

Nursing Students' Knowledge, Practices, Attitudes and Barriers toward Complementary and Alternative Therapy

Soheir Waheida¹, Josphin Atef Lawend², Afaf Abdel Aziz Basal³,
Rabaa Elsaïd Shaaban⁴

¹professor of Medical Surgical Nursing, Faculty of Nursing, Alexandria University²Lecturer of Pediatric Nursing, Faculty of Nursing, Mansoura University, ³Assistant professor of Medical Surgical Nursing, Faculty of Nursing, Tanta University, ⁴lecturer of Obstetrics and Gynecology, Faculty of Nursing, Tanta University

Abstract: Complementary and Alternative therapy (CAT) as a health care option has increased dramatically all over the world especially in developing countries due to increase in chronic diseases among the population and the demand to consume CAT for healing process.

The study aim was to assess of knowledge, attitudes, barriers and Practices approaches of nursing students related to Complementary and Alternative Therapy.

Subjects and methods: A descriptive research design was adopted for this study. The study was conducted in the Faculty of Nursing, Tanta University. A Convenient sample consisted of nursing students = 464 were qualified for the study. Two tools of data collection include. The first for student's sociodemographic data, knowledge and source of information of CAT. The second tool for approaches in practice of CAT, attitude and barriers about use of CAT.

Results: More than half 50.4% of students gain information of CAT from internet as a useful source. Nearly two third 65.3% of nursing students had fair level of knowledge. High percent of nursing students had positive attitude toward CAT. In relation to approach of practice of CAT 40.7% of nursing students will personally provide prayer. This study **concluded** two third of nursing students had fair level of knowledge, positive attitudes, and more willing to practice CAT. It is **recommended** that CAT should be included in the nursing curriculum because nurses are responsible for being current in contemporary nursing practice and providing safe patient care.

Key words: Knowledge; Attitude; Practice; Complementary and Alternative Therapy, Nursing student

I. Introduction:

Complementary and Alternative Therapy usage is increasing throughout the world. Complementary therapies are used to complement conventional health care practices.^(1,2) Complementary and Alternative Therapy is defined as a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine. Conventional therapy is care given by public hospitals, district health care centers or home nursing. The term alternative is also used to indicate treatments outside the conventional medicine used with the intent to treat the disease, as opposed to promoting wellness or managing symptoms.

Complementary and Alternative Therapy is another name for Nonpharmacological management therapies. It can be classified into three categories. **The first category** is cognitive or behavioral strategy, which include distraction, relaxation, imagery, and breathing techniques. **The second category** is physical or cutaneous strategies, which include heat/cold, vibration, massage, position changes, and trans-electrical nerve stimulation (TENS). **The third and Final category** is environmental or emotional strategy such as touch, reassurance, or interior decorating of the room^(2,3).

According to the National Center for Complementary and Alternative Medicine of the National Institutes of Health (NIH), complementary and alternative medicine Therapy (CAM) can include the following: acupuncture, Alexander technique, aromatherapy, Ayurveda, biofeedback, chiropractic medicine, diet therapy, herbalism, holistic nursing, homeopathy, hypnosis, massage therapy, meditation, naturopathy, nutritional therapy, osteopathic manipulative therapy (OMT), Qi gong, reflexology, Reiki, spiritual healing, Tai Chi, traditional Chinese Medicine (TCM), and yoga⁽²⁾.

The World Health Organization 2010, estimated that in many countries, 80% or more of the population living in the rural area are cared for by traditional practitioners⁽⁴⁾. The tendency toward incorporating CAM as an integrative model of care is most evident in areas in which comfort care becomes a priority such as oncology and palliative care and increasing chronic illness⁽⁵⁾.

Despite considerable interest on the part of the health-care consumer and many practitioners, CAM integration with mainstream medicine is occurring relatively slowly related to some barriers include: differences in beliefs about healing, lack of access to education about CAM, and limited evidence on clinical outcomes

about complementary and alternative therapies, differences in clinical vocabularies and ideologies, boundary issues among CAT and conventional providers, lack of health-care provider motivation and educational opportunities, lack of certification and licensure of CAT providers and fear of legal risk⁽⁶⁾

Holistic nursing is defined as all nursing practice that has healing the whole person as its goal⁽⁷⁾. It is the basis of nursing practice that incorporates biological, psychological, and spiritual human dimensions and uses caring healing modalities such as CAM in its practice.⁽⁸⁾ Complementary and Alternative Medicine focus on the body, mind, and spirit; healing potential; and consciousness. Some health care practitioners believe that blending alternative therapies with biomedical health care will help improve patients' well-being and provide a better level of care.⁽⁹⁾ Nurses are in a unique position to bridge the gap between traditional health care and CAM because the theoretical core of nursing practice is caring and healing. Nurses are challenged to integrate technology and the concepts of mind and spirit into nursing practice while creating models for health care guide the healing of self and others⁽¹⁰⁾.

Nurses have a central role in assessing patients and providing treatment options; therefore, they are in a position where they can decrease the number of people suffering from pain and discomfort⁽¹¹⁾. Studies identified four factors that underlie patients' use of CAM therapies. **First**, patients believe that CAM therapies empower them to take control of their own health care; CAM practitioners typically encourage patients to be equal partners in all treatment decisions. **Second**, CAM users are apt to believe that mind-body connections underlie their illnesses and responses to treatment. **Third**, CAM therapies are perceived as "natural" and "holistic." **Fourth**, CAM therapies are compatible with patients' broader belief systems, such as spiritual or environmental beliefs.⁽¹²⁾

Moreover other factors have also contributed to the upswing in CAM use in recent years. These include (a) increased numbers of third-party payers who provide coverage for CAM therapies; (b) aging of the population with an attendant increase in chronic illness which may be refractory to or only partially ameliorated by conventional medical therapies; and (c) increased immigration of persons from developing countries who may be distrusting of Western medical care and more likely to seek traditional healers for their care.⁽¹³⁾ Thus, , incorporate assessment of CAT use into their history and physical examinations, and collaborate with CAT practitioners to provide an integrated, and safe, approach to care.⁽¹⁴⁾

Significance of Study

Current nursing practice requires adequate knowledge of CAT because consumer demand is growing⁽¹⁾. Conventional health care providers need to understand the safety and efficacy issues pertinent to widely used CAT⁽¹⁴⁾. Nurses spend most of their time at the patient's bedside as compared to other healthcare professionals; they perform an instrumental role in assessment and evaluation of patients' condition. Therefore, nurses must become the primary agents of change for better problem management outcomes within patient populations. Consequently, if nurses are insufficiently educated and not prepared to effectively relieve patients' problem, the patient ultimately suffers. So, the intent of this study was to provide insight into the knowledge, Practices approaches, attitudes and barriers related to Complementary and Alternative Therapy among baccalaureate nursing students.

II. Aim of the Study:

The study aim was to assess nursing students' knowledge, Practices, attitudes and barriers toward Complementary and Alternative Therapy

Research Questions:

1. What is the level of knowledge and practices approaches of nursing students toward complementary and alternative therapy?
2. What are nursing students attitude toward complementary and alternative medicine?
3. What are the Barriers of the use of CAT?

III. Subjects & Methods:

Research Design: descriptive research design was adopted

Setting: The study was conducted in the Faculty of Nursing, Tanta University.

Subjects: all available nursing students from all different departments except students of the first academic year were included in the study. Total number of the students were 464 (second year student = 100, third year student = 211, fourth year students = 153). First year students were excluded from this study because they were less experienced of patients' problems and the study

Tools of Data Collection:

Two tools were used for data collection after reviewing the related literature.

Tool I: Sociodemographic and Knowledge assessment structure questionnaire:

This tool was developed by researcher after reviewing of relevant literature to assess nurse's knowledge related to CAT. It consisted of three parts include:

Part one: sociodemographic data of nursing students as age, sex, marital status....etc.

Part two: General knowledge about CAT questions as:

Definition of complementary and alternative therapy. Benefit of CAT, risk of CAT, modalities of CAT which consists of acupuncture, relaxation, herbal therapy, prayers, music, massage and nutritional supplements... 7 Closed ended and 3 multiple-choice questions were used for data collection.

Scoring: each question was scored as the following: 0 score for wrong or no answer, one score for correct and incomplete answer and two score for complete and correct answer.

Total score was summed up and converted to percentage then knowledge level of answer calculated as follow

Less than 60% considered poor level of knowledge

60 to less than 75 % considered fair level knowledge

More than 75% considered good level of knowledge

Part three: Sources of information for complementary and alternative therapy CAT were assessed through 7-point multiple-choice questions as: Internet, textbooks, journal articles, lecture, family member or friend., case based learning, and self-practice). questions were scored from 1 to 3 using a likert scale where 1 for Not at all useful or not useful, while 2 was given for somewhat useful and 3 was given for Very Useful or useful).

Tools II : this tool was developed by the researcher for data collection based on related literature **Kreitzer's et al (2002)** ⁽¹⁵⁾ and **Marcy Halterman (2009)** ⁽¹⁶⁾. It consisted of three parts:

Part one: General attitude of nursing students about complementary and alternative therapy: (11 items listed in table 3 in result) as **Clinical care practice should integrate best of conventional and CAT practices., CAT includes ideas & methods from which conventional medicine could benefit.,** using a Likert scale 1 to 3 where 1 for "strongly disagree or disagree," 2 for "neutral," and 3 for "very strongly agree and agree.

Part two: CAT uses in Practice as (Acupuncture, relaxation technique, massage.....etc). Likert scale from 1 to 4 was used. Where 1 illustrate Would Not Recommend, while 2 illustrate would endorse but not personally provide or Refer, 3 indicate Would Provide Personally, where 4 illustrate Would refer to a CAT Practitioner).

Part three: Barriers about use of CAM (5 items as lack of evidence for practices and Unavailability of trained staff, lack of reimbursement, too time-consuming, and lack of appropriate equipment. with Likert scale modified for 1 to 3 where (strongly agree, and agree was given a score of 3, Neutral was given a score of 2 & strongly disagree and disagree was given a score of 1

IV. Method

- 1- An official permission was obtained from the dean of the faculty of nursing, Tanta University and head of the department in which the study was conducted and informed consent was obtained from the nursing students of the second, third and fourth year who participated in this study.

Field Work:

- 2- Tools validity were checked by 5 experts medical surgical nursing and It was 85.4% .
- 3- Pilot study was conducted on 10% of nursing students to test feasibility and applicability of the developed tools to identify the obstacles and problems that may be encountered in data collection. Modification were made accordingly. Data obtained from pilot study was excluded from the study.
- 4- Reliability of the tool was tested using Cronbach coefficient Alpha test where 0.75 for tool I part two and three, it was 0.78 for tool II
- 5- The questionnaire was distributed to nursing students (464). All participants were asked to fill the questionnaire and return it back to the researcher.
- 6- Data was collected in 15 minute in two days/week for second, third and fourth year of nursing student to fill it.
- 7- The data collected within one month period of April 2014.
- 8- **Ethical consideration:** The purpose of the study was explained to the nursing students and their consent to participate in the study was obtained and those who were willing to participate were given a questionnaire to answer it. They were also assured privacy and the confidentiality of their responses.

V. Statistical analysis:

The collected data were organized, tabulated and statistically analyzed using SPSS version 19 (Statistical Package for Social Studies) created by IBM, Illinois, Chicago, USA. For numerical values the range mean and standard deviations were calculated. Differences of mean values between more than two groups were tested by analysis of variance (F) and when found significant Scheffe test was used to compare between each two groups. For categorical variable the number and percentage were calculated and differences between subcategories were tested by chi square (X^2). The level of significant was adopted at $p < 0.05^{(17)}$.

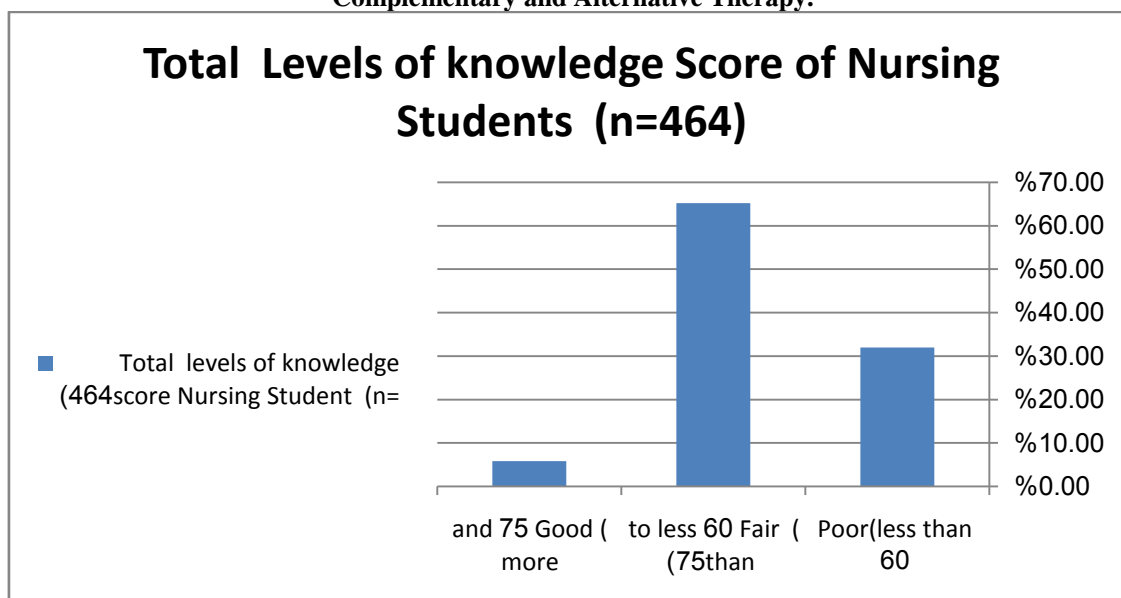
VI. Results:

Table (1): Sociodemographic Characteristics of the Studied Nursing Students

Characteristics	Nursing Students	
	No. =464	%
Age in years		
Range	19-23	
Sex:		
Male	116	25
Female	348	75
Marital status		
Single	452	97.5
Married	12	2.5
Residence		
Urban	174	37.5
Rural	290	62.5

Table (1) shows demographic characteristics of nursing students and faculty staff. 464 nursing students in the sample, their age ranged from 19-23 years. The majority of nursing students were females (75 %), Nearly all of students were single (97.5%). Nearly two thirds (62.5) of the students lived in rural areas.

Figure (1): Percentage Distribution of Nursing Students According to Total Level of Knowledge about Complementary and Alternative Therapy.



This figure (1) represents total level of knowledge of the nursing student about complementary and alternative therapy. Nearly two third of nursing students had fair level of knowledge 65.3% while 5.8% of students had good level of knowledge.

Table (2): Percentage Distribution of Studied Nursing Students in Relation to their Knowledge about Complementary and Alternative Therapy (CAT)

Knowledge Items	Total Student (464)	
	No.	%
Definition of CAT:		
Correct	326	70.3
Incorrect	138	29.7
Types of benefits of CAT: *		
• Treat & cure disease directly.	130	28
• Improve physical condition.	260	56
• Relieve pain & decrease complications.	303	65.3
• Less cost	104	22.4
Risk of CAT		
• Lack of standardization.	130	28
• Lack of regulation and research substantiating safety and effectiveness	260	56
• Inadequate training and certification of healers.	303	65.3
• Financial and health risks of unproven methods	104	22.4
CAT modalities:*		
• Acupuncture:	270	58.2
• Relaxation (breathing exercise):	290	62.5
• Herbal therapy:	303	65.3
• Massage.	260	56
• Bio electromagnetic therapies.	150	32.3
• Nutritional supplements.	290	62.5
• Prayer.	350	75.4
• Music.	245	52.8
• Homeopathy/ Bio feedback.	120	25.9
• Hypnosis/guided imagery.	90	19.4
• Chiropractic/ Acupressure.	130	28

Table (2) shows Knowledge of studied students and educators About Complementary and Alternative medicine Therapy (CAT). More than two third 70.3 % of the students know correct definition of CAT. Also, nearly two third (65.3%) of the students stated benefit of CAT is to Relieve pain & decrease complications. Furthermore, high percent of students had knowledge about common modality of CAT include acupressure, relaxation, herbal massage, nutrition supplement, prayer and music (58.2%, 62.5%, 65.3%, 56%, 62.5%,) respectively

Table (3): Distribution of Studied Nursing Students in Relation to their general Attitude toward Complementary and Alternative Therapy (CAT)

Items	2 nd year students		3 rd year students		4 th year students		Total Students		X ²	P
	No.	%	No.	%	No.	%	No.	%		
1. Clinical care practice should integrate best of conventional and CAT practices.									32.210	0.001
Strongly disagree/disagree	13	13.0	36	17.1	39	25.5	88	19.0		
Neutral	7	7.0	58	27.5	14	9.2	79	17.0		
Agree /strongly agree	80	80	117	55.5	100	65.4	297	64.0		
2. CAT includes ideas & methods from which conventional medicine could benefit.									23.520	0.001
Strongly disagree/disagree	9	9.0	33	15.6	30	19.6	72	15.5		
Neutral	8	8.0	56	26.5	27	17.6	91	19.6		
Agree /strongly agree	83	83.0	122	57.8	96	62.7	301	64.9		
3. While we need to be cautious in our claims, a number of CAT approaches hold promise for treatment of symptoms, conditions, and/or diseases.									22.398	0.001
Strongly disagree/disagree	5	5.0	36	17.1	24	15.7	65	14.0		
Neutral	10	10.0	52	24.6	33	21.6	95	20.5		
Agree /strongly agree	85	85.0	123	58.3	96	62.7	304	65.5		
4. Results of CAT are in most cases due to a placebo effect.									1.624	0.804
Strongly disagree/disagree	23	23.0	49	23.2	41	26.8	113	24.4		
Neutral	25	25.0	55	26.1	32	20.9	112	24.1		
Agree /strongly agree	52	52.0	107	50.7	80	52.3	239	51.5		
5. CAT therapies not tested in a scientific manner should be discouraged.									5.069	0.280
Strongly disagree/disagree	46	46.0	87	41.2	60	39.2	193	41.6		
Neutral	25	25.0	60	28.4	33	21.6	118	25.4		
Agree /strongly agree	29	29.0	64	30.3	60	39.2	153	33.0		

Table (3): (continue) Distribution of Studied Students in Relation to their General Attitude toward Complementary and Alternative Therapy

Items	2 nd year students		3 rd year students		4 th year students		Total Students		X ²	P
	No.	%	No.	%	No.	%	No.	%		
6- While a few CAT approaches may have limited health benefits, they have no true impact on treatment of symptoms, conditions, and/or diseases.									9.449	0.051
Strongly disagree/disagree	56	56.0	92	43.6	72	47.1	220	47.4		
Neutral	14	14.0	61	28.9	33	21.6	108	23.3		
Agree /strongly agree	30	30.0	58	27.5	48	31.4	136	29.3		
7- CAT is a threat to public health.									4.706	0.319
Strongly disagree/disagree	44	44.0	92	43.6	57	37.3	193	41.6		
Neutral	22	22.0	63	29.9	44	28.8	129	27.8		
Agree /strongly agree	34	34.0	56	26.5	52	34.0	142	30.6		
Agree /strongly agree	34	34.0	56	26.5	52	34.0	142	30.6		
8-- I hope to have some CAT practices available to patients in my practice or referral network.									17.002	0.002
Strongly disagree/disagree	24	24.0	86	40.8	51	33.3	161	34.7		
Neutral	22	22.0	57	27.0	30	19.6	109	23.5		
Agree /strongly agree	54	54.0	68	32.2	72	47.1	194	41.8		
9- Health professionals should be able to advise their patients about commonly used CAT methods.									8.131	0.087
Strongly disagree/disagree	16	16.0	53	25.1	40	26.1	109	23.5		
Neutral	16	16.0	48	22.7	27	17.6	91	19.6		
Agree /strongly agree	68	68.0	110	52.1	86	56.2	264	56.9		
10- CAT practices should be included in school's curriculum.									2.818	0.589
Strongly disagree/disagree	13	13.0	40	19.0	29	19.0	82	17.7		
Neutral	25	25.0	42	19.9	36	23.5	103	22.2		
Agree /strongly agree	62	62.0	129	61.1	88	57.5	279	60.1		
11- Knowledge about CAT is important to future as practicing health professional									17.683	0.001
Strongly disagree/disagree	6	6.0	47	22.3	36	23.5	89	19.2		
Neutral	35	35.0	48	22.7	31	20.3	114	24.6		
Agree /strongly agree	59	59.0	116	55.0	86	56.2	261	56.3		

Table (3) shows general attitude toward complementary and alternative therapy CAT. Nearly less than two third 64% of students strongly agree that clinical practice should integrate best of conventional and CAT practices. While 41.6% of the students strongly disagree that CAT not tested in a scientific manner should be discouraged. Furthermore, More than half of the students (56.3%) strongly agree that knowledge about CAM is important to them in future as practicing health professional

Table (4): Distribution of Nursing Students in Relation to Barriers to Complementary and Alternative Therapy

Items of Barriers	2 nd year students		3 rd year students		4 th year students		Total Students	
	No.	%	No.	%	No.	%	No=464	%
1. Lack of evidence for practices								
Strongly disagree/disagree	27	27.0	52	24.6	37	24.2	116	25.0
Neutral	34	34.0	52	24.6	31	20.3	117	25.2
Agree /strongly agree	39	39.0	107	50.7	85	55.6	231	49.8
2. Unavailability of credentialed providers.								
Strongly disagree/disagree	45	45.0	54	25.6	45	29.4	144	31.0
Neutral	39	39.0	44	20.9	25	16.3	108	23.3
Agree /strongly agree	16	16.0	113	53.6	83	54.2	212	45.7
3. Lack of reimbursement.								
Strongly disagree/disagree	47	47.0	59	28.0	40	26.1	146	31.5
Neutral	37	37.0	50	37.7	26	17.0	113	24.4
Agree /strongly agree	16	16.0	102	48.3	87	56.9	205	44.2
4. Too time-consuming.								
Strongly disagree/disagree	61	61.0	42	19.9	55	35.9	158	34.1
Neutral	30	30.0	62	29.4	23	15.0	115	24.8

Agree /strongly agree	9	9.0	107	50.7	75	49.0	191	41.2
5. Lack of appropriate equipment								
Strongly disagree/disagree	61	61.0	42	19.9	55	35.9	158	34.1
Neutral	16	16.0	113	53.6	83	54.2	212	45.7
Agree /strongly agree	39	39.0	44	20.9	25	16.3	108	23.3

Table (4) shows barriers to Complementary and Alternative Therapy for nursing student. Nearly half of students (49.8%) strongly agree about lack of evidence for practices. Also, 41.2% of total students strongly agree about time consuming was a barrier and 23.3 % of students agree about lack of appropriate equipment as a barriers,

Table(5): Percentage Distribution of Nursing Students in Relation to their Sources of Information of Complementary and Alternative Therapy (CAT)

Items	2 nd year students		3 rd year students		4 th year students		Total students		X ²	P
	No.	%	No.	%	No.	%	No.464	%		
1. Internet:									38.77	0.001
Not useful at all/not useful	9	9.0	50	23.7	40	26.1	99	21.3		
Somewhat useful	21	21.0	68	32.2	42	27.5	131	28.2		
Useful/very useful	70	70.0	93	44.1	71	46.4	234	50.4		
2. Textbooks:									23.49	0.001
Not useful at all/not useful	14	14.0	43	20.4	41	26.8	98	21.1		
Somewhat useful	25	25.0	73	34.6	40	26.1	138	29.7		
Useful/very useful	61	61.0	95	45.0	72	47.1	228	49.1		
3. Journal articles:									25.54	0.001
Not useful at all/not useful	11	11.0	46	21.8	28	18.3	85	18.3		
Somewhat useful	32	32.0	70	33.2	40	26.1	142	30.6		
Useful/very useful	57	57.0	95	45.0	85	55.6	237	51.1		
4. Lectures:									22.66	0.001
Not useful at all/not useful	15	15.0	42	19.9	32	20.9	89	19.2		
Somewhat useful	25	25.0	80	37.9	46	30.1	151	32.5		
Useful/very useful	60	60.0	89	42.2	75	49.0	224	48.3		
5. Observation of techniques:									23.60	0.001
Not useful at all/not useful	17	17.0	42	19.9	32	20.9	91	19.6		
Somewhat useful	23	23.0	77	36.5	39	25.5	139	30.0		
Useful/very useful	60	60.0	92	43.6	82	53.6	234	50.4		
6. Case-based learning:									15.43	0.017
Not useful at all/not useful	15	15.0	55	26.1	27	17.6	97	20.9		
Somewhat useful	25	25.0	69	32.7	47	30.7	141	30.4		
Useful/very useful	60	60.0	87	41.2	79	51.6	226	48.7		
7. Self- practice use:									30.41	0.001
Not useful at all/not useful	29	29.0	27	12.8	31	20.3	87	18.8		
Somewhat useful	21	21.0	86	40.8	50	32.7	157	33.8		
Useful/very useful	50	50.0	98	46.4	72	47.1	220	47.4		

Table(5) shows sources of information of complementary and alternative therapy. Nearly half 50.4% of students had knowledge of CAT from internet as a very useful source compared to 85.7% of the faculty staff. Meanwhile, 50.4% of the students take knowledge of CAT from observation of the techniques as a very useful source compared to 80% of staff with highly statistically significant difference.

Figure (2): Percentage Distribution of Nursing Students according to Attitude toward Practicing Different Types of Complementary Alternative therapy of Practice

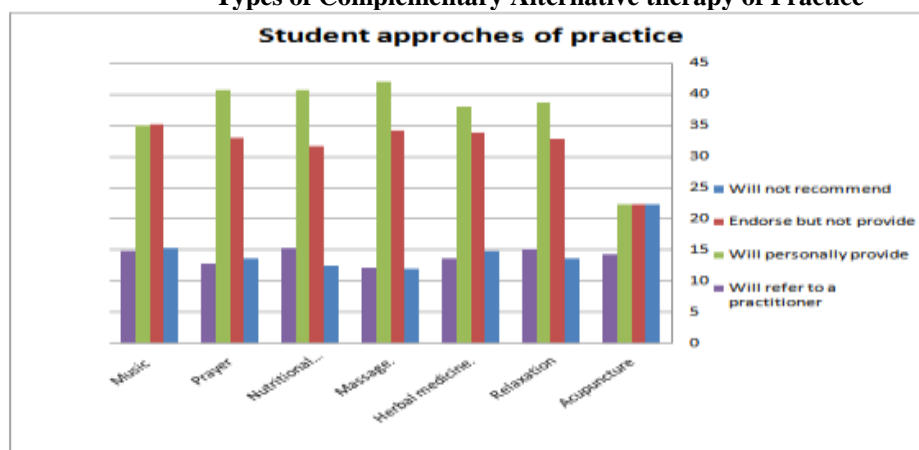


Figure (2) shows Percentage Distribution of nursing students according to attitude toward practicing different types of complementary alternative therapy of Practice CAT. (14.2%) of students will refer acupuncture to practitioner. While, (38.6%) of students will personally provide relaxation technique. Meanwhile, near half of students (40.7%) will personally provide prayer.

Table (6): Comparison of total item mean score of Complementary and Alternative Medicine (CAM)

Items of CAM	Total Score Mean±SD			F	P
	2 nd year students	3 rd year students	4 th year students		
General attitude	74.1±5.9	70.3±10.7	71.4±12.3	3.055	0.028*
Barriers	56.9±10.7	73.1±15.8	71.8±18.7	27.958	0.001*
Resources of information	65.7±13.6	59.1±21.3	58.7±19.0	5.152	0.002*
Approaches in practice	67.8±9.6	62.0±16.3	62.0±15.9	4.932	0.002*

*Significant

Table (6) shows comparison of total item mean score of complementary and alternative medicine. Mean score of general attitude for 2nd year nursing students 74.1±5.9 significantly different from 3rd year students was 70.3±10.7. Also, mean value of resources of complementary and alternative therapy information for students in 2nd year students was 65.7±13.6 significantly different from mean value of students in 4th year students was 58.7±19.0.

VII. Discussion

Current nursing practice requires adequate knowledge of Complementary and Alternative Therapy CAT because consumer demand is growing. CAT are used with the intent to reduce stress, improve well-being, prevent illness, avoid or minimize side effects and symptoms, and/or to control or cure disease. ⁽¹⁻²⁾ Increased consumer use of complementary and alternative Therapy (CAT) is creating concerns about patient safety and health care provider education. In recent years, the popularity of using complementary and alternative Therapy (CAT) as a health care option has increased dramatically all over the world especially in developing countries due to increase in chronic diseases among the population and the demand to consume CAM for healing process. Thus it increased patient's interest to request more information from medical practitioners and nurses who are front health care providers ⁽¹⁸⁾.

Nurses are responsible for assessing the appropriateness of the complementary therapy; they must have sufficient knowledge of the action and effects of the therapy to assess the risks and benefits for the particular client. Nurses need to access available resources to obtain information about the particular intervention to determine appropriateness in the context of the situation. The client must have access to this information to make an informed choice. ⁽¹⁹⁾ So, this study aims to assess nursing students knowledge, practice, attitudes and barriers related to Complementary and Alternative Therapy.

Regarding knowledge about complementary and alternative medicine, nearly two third of nursing students had fair level of knowledge about definition and benefit and risk of CAT also common modalities used as acupressure, herbal, nutritional supplement, massage relaxation and prayers this agreed with **Uzunetal(2004)** ⁽²⁰⁾ students expressed knowledge about massage, diet, vitamins, herbal products, and praying. They had limited knowledge about biofeedback. Nursing students' knowledge about CAT in general, was found to be limited. Moreover lacking CAT related knowledge can undermine nurses' ability to have effective partnerships with their patients to maximize adaptive responses to illness and promote wellness. ⁽²¹⁻²²⁾

Moreover, in study done by **Hassan et al. (2012)** ⁽²³⁾ found that most common complementary and alternative medicine has been recommended by nursing students were herbal therapies, massage therapy, meditation, diet and nutritional therapy. Knowledge deficits have been associated with serious and even life threatening adverse events. For example, patients who use plant-based dietary supplements are at risk for developing postoperative bleeding if they do not terminate their supplement use prior to surgery. It is essential that nurses assess their patients' use of dietary supplements and assist them to make informed decisions about their use. ⁽¹⁴⁾

Regarding general attitude, nursing students had positive attitude for most number of items of attitude. This is in agreement with **Shorofi and Arbon (2010)** ⁽²¹⁾ who stated that 59% of nurses have positive attitudes towards CAT use and 41.6% of them perceive 'CAT as an important aspect of their own family's health care'. These findings indicate that nurses are ready to respond to the public's preference in hospital and to assist clients to make informed decisions about the use of CAT. Moreover, in a number of studies, the majority of nursing students (both undergraduate and graduate) have expressed their positive attitudes towards CAT, agreement with the need to learn more about the nature of CAT modalities, and a desire to learn more about effective strategies for integrating CAT knowledge into standard health care curricula ⁽²⁴⁾.

Also in the current study, near two thirds of nursing students had positive attitude toward the use of complementary medicine, this similar to **Karen Avino (2011)** ⁽²⁾ whose study on faculty staff and students showed positive attitudes toward CAT (faculty staff: 80%, n=114 versus more than three quarter of students: 77%,

n=436). Faculty staff and students showed similar responses to attitudes in all areas of CAT. Furthermore, the current study has positive agreement on “While we need to be cautious in our claims, a number of CAT approaches hold promise for the treatment of symptoms, conditions, and/or diseases.”

In relation to barriers of using complementary therapy in the present study nearly half of nursing students strongly agree about lack of evidence for practices compared to more than one quarter of educators. Also, less than half of students strongly agree about unavailability of trained staff as barrier compared to more than one tenth of educators, this is agreed with **Karen Avino, (2011)**⁽²⁾ who stated that lack of evidence and lack of staff training were the top barriers reported. Also more than half of nursing students reported other barriers, which included legal barriers, unavailability of providers, lack of reimbursement, and lack of equipment.

Regarding approaches in practice Most nursing students reported that they would use CAT in clinical care by endorsing, providing personally, or referring to a CAT practitioner. This finding is in agreement with **Chu, Wallis (2007)**⁽²⁴⁾ in their survey found that 98.3% of nurses practiced CAM therapies. Also this results in agreement with **Marcy Halterman(2009)**⁽¹⁶⁾ who studied the prevalence of professional use of CAT among Taiwanese nurses, which was reported to be 63.5%.

In the present study nearly half of nursing students gain knowledge of CAT from internet as a very useful source. Meanwhile, half of the students receive their knowledge of CAT from observation of the techniques as a very useful source. This is constant with **Kilicetal., (2009)**⁽²⁵⁾ who stated that the study of internet, books and newspaper/journals were the main information sources for CAM. **Sohn and Loveland Cook (2002)**⁽²⁶⁾ also identified that the source of nurses' knowledge about complementary therapies had not derived from professional education, but from their personal experience.

The nursing profession can provide direction to the practice of complementary therapies by incorporating traditional practices, such as assessment, reflection and holism, in the performance of these techniques⁽⁸⁾. It is imperative that nurses as the main providers of health care and the largest health professional group, have an in-depth knowledge of how these therapies work and the potential adverse interactions that may occur between such therapies and conventional medicine.⁽²⁴⁾

VIII. Conclusion:

This study concluded that two third of nursing students had fair level of knowledge, positive attitudes, and more willing to practice CAT. Also they need to learn more about CAT modalities, and had a desire to learn more about effective strategies for integrating CAT knowledge into standard health care practice.

IX. Recommendation:

- 1- Providing information about CAT in the nursing curriculum is important for faculty because they are responsible for being current in contemporary nursing practice and providing safe patient care.
- 2- Nursing students should be updated with recent advances in medicine

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