

Impact of Palliative Care Education on Nurses' Knowledge, Attitude and Experience Regarding Care of Chronically Ill Children

Samya El-Nagar¹ Josephin Lawend²

1.Lecturer of Pediatric Nursing, Faculty of Nursing, Menofia University, Egypt

2.Lecturer of Pediatric Nursing, Faculty of Nursing, Mansoura University, Egypt

* E- mail of the corresponding author: dr.samya60@yahoo.com

Abstract

Palliative care of children is the active total care of the child's body, mind, spirit and also involves giving support to the family. It also begins when illness is diagnosed and continuous regardless of whether or not a child receives treatment directed at the disease. The aim of this study was to evaluate the impact of palliative care education on nurses' knowledge, attitude and experience regarding care of chronically ill children. Quasi experimental design was conducted for this study. The study was conducted in the pediatric units in Menoufiya University Hospital in pediatric medical ward and ICU unit. Tool of data collection was an interviewing questionnaire sheet which includes Socio-demographic Data; Nurses' knowledge; Nurses' attitude and Nurses' experience. Results of the study revealed that less than two thirds (63.3%) of nurses have bachelor degree, and none of them caring for dying children in the past year. Regarding nurses' knowledge less than one third of them (30%) in pretest correctly know the philosophy of palliative care is compatible with that of aggressive treatment compared to 60% in posttest. Also, there were statistically significant difference between pre and posttest relating to nurses' attitude in Length of time required to give care to a dying person would frustrate me. In relation to nurses' experience, 10% of them in pretest have nursed a dying patient with no resuscitate order compared to 70 % of them in posttest. It was concluded that the majority of studied nurses were bachelor degree and most of them none caring for dying children in the past year. Also there were significant difference in nurses' knowledge pre/ post intervention regarding care of chronically ill children and highly significant difference in nurses' attitude and practice pre/ post intervention related to care of chronically ill children. It was recommended working within systems to develop programs to link hospital's end-of-life care programs with the community hospice home care agencies, so that children and their families can return home and receive excellent care. Furthermore, evaluating the future impact of such educational programs can be accomplished by furthering research to include conducting qualitative research to evaluate if patient care was significantly improved as a result of the educational program used.

Introduction

Patients with life limiting illnesses can be found in almost all areas of health care, nurses who work across the health system can find themselves in clinical situations where palliative care knowledge is needed, even if they are not specialist nurses, this kind of palliative approach to nursing care is delivered everywhere that patients can be found, such as in community care, surgical units and emergency departments.(1)

Each year in the U.S., 55,000 children less than 20 years of age die, and many of these children experience a lengthy illness.(2) Common diagnoses affecting the length of children's lives include prematurity, congenital anomalies, sudden unexpected infant death syndrome(SIDS), chromosomal defects, trauma, neurodegenerative disorders, acquired immunodeficiency syndrome (AIDS), and cancer. Cancer remains the leading cause of disease related death in children and adolescents. It is estimated that 25% to 33% of children with cancer die; the average number of cancer deaths in children is 2,200 per year in the U.S.(3) However, even with these statistics, children's palliative care programs are not as prevalent as adult programs.(4)

Palliative care is specialized medical care for people With serious illnesses. It focuses on providing patients with relief from the symptoms, pain and stress of serious illness whatever the diagnosis the goal is to improve quality of life for both patients and the family. Also it is provided by a team of doctor, nurses and other specialists who work together with a patients to provide an extra layer of support. It is appropriate at any age and any stage in serious illness and can be provided along with curative treatment.(5) Furthermore, Palliative care treats people suffering from serious illnesses such as cancer, cardiac disease, chronic obstructive pulmonary diseases, kidney failure, and many more. It focuses on symptoms such as pain, shortness of breath, fatigue, constipation, nausea, loss of appetite, difficulty sleeping and depression. It also helps patient to gain the strength to carry on with daily life and improve his ability to tolerate medical treatments.(6)

Palliative care of children is the active total care of the child's body, mind, spirit and also involves giving support to the family. It also begins when illness is diagnosed and continuous regardless of whether or not a

child receives treatment directed at the disease. Health providers must evaluate and alleviate a child's physical, psychological and social distress. Effective palliative care requires a broad multidisciplinary approach that includes the family and makes use of available community resources, it can be successfully implemented even if resources are limited. It can be provided in tertiary care facilities, in community health centers and even in children's home. (7)

The goal of palliative care is to enhance the quality of life for child and family and to assist families in making important decisions about their child's care, any child who has a serious, complex, or life threatening condition whether he or she is expected to make a full recovery, live with a life long chronic illness or die from the condition may be a candidate for palliative care. It is helpful for children coping with diseases like cancer, neurological conditions, human immunodeficiency virus, heart, lung, kidney or liver diseases. Palliative care can be provided at any time during child's illness even from the time of diagnosis. It is not dependent on prognosis and may be provided along with life prolonging or curative care. It can be provided in hospital, outpatient setting and at home.(8)

Palliative care is an important mode of care for children with life threatening illnesses in that the goal is to prevent or relieve physical, psychological, social, emotional and spiritual suffering while improving the quality of life for children and their families. Palliative care education increase staff knowledge, improve nursing skills and enhance competency.(9)

Pediatric palliative care (PPC) is focused on ensuring the best possible quality of life for children whose illness makes it likely that they will not live to become adults. Such care includes the family and extends into the domains of physical, psychological, social, and spiritual wellbeing. The frequency and circumstances of childhood mortality are geographically and socioeconomically dependent, with some children having full access to the newest and costliest treatments and others little access to even basic medical care, food, and clean water. Applying the principles of PPC to a particular child and their family will thus vary depending on the availability of local resources and training. While recognizing the need to improve access for the many children worldwide that lack basic medical care, all children facing the possibility of death would benefit from the application of basic, low-cost principles of PPC.(10)

It is important to emphasize on basic Principles of Palliative Care first; Emphasis on quality of life for child and his family through improved symptom management and improved communication between families and providers, as well as between providers. All patients with life-threatening illnesses can benefit from improved communication symptom management. (11) Second; Symptom Management that are most distressing to pediatric patients and their families receiving palliative care as: a) pain, b) dyspnea, c) gastrointestinal disturbances, and d) neurological changes. Assessment and treatment of symptoms should be done in the least invasive way possible and should not cause more distress than the original symptom. Also, the third principal, Communication and Decision Making, it is key in pediatric palliative care between patients/families and providers, as well as between providers caring for the child.(12)

The WHO ladder provides a three step approach with pharmacologic recommendations for managing acute pain and is a good place for providers to start when addressing pain.(12) The use of opioids for relief of pain should not be avoided, and children with advanced disease or those who have developed a tolerance may require high doses of opioids to achieve adequate pain relief. Tolerance to these opioid drugs is not the same as a psychological addiction; some children may require very high doses to experience relief from pain, but when used for pain relief and administered as prescribed, the risk of addiction is very low. Nurses should be aware that many children who require chronic pain relief, especially at the end of life, may be on exceptionally high doses of pain-relieving drugs. Providers should discuss pain management goals with patients and families to determine their goals for achieving a balance between pain management and sedation when using these medications. (13) Non-drug modalities that can be employed for pain relief include acupuncture, massage, and radiation therapy, as well as distraction, positioning, and hot and cold applications.(11)

Pediatric nurses witness inappropriate use of aggressive curative treatments that may prolong the dying process, lack of adequate training among health care professionals to provide safe and effective ways to control pain, poor communication with family members, delayed access to pediatric hospice/palliative care services, and inadequate reimbursement for those services.(14)(15) Pediatric nurses are confronted with related occurrences dealing with a myriad of complicated physical, psychological, legal, ethical, social, and spiritual dilemmas. Yet studies show that pediatric nurses are not equipped to deal with these many difficult issues. Deficiencies in end-of-life (EOL) content in nursing textbooks and in nursing school curriculum have ill-equipped pediatric nurses to assist children and families facing the end of life.(16) Previous researchers have documented that nurses also face ethical dilemmas in the clinical setting, such as conflicts about administering pain medication to patients at the end of life, communicating with patients and families, and nursing involvement in patient decision-making regarding foregoing nutrition and hydration.(17)

Nurses have a unique opportunity to not only help prepare the child and family for the time of death, but also

assist with the actual journey of how they get to that final moment. Pediatric nurses play a distinctive role in advocating, promoting, and providing excellent care to these children and their families. Education is the key to give pediatric nurses the skills and confidence they need to do this very important work.(18) Although many reasons have been cited in the literature for this inadequacy, the fact remains that when nurses complete their basic education and enter practice, they often are grossly unprepared to care for children and families in need of end-of-life care.(15) Yet due to the numerous years of educational deficiencies related to EOL care, it became evident that further education must be provided to pediatric nurses. Hence, the end-of-life nursing education pediatric palliative care training program was developed to address these educational deficiencies. Through this study that is therefore designed to evaluate the impact of palliative care education on nurses' knowledge, attitude and experience regarding care of chronically ill children.

Aim of the study:

The aim of this study was to evaluate the impact of palliative care education on nurses' knowledge, attitude and experience regarding care of chronically ill children through:

- Identify nurses needs of knowledge and experience related to palliative care.
- Develop education guidelines booklet according to nurses' needs.
- Evaluating the impact of education guidelines booklet on nurses knowledge and experience regarding to care of chronically ill children.

Research hypotheses:

Palliative care guidelines education increase the nurses knowledge and practice regarding to care of chronically ill children's

There will be statistically significant differences among pre test group subjects and post test to the same group in relation to nurses' knowledge about palliative care for chronically ill children.

There will be statistically significant differences among pre test group subjects and post test to the same group in relation to nurses' attitude about palliative care for chronically ill children.

There will be statistically significant differences among pre test group subjects and post test to the same group in relation to nurses' experience about palliative care for chronically ill children.

Subjects and methods :

Research design : Quasi experimental design was conducted for this study.

Setting: The study was conducted in the pediatric units in Menoufiya University Hospital in pediatric medical ward and ICU unit.

Sample: A convenient sample of 30 registered nurses who's worked in the mentioned above setting.

Tools of data collection :

• An interviewing questionnaire sheet:

The questionnaire was developed by the researcher in an Arabic language to assess the nurses knowledge, attitude and experience pre and post test related to palliative care. It comprised of the following parts :

1. **Socio-demographic Data:** as age of nurses, qualifications, years of experience, nurses caring for dying children in the past year.
2. **Nurses' knowledge** about palliative care and its philosophy, pain, gastrointestinal problems ...etc.
3. **Nurses' attitude:** It was constructed to show attitudes of the nurses toward palliative care as respect the patient as individual, value of giving care to dying patient, values regarding families in shared decision making, values of giving honest answer for the patient regarding the condition, and the value of educating families regarding death.
4. **Nurses' experience:** through asking questions as regard administration of prescribed opiate drugs, symptoms management as pain, dyspnea, gastrointestinal disturbances, neurological changes.

Scoring system: The questionnaire consisted of 20 items of true and false questions to assess the knowledge and another 20 items of yes and no questions to assess experience were provided. Score +1 for a correct answer, zero for an incorrect answer was considered. The total scores of questionnaire were less than 50% was graded as poor, 50% to less than 75% score was graded as average, and more than 75% score was graded as good.

Also, 30 items were on 5 points likert attitude scale (strongly disagree, slightly disagree, agree, slightly agree, strongly agree) each of them has five alternatives from 1-5. Nurses attitude was considered.

Validity test was done by 5 experts of faculty nursing staff from the pediatric nursing.

Reliability test was done by applying the questionnaire to 10 nurses using test-retest

Guidelines for Nurses:

Guidelines were designed by the researchers according to actual educational need assessment of the studied nurses.

1. Program Assessment Phase :

Review of relevant literatures and Preparation of the guideline model design for objectives and contents. The general objective of the guideline model is to improve the nurses' knowledge, attitude and experience regarding to palliative care to chronically ill children. The researchers began with implementation of pretest to identify and determined the weak points of the nurses' knowledge and experience toward palliative care, and gave the nurses the basic knowledge about palliative care, pain management and gastrointestinal manifestations.

2. Planning phase:

The guidelines were in a form in Arabic language to be easy understood for the nurses. Pretest was given to identify weakness in nurses' knowledge to include it in the guidelines. The content of the educational guidelines has information about palliative care, pain management, gastrointestinal manifestations and dyspnea. Also regarding practice such as symptoms management as pain, dyspnea, GIT disturbances and neurological changes. Attitudes of the nurses toward palliative care as respect patient as individual, value of giving care to dying patient, values regarding families in shared decision making, values of giving honest answer for the patient regarding the condition, and the value of educating families regarding death.

3. Implementation Phase:

A clear and simple explanation was offered to nurses about aim of the study and its expected outcomes. Each nurse was assessed individually (10-20 minutes) using the previously mentioned tools. The total number of the sample was 30 nurses was divided by 5 nurses per week. The guidelines were introduced to each nurse separately over a period of one months and two weeks, 2 sessions /week the total numbers of sessions was 12 sessions. Each session is ranged from 60 - 90 minutes. In the first session pre-test was done and objectives of the program were explained to the nurses. Also, a copy from guidelines was given to each nurse, then the subject of the session was introduced followed by a period of discussion.

4. Evaluation phase:

The evaluation of the effectiveness the educational guidelines were measured after one month by reassessing the nurses' knowledge and experience by using the same tools.

Limitation of the study

1. The nurses in oncology department are not specified for pediatric children only but also for adults, for this reason they are not included in the study.
2. Many of the nurses were too overloaded with work, and there were many interruptions during the time of answering of questionnaires.

Ethical consideration:

Permission to conduct the study will be obtained from the dean of the Faculty and administrator of hospital manager. Verbal consent will be obtained from each participant. The researchers will offer adequate information about the study purposes and its significance. Participation is voluntary. Participants will be assured that their responses would be confidential and information that might reveal their identity would not be recorded, and only aggregated data would be communicated.

Pilot study

A pilot study was carried out on 5 nurses who working in the medical ward and ICU unit of Pediatrics in Menoufiya University Hospital in order to test the applicability of tools and clarity and simplicity of the included questions as well as to estimate the average time needed to fill in the sheets. Those who shared in the pilot study were excluded from the main study sample. Necessary modifications were carried out based on finding of pilot study to develop the final form of the tools.

Field work

Preparation of data collection tools was carried out about period of two months and from beginning of February to March 2013 after revised from experts' opinions.

Once the official permission was granted to proceed with the proposed study, plan for appointment with nurses to explain the nature & purpose of the study, as well as to discuss the plan of work to ensure their cooperation will be accomplished.

Data collection was carried out two days / week (Monday and Wednesday) from 10 a.m. to 1 p.m. For assessment 5 nurses / week. Each study subject was interviewed and assessed individually using study tool. The program of palliative care was carried out in 2 sessions for knowledge and practice including time for discussion in order to detect any defects. This was done through pre and post administration of an interviewing questionnaire.

Statistical Design:

Data were revised, coded, tabulated and analyzed using numbers and percentage distribution and carried out in a PC computer SPSS program. The following statistical techniques were used: Percentage. Mean. Standard deviation- Test for quantity variables. Paired t-test for comparison of paired two quantity variables and Wilxon test.

Significance of the Results:

- When $p > 0.05$ it is statistically insignificant difference.
- When $p < 0.05$ it is statistically significant difference.
- When $p < 0.01$ or $p < 0.001$ it is high statistically significant difference.

Results:

Table (1): Sociodemographic Data of the Studied Nurses:

Nurses Characters	No	%
Age		
20 < 25	6	20
25 < 30	5	16.7
30 < 35	7	23.3
35 < 40	9	30
40 ≥ 45	3	10
Qualifications		
Diploma Nursing	8	26.7
Associate Nursing	3	10
B.Sc. Nursing	19	63.3
Years of Experience		
1 < 5	19	63.3
5 < 10	8	26.7
≥10	3	10
Nurses caring for dying children in the past year		
1. None	19	63.3
2. 6 - 10	9	30
3. > 10	2	6.7
Clinical work area		
Inpatient ward	23	76.7
Intensive care	7	23.3

Table (1) showed sociodemographic data of studied nurses, according to their age, it was found that less than one third of the studied nurses were 35 < 40. In relation to qualification and years of experience of the studied nurses, it was found that 63.3% of them were bachelor nurse while only 10% of them were associate nursing. It was noticed also that more than one quarter of them 26.7% had years of experience ranged from 5 < 10 years, while 63.3% of them none caring for dying children in the past year.

Table(2): Distribution of nurses' knowledge Pre and Post Intervention Regarding Care of Chronically Ill Children

Statements	Pre test				Posttest				Z	P
	Correct		Incorrect		Correct		Incorrect			
	No.	%	No.	%	No.	%	No.	%		
1 Palliative care is only appropriate in situations where there is evidence of deterioration	18	60	12	40	19	63.3	11	36.7	4.025	0.000*
2 Morphine is standard used to compare analgesic effect of other opioids.	15	50	15	50	23	76.7	7	23.3	3.545	0.000*
3 The extent of disease determines the method of pain treatment.	15	50	15	50	20	66.7	10	33.3	4.492	0.000*
4 Adjuvant therapies are important in managing pain.	13	43.3	17	56.7	22	73.3	8	26.7	4.379	0.000*
5 It is crucial for family members to remain at the bedside until death occurs.	10	33.3	20	66.7	15	50	15	50	3.771	0.000*

6	During the last days of life, drowsiness associated with electrolyte imbalance may decrease the need for sedation.	9	30	21	70	15	50	15	50	4.690	0.000*
7	Drug addiction is a major problem when morphine is used on a long term basis for the management of pain.	7	23.3	23	76.7	16	53.3	14	46.7	4.379	0.000*
8	Individuals who are taking opioids should follow bowel regimen	6	20	24	80	22	73.3	8	26.7	4.796	0.000*
9	The provisions of palliative care require emotional detachment.	10	33.3	20	66.7	18	60	12	40	4.796	0.000*
10	During terminal stages of, drugs that can cause respiratory depression are appropriate for treatment of severe dyspnea.	11	36.7	19	63.3	19	63.3	11	36.7	4.359	0.000*
11	Fathers generally reconcile their grief more quickly than Mothers.	17	56.7	13	43.3	22	73.3	8	26.7	4.200	0.000*
12	The philosophy of palliative care is compatible with that of aggressive treatment.	9	30	21	70	18	60	12	40	5.000	0.000*
13	The use of placebos is appropriate in treatment of some types of pain.	12	40	18	60	16	53.3	14	46.7	4.583	0.000*
14	In high doses codeine causes more nausea and vomiting than morphine.	12	40	18	60	19	63.3	11	36.7	4.583	0.000*
15	Suffering and physical pain are synonymous.	9	30	21	70	15	50	15	50	4.359	0.000*
16	Demerol is not an effective analgesic for the control of chronic pain.	8	26.7	22	73.3	16	63.3	14	46.7	4.491	0.000*
17	The accumulation of losses renders burnout inevitable for those who work in palliative care.	5	16.7	25	83.3	17	56.7	13	43.3	4.899	0.000*
18	Manifestations of chronic pain are different from those of acute pain.	12	40	18	60	18	60	12	40	4.359	0.000*
19	The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate	9	30	21	70	19	63.3	11	36.7	4.600	0.000*
20	Pain threshold is lowered by fatigue or anxiety.	13	43.3	17	56.7	19	63.3	11	36.7	4.025	0.000*

Table (2) showed nurses' knowledge pre and post intervention regarding care of chronically ill Children. In this table about half percent of the nurses (50%) in pretest answered correct that Morphine is standard used to compare analgesic effect of other opioids compared to more than three quarters (76.7%) in posttest. Also, about 66.7% of the nurses answered incorrect about the provisions of palliative care require emotional detachment in pretest compared to 40% of them in posttest. Furthermore, 43.3% of the nurses answered correct in pretest in relation to Pain threshold is lowered by fatigue or anxiety compared to 63.3% of them in posttest with highly statistically significant difference.

Table(3): Distribution of Nurses' Attitude Pre and Post Intervention Regarding Care of chronically Ill Children

	Statements	Pretest	Posttest	T test	P
		M+SD	M+SD		
1	Giving care to the dying person is a worthwhile experience.	1.333+0.4794	0.5333+0.5074	5.757	0.000*
2	Death is not the worst thing that can happen to a person.	1.2667+0.4497	3.333+0.9579	9.654	0.000*
3	I would be uncomfortable talking about impending death with dying person.	1.3699+0.4901	3.2333+0.9714	8.764	0.000*
4	Caring for the patient's family should continue throughout the period of grief and bereavement.	1.333+0.47946	3.0333+1.0662	8.102	0.000*
5	I would not want to care for a dying person.	1.4000+0.4982	3.2333+1.0400	10.189	0.000*
6	The non-family care-givers should not be the one to talk about death with the dying person.	1.9000+1.0618	3.6000+1.372	5.667	0.000*
7	Length of time required to give care to a dying person would frustrate me.	1.3000+0.4660	3.1667+1.0854	8.995	0.000*
8	I would be upset whendying person I was caring for, gave up hope of getting better..	1.4000+0.4982	3.4333+0.9714	9.150	0.000*

9	It is difficult to form a close relationship with dying person.	2.0333+0.9994	3.2000+0.8051	5.178	0.000*
10	There are times when death is welcomed by the dying person.	1.7333+0.6396	3.266+0.8276	8.063	0.000*
11	When a patient asks, "Am I dying?", I think it is best to change the subject to something cheerful.	1.433+0.5040	3.266+1.0148	8.137	0.000*
12	The family should be involved in the physical care of the dying person if they want to.	1.533+0.7303	3.4667+0.8603	8.420	0.000*
13	I would hope person I'm caring for dies when I'm not present.	1.6000+0.6214	3.2333+0.7738	8.951	0.000*
14	I am afraid to become friends with a dying person.	1.8000+0.9247	3.0333+0.8899	5.656	0.000*
15	I would feel like running away when the person actually died.	1.7000+0.7022	3.333+1.09334	7.030	0.000*
16	Families need emotional support to accept behavior changes of dying patient.	2.2000+1.0954	3.5000+1.1064	4.227	0.000*
17	As a patient nears death, the non-family care-giver should withdraw from his/her involvement with the patient.	1.8000+0.5508	3.0333+1.1885	5.286	0.000*
18	Families should be concerned about helping their dying member make the best of his remaining life.	1.5000+0.6297	3.433+0.9714	8.813	0.000*
19	The dying person should not be allowed to make decisions about his physical care.	1.4333+0.6789	3.200+0.8051	9.304	0.000*
20	Families should maintain as normal environment as possible for their dying member. measure in symptom control.	1.3000+0.5349	3.666+0.9222	12.544	0.000*
21	It is beneficial for dying person to verbalize his feelings.	1.6333+0.7184	3.6000+0.7239	9.063	0.000*
22	Care should extend to the family of the dying person.	1.6333+0.6149	3.7667+0.9352	11.217	0.000*
23	Care-givers should permit dying persons to have flexible visiting schedules.	1.667+0.6064	2.7333+1.0148	5.406	0.000*
24	Dying person and his family should be in charge decision makers.	1.4333+0.4982	3.5333+1.0080	10.280	0.000*
25	Addiction to pain relieving medication should not be a concern when dealing with a dying person	1.333+0.4794	1.333+0.4794	7.023	0.000*
26	I would be uncomfortable if I entered room of a terminally ill person.	1.3667+0.6149	3.7000+1.0553	11.366	0.000*
27	Dying persons should be given honest answers about their condition.	1.7000+0.7497	3.3000+1.0221	6.595	0.000*
28	Educating families about death and dying is not a non-family care-givers responsibility.	1.7667+0.8172	3.5333+1.0080	7.913	0.000*
29	Family members who stay close to a dying person often interfere with the professionals' job with the patient.	1.6333+0.6686	3.5333+1.2521	7.077	0.000*
30	It is possible for non-family care-givers to help patients prepare for death.	1.5000+0.6297	0.6667+0.4794	5.767	0.000*

Table (2) illustrates comparison between mean Score of nurses' attitudes about palliative care. The mean score of nurses about pretest Giving care to the dying person is a worthwhile experience was 1.333+0.4794 while posttest was 0.5333+0.5074. Also, in relation to attitude that The family should be involved in the physical care of the dying person if they want to; the pretest mean score was 1.533+0.7303 while posttest mean score was 3.4667+0.8603. Meanwhile pretest mean score of them toward Addiction to pain relieving medication should not be a concern when dealing with a dying person 1.333+0.4794 while post test mean score 1.333+0.4794 with highly statistically significant difference.

Table (4) : Distribution of Nurses' Practice Pre and Post Intervention Regarding Care of Chronically Ill Children

Statements	Pre test				Posttest				Z	P	
	Yes		No		Yes		No				
	No.	%	No.	%	No.	%	No.	%			
1	I have been present as a nurse when a patient has died.	6	20	24	80	18	60	12	40	2.828	0.005*
2	I have been in charge of nursing care for a dying patient.	3	10	27	90	20	66.7	10	33.3	3.578	0.000*
3	I have used integrated care pathway for palliative care.	5	16.7	25	83.3	18	60	12	40	3.207	0.001*
4	I have been part of an interdisciplinary team that identified a patient as dying.	4	13.3	26	86.7	16	53.3	14	46.7	3.000	0.003*
5	I have collaborated with an interdisciplinary team in delivering end-of-life care for a dying patient.	3	10	27	90	20	66.7	10	33.3	3.900	0.000*
6	I have nursed a dying patient with no resuscitate order.	3	10	27	90	21	70	9	30	3.710	0.000*
7	I have set up a syringe driver for subcutaneous administration of anticipatory prescribed medications.	4	13.3	26	86.7	22	73.3	8	26.7	3.900	0.000*
8	I have administered prescribed opiate drugs to a dying patient to control pain.	6	20	24	80	23	76.7	7	23.3	3.578	0.000*
9	I have administered prescribed drugs to a dying patient to control respiratory secretions.	2	6.7	28	93.3	23	76.7	7	23.3	4.472	0.000*

10	I have administered prescribed drugs to a dying patient to control breathlessness.	2	6.7	28	93.3	23	76.7	7	23.3	4.264	0.000*
11	I have been involved in cessation of artificial hydration for a dying patient.	4	13.3	26	86.7	24	80	6	20	4.359	0.000*
12	I have been involved in cessation of artificial feeding for a dying patient.	6	20	24	80	23	76.7	7	23.3	3.771	0.000*
13	I have dealt with nausea and vomiting episodes for a dying patient.	4	13.3	26	86.7	24	80	6	20	4.359	0.000*
14	I have managed constipation for a dying patient.	6	20	24	80	20	66.7	10	33.3	3.300	0.001*
15	I have inserted a urinary catheter to manage urine retention for a dying patient.	7	23.3	23	76.7	21	70	9	30	3.130	0.002*
16	When caring for a dying patient I have been involved making decision to cease routine care and comfort.	8	26.7	22	73.3	24	80	6	20	3.771	0.000*
17	I have managed physical comfort measures for a dying patient with the provision of an air mattress.	5	16.7	25	83.3	20	66.7	10	33.3	3.873	0.000*
18	I have discussed the prognosis of dying with a patient in the dying phase.	5	16.7	25	83.3	18	60	12	40	3.357	0.001*
19	I have acted as advocate for a dying patient when he needed their wishes to be heard regarding treatment.	11	36.7	19	63.3	18	60	12	40	1.807	0.07
20	I have negotiated a cessation of diagnostic interventions for a dying patient.	6	20	24	80	23	76.7	7	23.3	4.123	0.000*

Table (4) illustrated nurses' practice pre and post intervention regarding care of chronically ill children's. It was noticed that about 20% of nurses have been present as a nurse when a patient has died in pretest compared to 60% of them in posttest while 6.7% of the nurses have administered prescribed drugs to a dying patient to control breathlessness in pretest compared to 76.7% of them in posttest. Furthermore, 16.7% of nurses managed physical comfort measures for a dying patient with the provision of an air mattress compared to 66.7% of them in post test with highly statistically significant difference.

Discussion

Palliative care provides physical, emotional and spiritual support to chronically ill children and their families, It helps prevent or relieve pain and suffering while also easing stress, anxiety and the fear associated with chronic illness. Also it enhance the quality of life for children and family and to assist families in making important decision about their child's care.(19)

According to nurses socio demographic data, the finding of the present study (table 1) revealed that the age of the studied nurses were 35- 40 years and most of them were bachelor degree , also more than one quarter of them had range of experience ranged from 5 – 10 years and most of them none caring for dying children in the past year. According to the study done by (20), it was found that the majority of nurses had a wide range of experience ranged from 1 to 20 years also found that some staff members have had many opportunities to care for dying children and children families and others have yet to care for such patients.

Finding of the present study reflected that there was significant difference in nurses' knowledge pre- post intervention regarding care of chronically ill children this supported by (18) who found that palliative care education can make difference in nurses knowledge and provide information help them to increase their confidence in dealing with the ethical and legal issues they experience.

In relation to nurses' attitude pre-post intervention regarding care of chronically ill children's, it was noticed that there was highly significant difference in nurses' attitude pre/post test intervention related to care of chronically ill children's. This results supported by (21) who revealed that nurses behavior and attitude was changed in the clinical practice and they had high level of comfort and confidence in care of chronically ill children after palliative care educational for pediatric nurses. Also mentioned that, education is the key to give pediatric nurses the skills, improve their attitude they need to do this very important work. Furthermore, The results of the present study are consistent with all other studies (22)(23)(24)(25) who showed that training in taking care of dying children affects the nurses' attitude in infants and children wards. This means that nurses' attitude toward taking care of the dying children in the experiment group was increased at the end of the study compared to the time before the study.

Also, in relation to nurses' experience pre-post education regarding care of chronically ill children's, it was found that there was highly statistically significant difference in giving pain management medication as opiate which is noticed from one fifth of nurses in pretest compared to more than three quarters in posttest. This is contradicted with study of (18) which indicates that there was no significant mean difference in the scores of the comfort level with caring for dying infants among NICU nurses before and after the pain management educational session. Additionally, in a 2005 study done by (26) about pain medications, demonstrated that a significant number of healthcare professionals were hesitant to give adequate pain medications for fear of hastening the death of the child, even though those same healthcare professionals demonstrated an understanding

of the importance of pain management. Furthermore, there were statistically significant difference in pre/ post education relating to symptom management as nausea, vomiting and constipation. This is supported by (18); whose results of the study in pretest/post-test for sessions were significant. The findings suggest that the nurses are interested in learning more about controlling these. It is also possible that healthcare professionals find it easier to control physical symptoms (versus emotional and ethical issues), and therefore healthcare professionals feel more comfortable about their ability to control these symptoms. Additionally, controlling symptoms often has more tangible effects; it may be that emotional and ethical issues become a problem only when physical symptoms and burdens can not be controlled.

Conclusion

Based on the results of the present study, it was concluded that, the majority of studied nurses were bachelor degree and most of them none caring for dying children in the past year. Also there were significant difference in nurses' knowledge pre/ post intervention regarding care of chronically ill children and highly significant difference in nurses' attitude and practice pre/ post intervention related to care of chronically ill children.

Recommendations

Based on the previous finding, it was recommended that:

- 1- Ongoing end of life education is essential to meet the needs of all staff working in PICU.
- 2- Continuing education in palliative care and collaboration with other organizations and institutions.
- 3- Working within systems to develop programs to link hospital's end-of-life care programs with the community hospice home care agencies, so that children and their families can return home and receive excellent care.
- 4- Evaluating the future impact of such educational programs can be accomplished by furthering research to include conducting qualitative research to evaluate if patient care was significantly improved as a result of the educational program used.

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