

# Application of Katharine Kolcaba Comfort Theory in Post Operative Child: Delivering Integrative Comfort Care Intervention by using-Theory of Comfort –A Case Study of a 5 year Old Child Admitted in PICU with Laprotomy Experiencing Post Operative Discomfort

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**Abstract:** *Objective of case study:* To apply Katharine Kolcaba's nursing theory on post operative child admitted in PICU. **Research approach:** Case study approach was used in applying Katharine Kolcaba theory of comfort on post operative child **Application:** Katharine Kolcaba comfort theory frame work used to assess patient condition, plan and deliver integrative comfort care interventions The steps followed for data collection planning and implementing effective care were based on the presuppositions of the Katharine Kolcaba theory. The tools used for data collection were Base line information of children. Comfort Behavior check list, Taxonomy structure of comfort or Comfort Grid and Comfort Daisies. . Comfort care interventions were delivered by using nursing process approach. These interventions were addressed across physical, psychological, social, spiritual, and environmental aspects. Result of application of theory were analyzed and demonstrated improvement in child comfort level.

**Keywords:** Discomfort, Post operative, Case Study, 5 year child, PICU, Katharine Kolcaba comfort theory

## 1. Introduction

Hospitalization is one of the most stressful events that children and adults can experience. Not only are the physical surroundings different, but the procedures that children encounter for the first times are new. Anxiety, fear, withdrawal, depression, regression and defiance are a few reactions shown by children as well as adults, and they can be more severe than their reaction to illness.<sup>1</sup>

Hospitalization and surgery have negative influences on children. Rudolph, Denning, and Weisz<sup>2</sup> cited different events and influences which make the hospital a potentially stressful place. For example: (a) separation from the family and the siblings; (b) fantasies and unrealistic anxieties about darkness, monsters, murders and wild animals, which are not specifically related to hospitals but initiated by the strange situation; (c) deprivation of social contacts (which does not seem to pose a major problem today, since other children and visitors are allowed to visit bed without restrictions); (d) social demands and threats; (e) pain and other discomforts of the illness or surgery; (f) stressful medical procedures, especially extremely painful procedures such as burn wound debridement or bone-marrow aspirations and (g) fears of disablement and death.

Kain zn, Mayes lc, O'connor tz, Cicchetti dv:<sup>3</sup> revealed that many as 50-60% of children undergoing surgery show

postoperative behavioral changes including separation anxiety, sleep disturbances, aggression towards authority, temper tantrums, and eating problems.

Nurses use various kinds of strategies in reducing discomfort in children. Pölkki T, Vehviläinen-Julkunen K, Pietilä AM<sup>4</sup> did survey on use of non pharmacological methods in relieving children's (8-12-year) postoperative pain on hospital nurses in Finland. The study showed that emotional support, creating a comfortable environment and assisting with day by day activities were accounted for to be utilized routinely, though the cognitive-behavioural and physical techniques incorporated some less much of the time utilized and less surely understood strategies.

Stephens, Barkey, Hall<sup>5</sup> listed several interventions to comfort children and families during stressful procedures are categorized under **social and psycho spiritual comfort** **environmental comfort and physical comfort**. Hawley MP<sup>6</sup> described nurses' comforting strategies under the accompanying classes: Immediate and competent technical/physical care, attending to physical discomforts positive talk, vigilance, including and attending to family. Focusing on comfort from a patient perspective offers practice insights that challenge organizational and cultural norms and suggest additional ways of working to address these issues.<sup>7</sup>

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Applying the comfort theory is an effective way to promote more holistic nursing care. By doing so, health care becomes directed to the patients needs, and addresses more of the needs of patients and their families. Comfort theory is a middle range nursing theory in which comfort is defined by Katharine Kolcaba as “the immediate state of being strengthened by having the needs for relief, ease, and transcendence (types of comfort) addressed in the four contexts of holistic human experience: physical, psycho spiritual, socio cultural, and environmental”.<sup>8</sup> When the types of comfort are juxtaposed with the contexts of comfort, a 12 cell grid or taxonomic structure results. This grid depicts the content domains of holistic comfort.

In order to comfort the child, is it sufficient to use single comfort intervention? Is it sufficient to focus on only single aspect of comfort need? Rather, this task requires integrative comfort interventions. Integrative comfort care intervention is an approach that combines multiple interventions in order to target many comfort needs addressed across the four contexts of comfort, as Kolcaba proposes.

After Kolcaba defined comfort, she placed it within a mid-range theory of comfort; she mentioned that patient’s ability to engage in health seeking behavior increases with enhancement of comfort. *“The theory states that nurses identify the holistic comfort needs of patients and their families, design interventions to address those needs, and account for intervening variables which will affect desired outcomes. If the interventions are successful, comfort is enhanced, which then enhances the recipients’ engagement in health seeking behaviors (HSBs). HSBs can be internal, external, or a peaceful death if that is the most realistic outcome. When patients and/or family members engage in HSBs, institutional integrity is also enhanced”*<sup>9</sup>

**Integrated Comfort Care Interventions** were used by Wilson, l & Kolcaba , k<sup>10</sup> in their practical application of comfort theory in the peri anesthesia setting. Stephens, Barkey , Hall <sup>11</sup> listed a few interventions to comfort youngsters and families during distressing procedures. **Social comforts included** preparing the child and parent and avoiding the word "pain" with its negative associations. **Social and psycho spiritual comforts included** inviting the parent/caregiver figure to be present. Examples of **environmental comfort were** utilizing the treatment space for stressful procedures instead of the child's hospital room and, maintaining a calm and positive atmosphere. **Physical comfort incorporated** positioning the child in a comforting manner with the parents’ assistance and support.

Comforting is not a “one shot” intervention ;it is a process that occurs in many iterative steps within the interaction and the developing relationship .During the comforting interaction loop in which a comforting action occurs ,the patient is re evaluated and another comforting action is provided as necessary across various cells in the comfort grid and so forth.

#### **Conceptual Framework Based on Katharine Kolcaba Comfort Theory of Nursing –**

Kolcaba gives a definition of comfort that welcomes the all holistic nature of human—i.e. individual mental, emotional and spiritual lives have been connected to their physical bodies. Her theory and definition of comfort stresses that despite the fact that nurses will most likely be unable to completely address their patients' issues for comfort; they can keep on addressing them in a proactive manner all through the continuum of care.

Comfort theory as it identifies with nursing is best comprehended when partitioned and portrayed in 3 parts.

Part 1 expresses that nurses evaluate the comprehensive (physical, psychospiritual, socio cultural and environmental) comfort needs of patients in all settings. After assessing the comfort needs and comfort level, nurse can plan and implement variety of comfort care interventions. There are positive and negative variables on which nurse has little control but success of comfort interventions depend upon control over these intervening variables .Example of these variables are patient prognosis ,mental status ,social support economical conditions etc.

Part 2 of Comfort Theory expresses that improved comfort strengthens patients to intentionally or intuitively take part in behavior that move them toward a state of well-being. These behaviors are named as health-seeking behaviors and give rationale for execution of comfort interventions. Health seeking behaviors are related to institutional integrity.

Part 3 of theory is related to institutional integrity which is defined as quality and state of health care organizations in term of being sound, complete, ethical and professional care provider as measured by cost of care, length of hospital stay, turnover of staff, staff and patient satisfaction.<sup>8,9</sup>

Kolcaba comfort theory Frame work used to assess patient condition, plan and deliver integrative comfort care interventions.

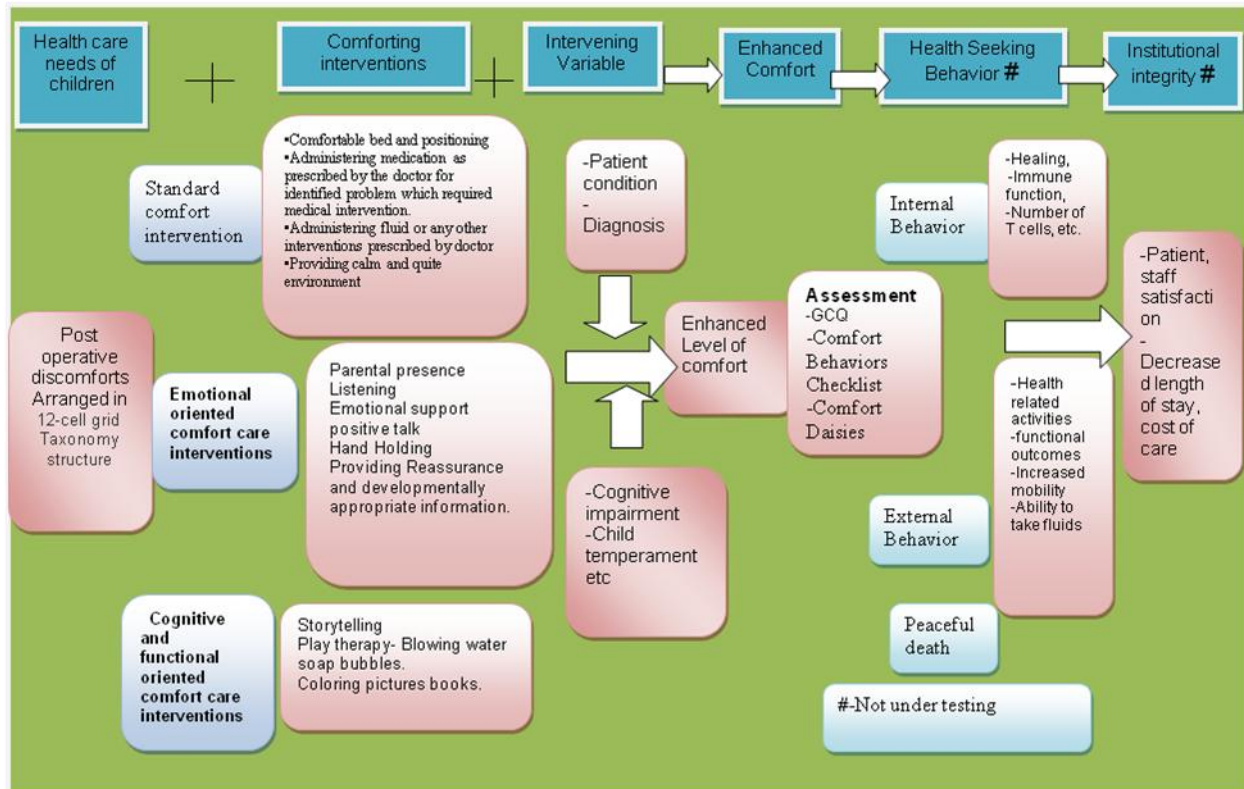


Figure 1: Conceptual framework based on Katharine Kolcaba theory of comfort

Following are the major concepts in the theory, which correlate with the diagram above.

The 12-cell grid provided a useful tool for categorizing comfort needs in ways that allowed in individualizing treatment plans for child. NOTE-Patient is 5-year-old male child admitted in PICU with laprotomy

**Taxonomic Structure of Comfort Needs of Child in Postoperative Setting**

Table 1: Taxonomy structure of post operative child comfort needs

Taxonomy structure of post operative child comfort needs			
Need	Relief	Ease	Transcendence
Physical	Pain Thirst Fever Dehydration	By comfortable position. Application of wet cotton over lip to reduce thirst ,fluid administration ,Administering medication	Motivating the child to tolerate pain by diverting mind with bubble blowing. Motivating the child to tolerate thirst by positive talk.
Psycho spiritual	Anxiety Fear	Listening, Emotional support positive talk, Hand Holding, Ease the child by allowing parents to stay with child. Psychological support and preparation before any procedure.	Motivating the child to indulge in play e.g. bubble blowing.
Socio cultural	Separation anxiety	Providing Reassurance and developmentally appropriate information. Asking mother to stay with child. Story telling as per child interest to ease the child and induce sleep.	Need for socialization Indulging the child in coloring picture book, help the child to rise above separation if necessary.
Environmental	Noise of instruments ,crying of other child, Visitors disturbance	Minimize crying of other children by indulging them with other play activity by students' nurses and staff. Ask mother only to stay and avoid frequent disturbance by visitors	Need for Calm and familiar environment.

**2. Comforting interventions**

A comfort care bundle was used as comforting interventions .This bundle was delivered in an integrative manner, in order to address comfort needs holistically .Integrative comfort

care is an approach that combines multiple methods in order to target many comfort needs addressed across the four contexts of comfort: physical, psycho spiritual, socio cultural, and environmental.

**Table 2: Comfort Care Interventions Categorization – (CARE BUNDLES)**

Category	X <sub>1</sub> -Standard comfort care interventions	X <sub>2</sub> - Emotional oriented comfort care interventions	X <sub>3</sub> - Cognitive and functional oriented comfort care interventions
<b>Types of interventions</b>	Provision of comfortable bed ,Comfort positioning , Administering medication as prescribed by the doctor for identified problem which required medical intervention, Administering fluid or any other interventions prescribed by doctor etc	<ul style="list-style-type: none"> <li>• Parental presence</li> <li>• Listening</li> <li>• Emotional support positive talk</li> <li>• Hand Holding</li> <li>• Providing Reassurance and developmentally appropriate information</li> </ul>	<ul style="list-style-type: none"> <li>• Storytelling-Active and passive.</li> <li>• Play therapy- Blowing water soap bubbles.</li> <li>• Coloring pictures books.</li> </ul>

In this **bundle, comfort care interventions** consisted of general nursing interventions focused on physical aspects, psychological aspects and environmental aspects of the child's needs which helped the patient maintain or regain physiological function and comfort. It included nursing interventions nurses use routinely to provide relief. For example, providing a comfortable bed, comfort positioning, providing calm and a quite environment administering medication , administering fluid or any other interventions as prescribed by doctor etc. Other integrative comfort care interventions included **emotional oriented comfort care interventions which** focused on easing the emotional aspects, including socio cultural and psycho spiritual needs. - Types of Interventions used in this category were parental presence, listening, emotional support –positive talk, hand holding, giving reassurance and developmentally appropriate information. Some integrative comfort care interventions, **Cognitive and functional oriented comfort care interventions** were interventions targeting transcendence. It helped the child to rise above the problem .This focused on physical aspect –Pain, Psychological aspect -anxiety and fear. Types of Interventions used in this category were storytelling-Active and passive, play therapy- blowing water soap bubbles, and coloring pictures books.

**Post operative discomforts-**

It is feeling of uneasiness or discomfort experienced by child after surgery .These were categorized in taxonomy structured of comfort (table -1)

**Intervening variables** Intervening variables are the variables which interfere in achieving comfort of children and are identified by observing the children and conducting interview with the children as well as primary care givers. Common intervening variables in this population are hospitalization, invasive procedure ,surgical condition ,cooperation of family members

**Level of comfort**

Child Level of comfort assessed by using comfort observational check list and comfort daises .Child level of

comfort assessed and further it was classified by using taxonomy structure of comfort.

**Health seeking behaviors and institutional integrity**

These are the Part-3 of theory and it was not included in testing of theory.

**Research methodology**

**Objectives of case study**

- To study case before and after delivering integrative comfort care interventions.
- To apply nursing theory on post operative child admitted in PICU.
- To deliver Integrative Comfort Care Intervention by using theory of comfort on 5 year old child admitted in PICU with laprotomy experiencing post operative discomfort.

**Research Approach**

Case study approach was used in applying theory of comfort on post operative child admitted in PICU with laprotomy. Detailed investigation of a real situation is being carried out by using this approach, involving the health care professional. The study subject was randomly selected from the files of an institution by following inclusion criteria such as post operative child had surgery under general anaesthesia, child age 5-10 years, child who was conscious after surgery and able to maintain effective communication.

**Implementation of comfort care interventions**

**Katharine Kolcaba defined Nursing** as a process of assessing the patient's comfort needs, developing and implementing appropriate nursing interventions and evaluating patient comfort following nursing interventions; the ultimate goal of nursing is to enhance comfort to the person/patient. By using comfort observational check list and comfort daises, the child's level of comfort was assessed and classified by using taxonomy structure of comfort. Comfort care interventions were delivered by using nursing process approach. These interventions addressed a physical, psychological, social, spiritual, and environmental aspect of comfort.

**Table 3: Delivering of Integrative comfort care interventions to a 5 year old child with laprotomy by using Kathrin Kolcaba Comfort theory of Nursing**

Types of comfort	Assessment of Comfort need (assessed separately)	Goal	Planning (Planned separately )	Implementation (Implemented in integrated way )	Evaluation

<p>Relief</p> <p>Often meet by standard nursing interventions</p>	<p>Assessment of comfort by using</p> <ul style="list-style-type: none"> <li>• Observational check list</li> <li>Comfort score - 47, Moderate discomfort</li> <li>• Comfort daises Feeling -Sort of bad</li> <li>• Taxonomy structure of comfort grid.</li> </ul> <p>Physical</p> <ul style="list-style-type: none"> <li>• Pain</li> <li>• Thirst</li> <li>• Fever</li> <li>• Dehydration</li> <li>• Distressing symptoms</li> </ul>	<p>Goal – The child will experiences comfort in the relief sense as evidenced by patient observation and expression</p>	<p>Standard Nursing care</p> <ul style="list-style-type: none"> <li>• Assessment of patient</li> <li>• Recording vitals</li> <li>• Care of wound</li> <li>• Maintaining Intake and output chart.</li> <li>• Provision of comfortable bed ,Comfort positioning ,</li> <li>• Administering medications and fluid as prescribed by the doctor</li> <li>• Use of comfortable device</li> <li>• Consoling child.</li> <li>• Reducing unnecessary noise</li> <li>• Blowing water soap bubble</li> <li>• Patient was thirsty as due to NPO status so Cotton swab soaked in water apply over lip to reduce feeling of thirsty</li> </ul>	<ul style="list-style-type: none"> <li>• Standard nursing care delivered with the help of staff assigned for patient care</li> <li>• Comfortable bed provided</li> <li>• Semi fowler position given as per child comfort.</li> <li>• Extra comfort measures ,pillow provided</li> <li>• Wound care given by assigned staff, during wound care patient mind diverted by blowing water soap bubble.</li> <li>• Analgesic administered to reduce pain. While administering medication child mind diverted by indulging child in blowing water soap bubble.</li> <li>• Cotton swab soaked in water applied over lip.</li> <li>• Explained all procedure or things before carrying out on the child</li> <li>• Child consoled after crying episode ,</li> <li>• Developmentally appropriate information provided in order to reduce stress and anxiety</li> <li>• Explained reason for parent separation Child consoled by proper explanation of parent separation.</li> <li>• Surrounded noise minimized</li> <li>• Bright light avoided by use of curtain ,switching off unnecessary lights disturbing child</li> <li>• Heater used to stable environment temperature</li> <li>• Blanket provided to give warmth</li> </ul>	<p>Relief in the sense of pain, anxiety, stress, separation anxiety and environment disturbance as evidenced by patient verbalization, and increased comfort level as observed by Observational check list.</p>
	<p>Psycho spiritual</p> <ul style="list-style-type: none"> <li>• Anxiety</li> <li>• fear</li> </ul>		<ul style="list-style-type: none"> <li>• Explanation to child before carrying out procedure</li> <li>• Consoling child and providing developmentally appropriate information to relieve anxiety.</li> </ul>		
	<p>Sociological</p> <ul style="list-style-type: none"> <li>• Relief from Separation anxiety</li> </ul>		<ul style="list-style-type: none"> <li>• Explanation</li> <li>• Consoling</li> </ul>		
	<p>Environmental</p> <ul style="list-style-type: none"> <li>• Relief from environmental stressors</li> </ul>		<ul style="list-style-type: none"> <li>• Minimize/eliminate environmental stressors</li> </ul>		
<p>Ease</p> <p>Often meet by Emotional oriented comfort care interventions</p>	<ul style="list-style-type: none"> <li>• Physical</li> <li>• Ease in Pain</li> <li>• Ease from Distressing symptoms</li> </ul>	<p>Ease Goal – The child will experience state of contentment (pleasure) by comfort care interventions as evidenced by patient observation and expression.</p>	<ul style="list-style-type: none"> <li>• Emotional oriented comfort care interventions</li> <li>• Ease the child by asking parents to stay with child</li> <li>• For providing sense of security Hold child hand</li> <li>• Listen child concern and remove fear and anxiety by providing development appropriate information</li> <li>• Emotional support provided by positive talk.</li> </ul>	<ul style="list-style-type: none"> <li>• Emotional oriented comfort care interventions used to ease the child</li> <li>• Parents remained with the child and separation limited.</li> <li>• For providing sense of security Holved child hand</li> <li>• Listen child concern and remove fear and anxiety by providing development appropriate information</li> <li>• Emotional support provided by positive talk</li> <li>• Listening carefully about child concern.</li> <li>• Unnecessary articles and instruments ,which create fear ,removed from child proximity</li> <li>• Unnecessary disturbances in environment avoided.</li> <li>• Parents were instructed to avoid unnecessary visitors in order to comfort the child.</li> <li>• Recitation of story as per child interest</li> </ul>	<p>Child contended or eased as evidenced by patient verbalization, content talk, lack of fear ,reduced anxious behavior</p>
	<ul style="list-style-type: none"> <li>• Psycho spiritual</li> <li>• Ease in Anxiety</li> <li>• Ease in Fear</li> </ul>		<ul style="list-style-type: none"> <li>• Listening carefully about child concern and fear.</li> <li>• Psychological support and preparation before any procedure.</li> <li>• Removing unnecessary fear creating objects.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Environmental</li> <li>• Ease from</li> </ul>		<ul style="list-style-type: none"> <li>• Minimize crying of other children by</li> </ul>		

	environmental stressors i.e. Noise light		indulging them with other play activity by students nurse and staff. <ul style="list-style-type: none"> <li>• Ask mother only to stay and avoid frequent disturbance by visitors.</li> <li>• Nurse caring activity must be planned for avoiding frequent disturbances.</li> <li>• Reduce surrounding noise to ease the child.</li> </ul>		
	Sociological <ul style="list-style-type: none"> <li>• Ease in Separation anxiety</li> </ul>		<ul style="list-style-type: none"> <li>• Story telling as per child interest to ease the child and induce sleep.</li> </ul>		
Transcendence Emotional oriented ,Cognitive and functional oriented comfort care interventions	Physical <ul style="list-style-type: none"> <li>• Rise above pain and distressing symptoms.</li> </ul>	Transcendence Goal -The child will experience state of transcendence (child is able to rise above their challenges) by using following comfort care interventions as evidence by patient observation and expression.	<ul style="list-style-type: none"> <li>• Motivating the child to tolerate pain by diverting mind with bubble blowing.</li> <li>• Motivating the child to tolerate thirst by positive talk.</li> </ul>	<ul style="list-style-type: none"> <li>• Caring team members were mutually instructed to avoid unnecessary disturbances to child</li> <li>• Child blowed bubble with water soap bubble blower</li> <li>• While blowing bubble child was motivated by positive talk regarding recovery ,treatment ,discharge and other issues raised by the child</li> <li>• To reduce separation anxiety child was indulged in coloring picture book as per child interest.</li> <li>• Child mind diverted from separation anxiety by recitation of story from story book as per child interest</li> <li>• Calm and familiar environment provided by asking the parents to bring favorite and familiar things of child from home.</li> </ul>	Level of discomfort reduced .child was comfortable comfort observation check list Comfort score -107. Comfort daisies Feeling –very good (Table -5) Child was motivated as evidenced by participation in activities. Child motivated and raised above the problems and child indulged in participation of ADL, cooperated while doing procedures Child adjusted with parental separation Child was relaxed with calm and familiar environment
	Psycho spiritual <ul style="list-style-type: none"> <li>• Crying</li> <li>• Fear</li> <li>• Separation anxiety</li> </ul>		<ul style="list-style-type: none"> <li>• Motivating the child to indulge in play e. g. bubble blowing.</li> </ul>		
	Sociological <ul style="list-style-type: none"> <li>• Need for Rising above separation</li> <li>• Need for support from family or significant other</li> </ul>		<ul style="list-style-type: none"> <li>• Indulging the child in coloring picture book help the child to rise above separation.</li> </ul>		
	Environment <ul style="list-style-type: none"> <li>• Need for Rising above the level of environmental stressors.</li> </ul>		<ul style="list-style-type: none"> <li>• Calm and familiar environment will motivate the child to indulge in other activity.</li> </ul>		

### 3. Result

#### Description of case –

A 5 year female child selected for study .After accident child undergone for laprotomy.

**Table 4:** Base line information of child

S.N.	Variable	Findings
1.	Age of child	5 year
2.	Sex of the child	Male
3.	Education of Child	Nursery
4.	Type of surgery child had undergone	Laprotomy
5.	Day of child post operative period	2 nd
6.	Primary care giver	Mother
7.	Level of consciousness of child	Conscious
8.	Number of previous hospitalization	First time

It was the child's 2<sup>nd</sup> day of post operative period and he was conscious. It was the child's first admission to the hospital. The steps described above were followed for data collection and implementing holistic care based on comfort theory. The tools used for data collection were Base line information of children, Comfort Behavior check list, Taxonomy structure of comfort or Comfort Grid and Comfort Daisies.

**Table 5:** Level of comfort in child

Comfort Assessment Tool	Pre test		Post test		
	Observation	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>
Comfort Behavioral Check list	Score = (Max-116)	41	107	87	82
	Level of discomfort	Moderate discomfort	Comfortable state	Mild discomfort	Mild discomfort
Comfort Daisies	Score=(Max-4)	2	4	3	3
	Right now I feel	Sort of bad	Very good	Sort of good	Sort of good

Table 5 shows that before implementation of integrative comfort care interventions child was in moderate state of discomfort and feeling “sort of bad” as assessed by comfort daisies .After implementation of integrative comfort care interventions, observation (O<sub>2</sub>) was done and subsequent observation (O<sub>3</sub> , O<sub>4</sub> ) were done at 2 hours intervals thereafter.. Observation (O<sub>2</sub>) immediately after implementation of integrative comfort care intervention showed that child was in comfortable state and child was feeling very good as assessed by comfort daisies. Subsequent observations (O<sub>3</sub> , O<sub>4</sub> ) done after 2 hours interval revealed child was in mild discomfort and feeling sort of good compared to observation (O<sub>1</sub> ) done before introduction of integrative comfort care intervention .

#### 4. Conclusion

A 5 year old child underwent laprotomy, and was admitted in PICU. Katharine Comfort theory was used in delivering integrative comfort care interventions. This Katharine theory of nursing is an excellent way to design and assess the effects of integrative comfort care interventions .It is applicable in the pediatric setting. The patient’s level of comfort increased after the administration of integrative comfort care interventions in this case study. The positive thing about this theory is that all the needs of child were addressed holistically. For applying this theory on other pediatric patients, comfort care bundles can be identified and delivered as per each child’s needs and interest.

#### References

[1] Froehlich, M A comparison of the effect of music therapy and medical play therapy on the verbalization behavior of pediatric patients. *Journal of Music Therapy*1984, 21 (1), 2-15.

[2] Rudolph, K.D., Denning, M.D., & Weisz, J.R. Determinants and consequences of children’s coping in the medical setting: Conceptualization, review, and critique. *Psychological Bulletin*1995, 118 (3), 328-357.

[3] Kain zn, Mayes lc, O’connor tz, Cicchetti dv: Preoperative anxiety in children. Predictors and outcomes. *Arch Pediatr Adolesc Med*; 1996, 150:1238-45.

[4] Polka T, Vehviläinen-Julkunen K, AM Non pharmacological methods in relieving children's postoperative pain: a survey on hospital nurses in Finland. *J Adv Nurs*. 2001 May; 34(4):483-92.

[5] Stephens BK, Barkey ME, Hall HR. Techniques to comfort children during stressful procedures. *Accid Emerg Nurs*. 1999 Oct;7(4):226-36.

[6] Hawley MP. Nurse comforting strategies: perceptions of emergency department patients. *Clinical Nursing Research*.2000 Nov;9(4):441-59

[7] Tutton E. & Seers K. (2004) .Comfort on award for older people. *Journal of Advanced Nursing* 46(4), 380–389.

[8] Kolcaba, K.. An introduction to comfort The comfort line. (Retrieved January 02, 2014) from

[9] Kolcaba, K. (2003). *Comfort Theory: A vision for holistic health care*. NY, NY: Springer.

[10] Wilson, L., & Kolcaba, K. Practical application of comfort theory in the perianesthesia setting. *Journal of PeriAnesthesia Nursing*, 2004

[11] Stephens BK<sup>1</sup>, Barkey ME, Hall HR. Techniques to comfort children during stressful procedures. *Accid Emerg Nurs*. 1999 Oct;7(4):226-36.