom, Young-Hee, and KyuEun Lee. "A Comparison Of The Knowledge Of, Experience With And Attitudes Towards Complementary And Alternative Medicine Between Nurses And Patients In Korea". *Journal of Clinical Nursing* 17.19 (2008): 2565-2572. Web. 14 Dec. 2015.