

Application of Kolcaba's Theory of Comfort for a 12-year-old Epileptic Adolescent Admitted to the Emergency Room: A Case Study

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ABSTRACT

The aim of this study was the use of Kolcaba's comfort theory in nursing care for an adolescent girl with seizure at Emergency department of pediatrics. Research approach was a case study for adaptation of Kolcaba's comfort theory for an adolescent girl with seizure. Data collection was done by interviewing and full biography of adolescent, mother, father, patient records and patient Comfort Behavioral Tool and Comfort Daisies Scale and Taxonomic structure of comfort. Nursing care has been done in the nursing process based on the comfort of the patient. Interventions based on patient comfort presented in four field: physical, psycho-spiritual, peripheral and social-cultural. Using this theory in clinical care for adolescents increased the patient's comfort and provide care for the child and family.

Keywords: Seizure; Case study; Adolescent; Emergency unit; Kolcaba's comfort theory

Introduction:

Comfort has always been one of the most important values in patient care throughout the history of nursing [1]. Patient comfort is mentioned as a desirable outcome of nursing care and comfortable patients are better treated, discharged faster and treatment costs are also reduced [2]. Hospitalization is one of the most stressful experiences of children and adults [3]. Comfort is a construct that has been described as an essential element in inpatient care [4]. Despite its great importance, there have been no significant efforts to identify the concepts of comfort and create comfort and behaviors that make patients feel comfortable. However, the interest to relevant studies has increased significantly in recent years. The comfort and convenience of the child and family during the stressful stages is one of the main principles of nursing duties. It has been a

good job of a nurse to patients feel comfortable since Nightingale, but this essential nursing role has changed over time so that it seems to have been forgotten today. Studies show that nurses do not know their patients and their expectations well, and their needs are not often properly addressed. Nurses should see the experiences from the perspective of patients so that they can help alleviate the concerns and disabilities of their patients [2, 5]. By providing comfort, nurses can prevent the occurrence of adverse physiological complications of the disease and have a positive effect on the physical and mental conditions of patients and ultimately reduce their treatment costs; therefore, it is of particular importance that nurses pay comprehensive attention to patients' needs. Therefore, the emphasis of care programs on addressing patients' needs, including the need for comfort as a basic need,

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DOI: [10.22087/ijac.2021.146338](https://doi.org/10.22087/ijac.2021.146338)

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has led nurses to look for solutions to relieve patients and help the patient by identifying the causes of the discomfort and designing relevant plans to reduce it. Moreover, they can make the patient feel comfortable and eliminate the use of unnecessary medication with accurate observations, skills, and using various nursing measures [6]. Therefore, it is necessary to pay attention to aspects of care that are important to the patient as a "feeling of comfort". Comfort is an experience that is felt by the client in the form of empowerment after each of the needs of relief, comfort and transcendence in four physical, mental, psychological, socio-cultural and environmental fields is met. In Kolcaba's theory of comfort, relief is a state that occurs immediately after the need is met, comfort refers to the feeling of satisfaction that is perceived by the client after the need is met, and excellence refers to the time when a person can achieve goals beyond pain or discomfort by overcoming his/her pain and discomfort [7]. The skill and competence of the nurse, availability of nurses, continuous presence, timely implementation of nursing interventions, providing welfare facilities, a proper behavior and relationship with the patient can play a role in creating patients' sense of comfort [8, 9].

Epilepsy is the final stage of brain dysfunction that occurs following abnormal discharge of brain neurons [10]. Epilepsy occurs at all ages, including childhood, which accounts for a high incidence rate. According to the reported statistics, epilepsy is the most common neurological disorders in pediatrics with a prevalence of 4-6 cases per 1000 children [11]. Epilepsy is one of the most common neurological disorders that affects most social, economic and biological aspects of human life [12]. This disease has devastating effects on the quality of life of children, including physical, emotional, behavioral, social, and cognitive actions. One of these devastating complications is depression, which is one of the most common problems in children and adolescents with epilepsy. Along with epilepsy, they are considered as two

chronic diseases with long-term psychosocial consequences [11].

On the other hand, these children often require frequent or long-term admissions, and since hospital admissions can be a traumatic experience and stressful for children, it will have devastating impacts on their lives [13]. Rudolph, Denning, and Wieser refer to hospitalization as a potentially stressful situation for reasons such as separation from family, siblings; unrealistic fears about darkness, monsters, murder, and wildlife that are not specifically related to hospitals, but begin with an unfamiliar situation; stressful medical procedures, pain and other discomforts, especially very painful diagnostic methods; fear of disability and death; deprivation of social connections (although it does not seem to be a major problem today considering changes in pediatric hospitalization rules and reduced restrictions in this area) and social demands and threats [14].

All the mentioned factors are stressors related to hospitalization, which can lead to increased anxiety and their negative long-term effects, such as child retrograde development or posttraumatic stress disorder (PTSD), and as a result, have also adverse effects on treatment outcomes [13]. Nurses can prevent these negative experiences by using a variety of methods, including providing patient comfort by applying theories such as the Kolcaba's theory of comfort, which is an effective solution to provide more comprehensive nursing care. Therefore, health care would meet the needs of the patient and their families are given more attention [14]. This article reports a case study based on Kolcaba's theory of comfort of an epileptic adolescent admitted to the Emergency Department of Shahid Madani Hospital in Khorramabad.

Introduction to Kolcaba's theory of comfort:

Katherine Kolcaba was born in 1965 in Cleveland, Ohio. She was a nurse and theorist who provided middle-range theory of comfort following her studies [15]. Kolcaba's theory of comfort was developed in the 1990s and is still used in healthcare today. This theory is

constantly changing and was last updated in 2007. Kolcaba defines nursing as the process of assessing patient comfort needs, developing and implementing appropriate nursing interventions, and evaluating patient comfort during nursing interventions. She believes that the ultimate nursing goal is to increase patient comfort [14, 15].

Concepts of Kolcaba's theory of comfort:

The paradigmatic concepts of the Kolcaba's theory of comfort are presented in Figure 1. Below is a brief definition of each concept:

Health needs: Nurses determine the comfort needs of patients, especially those who are not familiar with their current situation [15, 16].

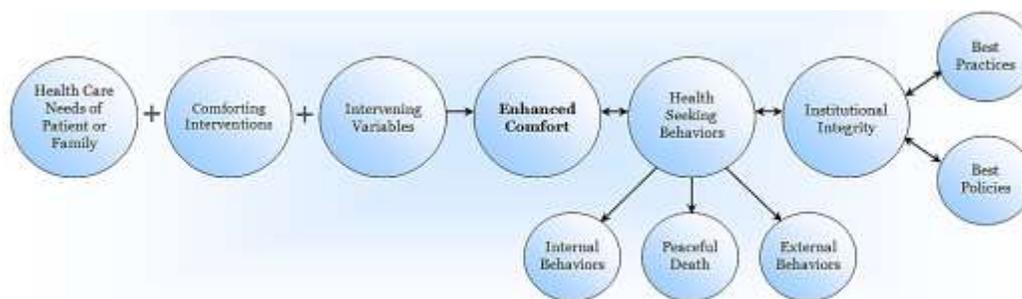
Nursing interventions: Nurses plan their interventions to meet the health needs of patients [15, 16].

Intervening variables: There are positive and negative variables on which the nurse has little control, but these variables need to be control in order to ensure the successful implementation of comfort interventions. Examples of these variables include patient prognosis, patient mental state, socio-economic conditions, etc. In this regard, nurses determine intervening variables during the planning of nursing interventions and consider the probability of success of their interventions [14, 15].

Achieving Comfort: Kolcaba believes that comfort encompasses all of human nature, that is, the individual, mental, emotional, and spiritual dimensions that are integrated with his/her physical body. Comfort is not a monotonous intervention; rather, it is a process that is repeated in many stages and occurs in an interacting and growing context. Nurses achieved successful results of comfort by performing appropriate interventions during care [14, 15].

Health-seeking behaviors: The comfort theory states that when comfort is enhanced, patients intentionally or directly engage in behaviors that move them toward better health status. These behaviors are referred to as health-seeking behaviors and are essential for comfort interventions. As the patient achieves comfort, the family and the patient expand their communication in the direction of health-seeking behaviors that lead to greater comfort [14, 15].

Organizational Integrity: As families and patients engage in more health-seeking behaviors, health institutions gain the great benefits such as increased patient satisfaction, reduced length of hospital stays, reduced care costs, financial stability, and greater social acceptance, all which are related to organizational integrity and cohesion [14, 16]



Picture 1: Conceptual framework of comfort theory

Taxonomic Structure of Comfort:

During the analysis of the comfort concept, Kolcaba has reviewed the texts of various

disciplines related to the comfort concept, including medicine, nursing, and psychology. In developing her theory of comfort, she expresses three forms of comfort, including relief, ease, and transcendence. Kolcaba has

used three nursing theories to describe three distinct forms of comfort. Relief, ease, and transcendence are derived from Orlando's, Henderson's, Paterson's & Zedrad's theories, respectively. Relief is achieved when the person's needs are met, for example, the patient's pain is relieved. Ease is a state of calm or satisfaction, for example, feeling calm after the patient's anxiety has resolved; and transcendence is a state in which a person can overcome his or her problems or pain, for example, a hospitalized child who experiences separation anxiety can endure separation from family by being encouraged and motivated for a higher goal, which is to gaining better health. Kolcaba investigates these three states of comfort in four levels or contexts: physical, psycho-spiritual, environmental and cultural-social [15, 17, 18]. The physical dimension is

related to the physical emotions and physiological mechanisms of the body (nausea, vomiting, etc.); the psychological dimension related to a person's inner self-awareness includes gender, self-esteem, etc.; the environmental dimension is related to the environment of the person (temperature, sound, light, color, humidity, etc.). The socio-cultural dimension is related to interpersonal, family and social relationships (financial, educational, health personnel) as well as family and religious customs [17, 18].

Based on the comfort levels and contexts, a 12-cell table called taxonomy table (Figure 2) has been created as a guide to search, identify and evaluate performance in patient comfort [17, 18].

	Relief	Ease	Transcendence
Physical			
Psychospiritual			
Environmental			
Sociocultural			

Figure 2: Taxonomic structure of comfort

Case introduction:

Clinical history:

Basic data was collected by taking a complete history of the adolescent, her mother, father, investigating medical records and examination. The reported case was a 12-year-old adolescent girl who presented with epilepsy in the form of repeated limb jumps, without limb bending or eye movements. She spent the second day of her hospitalization in the pediatric emergency department. Her mother was the main

caretaker and her father were present during the visit time. She was admitted twice. At the age of 9, she was admitted in the same hospital for three days due to favism. In a review of the systems, we found that she complained of coughing, saying, "Cough bothers me a lot." She had a fever (T= 38.8 °C). She was prescribed a body wash but refused to do a foot bath. She was dizzy and needed help to get out of bed and take care of herself. There was nothing special about the examination:

The head was normocephalic and symmetrical. There were no visible bump or dent or lesions.

The eyes were anatomically normal in shape and location. The eyes were symmetrical and at a normal distance from each other (IPD = 55mm). The pupils were symmetrical and had a fast and symmetrical response to light. There was no discharge, tears, inflammation, strabismus, ptosis, conjunctival pallor in the eyes. The movements and range of vision were normal in all respects. Visual acuity was normal.

Neck: The trachea was in the midline and there was no deviation or asymmetry and visible or palpable mass and appendages in any part of the neck. The thyroid gland was touched and no enlargement or nodularity was felt. The carotid artery was heard but no abnormal sound was heard. Neck movements were examined and no restrictions or abnormal movements were observed.

Lymph nodes: Lymph nodes were examined in areas such as the neck, back of the head, anterior portion of the ear, clavicle and groin. There was no lymphadenopathy.

Chest: Examination of the heart and lungs showed no cyanosis of the extremities and around the lips and edema of the extremities and nail clubbing, cold extremities. Peripheral pulse was examined in all four limbs and was symmetrical. The pulse in the apex area of the heart was normal. Respiratory distress and respiratory distress were not observed. There was no abnormal sweating and dilatation of the jugular vein. The heart rate was 90 beats per minute. Abnormal murmurs and sounds were not heard. The skin color and temperature was normal in different parts of the body and at the extremities. Capillary refill time was less than 2 seconds. There was no abnormal sound in the lungs.

The abdomen was soft and without tenderness. The urination was normal and there was no decrease in urine volume or thickening.

The skin was warm when touched and there was no lesion or discoloration or cyanosis in any part of the skin.

Nervous system: The patient is conscious and aware of the place and the person. Deep tendon reflexes were examined and results were positive in 2 to 3 cases. The limbs lacked spasm and muscle relaxation.

Materials and Methods

Data collection tools

In addition to taking a routine history and examination, information on comfort needs based on the Kolcaba's theory and relevant care proved accordingly, the comfort behavior checklist tool, comfort measurement scale, and the Kolcaba taxonomic table were used.

Comfort measurement scale: The nurse usually asks the child, "How are you?" This is a phrase that children aged 2-3 years old and older can answer, and the vocabulary used in the answer of the child and nurse is just "yes", "no" or "not sure". But the comfort measurement scale (Figure 3) is a more sensitive tool than this simple question because it categorizes the child's level of comfort from one to four and the child can better express his/her feelings [17]. According to the Comfort Daisies tool, the adolescent girl chose her comfort level as sort of good and very good before and after the comfort interventions (Table 1).



Figure 3: Comfort measurement scale, Kolcaba's theory of comfort

Comfort behavior checklist: This checklist includes 30 questions in five areas of verbal communication, motor cues, performance, face, and others. The checklist questions are scored based on a 5-point Likert scale; there was no case (because the patient is asleep or unable to respond due to diagnosis or age), No, somewhat, moderate, and strong. Checklist scores range from 0 to 120. Table 1 shows the results of investigating child comfort before and after comfort interventions.

Taxonomic network: This tool was used to study different states of comfort in four areas: physical, mental-spiritual, cultural-social and environmental. The results of investigating the child comfort using this tool are presented in Table 2. The results revealed that the environment was not the reason for her refusal to do the body wash in the bed, but lack of a private room or a hospital partition screen for privacy. When the father of one of the other hospitalized children entered the ward, she threw the folded blanket under her feet and

was asked: If it is cold, should I close the window next to the bed? "No, I have a fever because of this man," I said. The adolescent also stated that due to the importance of being covered in the presence of others, it was not possible to wash her body in bed, so, despite having dizziness, she had to do the washing in the bathroom. "It is impossible that my daughter has an epilepsy, we have no family history of epilepsy at all," Mother of the adolescent repeatedly said. This showed that the family did not accept the diagnosis of epilepsy and denied the disease.

Comfort care interventions

Based on the information collected from the history, examination and comfort tools, comfort interventions and care were provided using the nursing process. Comfort interventions were performed and evaluated in all four areas of physical, psychological-spiritual, environmental and cultural-social (Table 3).

Table 1: Comfort level in the studied epileptic adolescent girl before and after comfort interventions

Measures		Before Intervention	After Intervention
Checklist of comfort behaviors	Score	65	72
	Comfort level	A little relief,	A state of relief
Comfort Diasies	Score	3	4
	The feeling I have now	Almost good, ,	Very good

Table 2: Taxonomic structure of comfort for a 12-year-old adolescent girl with seizures

	Relief	Ease	Transcendence
Physical	Fever, dizziness, cough		
Psychospiritual	Denial of seizures		Misunderstanding of seizure diagnosis
Environmental	Absence of paravan		
Sociocultural	Lack of privacy	Not having solitude	

Table 3: Adaptation of comprehensive comfort care interventions using Kolcaba's comfort theory in a 12-year-old teenage girl suffering from seizures with the stages of the nursing process

Relief	Assessment	Goals	Planning	Interventions	Evaluation
Physical	T = 38.8 - Dizziness - Cough	- No fever - Dizziness Relief - Cough Relief	- Body wash - Prescribing antipyretics - Being in a position that reduces dizziness - Maintaining safety - Adequate intake of injectable and oral fluids - Do not consume stimulant foods - Cold inhalation	- Body wash was performed, acetaminophen 325 tablets were taken, a cool blanket was prepared, clothing was worn according to the feverish condition. - The body wash was performed in the bathroom and then in the bed after installing a hospital partition screen. - The bed railings were given high - Liquids were administered in the form of soup and juice.	T = 37.2 - No dizziness - The severity of coughs was reduced. - Safety was maintained
Psychospiritual	Denial of epilepsy diagnosis	Acceptance of the disease by the family	Informing adolescents and families about the nature of the disease	- Pamphlets and educational books were provided to families and adolescents - Face-to-face training was given.	A shift in the type of questions asked from the family to those about the cause of the epilepsy and care for the adolescent indicated the beginning of acceptance of the epilepsy diagnosis
Environmental	Absence of hospital partition screen	Respecting privacy	Installation of hospital partition screens for the bed	- The hospital partition screen was temporarily prepared for the adolescent from the general ward and the body was washed in bed. - The request for a hospital partition screen was done by the head of the ward.	The hospital partition screen was installed.
Sociocultural	Lack of privacy	Respecting privacy	- Installation of hospital partition screen - Installation of a separate room - Admission to the peer room	The hospital partition screen was temporarily provided from another department.	The privacy of the adolescent age girl was preserved
Ease	Assessment	Goals	Planning	Interventions	Evaluation
Sociocultural	Not having solitude	Respecting privacy	- Putting a hospital partition screen next to the bed - Hospitalization in a private room - Hospitalization in a room where the entry of a male companion is prohibited	- The hospital partition screen was temporarily prepared for the adolescent from another ward. - The request for hospital partition screen was given by the head of the ward.	The adolescent girl expressed comfort over having privacy
Transcendence	Assessment	Goals	Planning	Interventions	Evaluation
Psychospiritual	Having a misunderstanding of epilepsy diagnosis	Increasing family and adolescent understanding of the disease in order to accept it	Explaining the disease process, treatments and control to families and adolescents	- The disease process, treatments and control were taught to families and adolescents. - Explanation was given what if the cause of the epilepsy was a more severe threatening disease such as bleeding or a brain tumor? - What if she needed surgery and ...?	Treatment adherence behaviors and disease acceptance were observed in the form of questions about treatments and prevention of future epilepsy in the family and adolescents

Discussion

The results of comfort measurement tools used in the present study showed that one of the most important needs of the studied adolescent was the need for privacy, because the patient is in adolescence and the need for privacy is very important considering the culture of the region. In a study entitled Adolescents' privacy in pediatric wards of hospitals affiliated to Shahid Beheshti University of Medical Sciences, Forouzandeh et al. referred to the poor adolescents' physical privacy in the hospital and stated that sometimes hospital staff don't respect patient privacy during nursing procedures or care. They should know that neglecting the patient's privacy while doing their job causes the patient discomfort and stress [19]. Jafarimanesh et al. stated that protecting the patient's privacy is one of his/her basic rights and an essential factor in creating patient-centered, individualistic, and ethical care. This process involves protecting the patient and the treatment team's moral integrity. Respect for privacy gives the patient dignity and creates a range of mutual trust, so that a safe environment improves the patient's physical and mental health and accelerates the recovery and early hospital discharge [20]. In a study on the importance of privacy, which is one of the basic rights of the patient, Karimi et al. emphasized that the issue of privacy is of particular importance to patients, especially adolescents when admitted to an unfamiliar environment called hospital [21]. In a study, Torabizadeh et al. emphasized that although respect for human privacy is one of the main goals of the health care provider system and one of the most basic principles of medical ethics, studies show that patients' privacy and dignity are not well supported. In addition, medical and nursing staff have little knowledge of the importance of patient privacy and have their understanding of these concepts. Therefore, it is necessary that health care providers provide solutions to promote and support dignity in clinical settings by identifying the dimensions and factors affecting patient privacy. [22]. Oskooei

Eshkevari et al. stated that the nature of medical and nursing care often leads to neglect of clients' privacy. Respect for patient privacy is one of the basic components of holistic care, which gives him/her dignity and creates a range of mutual trust. On the other hand, it increases patient satisfaction as one of the indicators of service effectiveness in a hospital [23]. Kalantari et al. emphasized that the emergency department is one of the most important departments of a hospital and can have an adverse effect on the performance of staff considering its nature, including protection of patient privacy. Observing various aspects of patient privacy in this department requires more attention because related challenges are intensified due to physical limitations and large number of patients, so, respect for privacy in this department is of particular importance [24].

Therefore, the present study referred to the need for privacy using Kolcaba's theory. One of the criteria is a theory of comprehensive coverage of patients' needs, which can be observed in Katherine Kolcaba's theory of comfort, which is specifically devoted to children. One of the aspects taken into account in this theory is privacy, which is considered as one of the basic components of holistic care in responding to patients' needs. Privacy itself includes physical, information and social dimensions. The information dimension of privacy makes sense through the confidentiality of information and its social dimension through the control of environmental factors such as the use of curtains between the beds or the allocation of a separate room [12]. Privacy promotes the patient's dignity and mutual trust, which is one of the most important ethical responsibilities of the medical and health staff and is considered an integral part of treatment. Children and adolescents are no exception. Privacy protection is of particular importance especially among adolescents, when admitted to an unfamiliar environment called a hospital in order to prevent exacerbation of anxiety, stress symptoms, and promote health status, and accelerate the recovery process [19, 25]

Adolescence is a time of change and the beginning of decision-making and identification and hospitalization, even for a short time, can have devastating effects and exacerbate the usual stresses of life. In other words, respect for the patient privacy can meet the individual's need to maintain security and identity. As Hutton et al. reported in the study that most adolescents tend to be admitted in private rooms [18]. Therefore, considering the foregoing and the relationship between privacy and providing care services to patients, including adolescents, In order to accelerate the recovery process and prevent the occurrence of disruption in her needs for identity and security in the adolescent girl studied in the present research, the issue of privacy in all physical, social and informational dimensions is taken into account. Also, efforts were made to maintain privacy in all physical, social and informational dimensions.

Other needs of adolescents and families included resistance and denying epilepsy diagnosis, which was identified with the help of the application of comfort theory and the necessary interventions were performed. The disease, especially a chronic one, is a factor leading to a change in the family system and the health of its members, and epilepsy, like any other chronic disease in children, can cause a serious crisis in family members. A family is considered a semi-closed institution in which all members interact with each other, and an event that affects one member will affect other members. Thus, a chronic disease not only alters the life of the affected child and the quality of life of parents, siblings, but also disrupts family relationships. Having a child with a chronic disease and being involved in a difficult and long treatment process, along with physical problems, exposes the patient and his/her family members to high stress and psychosocial traumas, and thus require them to adapt themselves to different aspects of life [26]. Since hereditary factors are involved in the disease, the child's parents may feel some guilt. In this case, the family suffers a great shock and is deeply saddened and may deny their adolescent's disease. Although denial is a natural mechanism in accepting the shock

process, it is the psychological manifestations and reactions of family members, relatives, friends, playmates and occasionally teachers to the child's disease can affect the child's reactions, her/his reaction to the disease, as well as the acceptance of the disease and treatment adherence. Therefore, nursing interventions provided for adolescent girls included family support, in order to accept their daughter's disease as soon as possible.

In the present study, Kolcaba's theory of comfort has been used to present comfort interventions. This nursing theory is a great method to design and evaluate the effect of comfort interventions. In this study, the comfort level of the adolescent girl increased after providing comfort interventions. Kolcaba's theory of comfort is applicable to children. The remarkable thing about this theory is that all the needs of the child are comprehensively addressed. Also, to use this theory for other sick children, comfort care can be identified and provided taking into account the child's needs and interest [14].

One of the limitations of the present study was the lack of case study and single patient articles on nursing theories in Iran, so that literature review revealed that there have few case studies in Iran due to large theories of nursing, especially in recent years, so, it is suggested that researchers use grand theories more practically for patient care in the future studies.

Conclusion

Katherine Kolcaba's theory of comfort has been successfully and effectively used in the clinical setting for a 12-year-old epileptic girl in order to identify the needs of the adolescent and her families. This theory increased the level of comfort and provided holistic care to the adolescent and her family. Comfort care interventions were presented using the nursing process. The approach of these interventions was considered in physical, psychological, social, spiritual, and environmental aspects. The result of applying the theory was analyzed and showed an improvement in adolescent comfort level.

Conflict of Interests

Authors declare that they do not have any conflict interests.

Acknowledgment

The authors express their thanks to the studied adolescent and her family for participating in the study.

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