EFFECTIVESS OF PLAY THERAPY ON REDUCTION OF STRESS AMONG THE LEUKEMIC CHILDREN BETWEEN THE AGE GROUP OF 8-18 YEARS IN SELECTED HOSPITALS AT NAGERCOIL, TAMILNADU.

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

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By

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

A study to assess the effectiveness of play therapy on reduction of stress among the leukemic children between the age group of 8-18 years in selected hospitals at Nagercoil, Tamilnadu, was conducted in partial fulfillment of the requirement for award the degree in master of science in nursing under the Tamilnadu Dr.M.G.R. Medical university, Chennai.

OBJECTIVES:

- To assess the level of stress among the children before and after giving play therapy between the age group of 8-18 years with leukemia.
- To evaluate the effectiveness of play therapy on reduction of stress among the leukemic children.
- To find out the interrelationship between physical, psychological, social and spiritual level of stress.
- To find out the association between the level of stress and selected demographic variables such as age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation, family history of cancer and habit of consuming Jung foods.

HYPOTHESIES:

- There will a be a significant reduction of stress in the post test score than the pretest score.

- There will be a significant interrelationship between physical, psychological, social and spiritual level of stress.
- There will be a significant association between the level of stress and selected demographic variables such as age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation, family history of cancer and habit of consuming Jung foods.

ASSUMPTION:

- All Leukemic children will have the same level of stress.
- The play therapy will be an effective means in reduction of stress.
- Leukemic children will have stress due to the severity of the illness.

MAJOR FINDINGS OF THE STUDY:

- The majority of the age group of the subjects 24 [40%] were between 14-17 years
- Regarding sex of the groups 31 [51.7%] majority were females.
- Regarding the educational status of the groups 16 [71.4%] majority has secondary education.
- With regard to religion majority of the subjects 26 [43.3%] were Hindu.
- Regarding the type of family of the subjects, 56 [93.3%] majority were nuclear family,
- With regard to the monthly income of the family 23 [38.3%] majority were getting Rs/- 3001-5001.

- Regarding the number of children in the family 27 [45%] majority was the single child in the family.
- Regarding the type of leukemia 41 [68.3%] majority had Acute Lymphocytic Leukemia (ALL).
- In relation to duration of illness 41 [68.3%] majority was having leukemia between one to two years.
- Regarding the frequency of hospitalization 18 [30%] were visiting the hospital monthly once.
- Regarding the place of residence 31 [51.7%] were living in urban.
- Regarding the method of food preparation 53 [88.3%] were preparing food in the gas stove.
- Regarding the previous history of cancer in the family 54 [90%] had no history of cancer in the family.
- Regarding the eating of Jung foods 53 [88.3%] majority were not taking Jung foods.
- Level of stress showed that in the pretest , among the subjects 5 [8.3%] had mild stress, 43 [71.7%] had moderate stress and 12 [20%] had severe stress. In post test among the subjects, 15 [25.0%] had mild stress, 42 [70.0%] had moderate stress and 3 [5.0%] had severe stress.
- On the effectiveness of play therapy the mean posttest score on the level of stress was 58.8333 which was significantly lower than the pretest value of 63.1333 and the computed value of ‘t’was 7.962 was more than the table value [2.000] at df [59] which was statistically significant at 0.05 level. This data showed that play therapy was effective in reduction of stress level.

- There was an interrelationship between physical, psychological, social and spiritual level of stress. The physical level of stress was positively correlated with psychological, social and spiritual level of stress [r=0. 209, 0.044, 0.130]. Psychological level of stress was negatively correlated with Social and spiritual level of stress [r=-0.210, -0.259*] and the level of social stress was positively correlated with the level of spiritual stress [r=0. 067]. In positive correlation as the level of physical stress increases automatic level of psychological, social and spiritual stress also increases, likewise as the social stress increases spiritual stress also increase. In the negative correlation the increase level of psychological stress did not affect the social and spiritual level of stress.
- There was an association with demographic variable like habit of taking Jung food was having significant at 0.05 level and the demographic variables such as age, gender, education, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation and family history of cancer were not having association with level of stress and there was no significance. The research hypothesis was accepted.

CONCLUSION:

The following conclusions were made based on the above findings. Most of the subjects were in moderate and mild level of stress after the intervention. So the play therapy was effective in reducing the level of stress. The study encouraged all the age group of children to reduce their stress. This was free of cost and easily

done. It can be integrated into clinical practice, and health education in order to enhance the life span of young children. A play therapy should be focused on modifying the behavior, improving flexibility and recovering from stress. By working closely with the hospitalized children, the nurse can determine which plan will work for the person, based on the individuals needs and preferences.

CHAPTER-I

INTRODUCTION

The body heals with play,

The mind heals with laughter and

The sprit heals with joy.

-MIKE MOORE.

Leukemia is a disease characterized by abnormal proliferation and maturation of bone marrow. The leukemia process in the bone marrow interfered with the production of normal red blood cells, white blood cells and platelets.

Leukemia is more common malignancy of children less than 15 years of age. The peak incidence is 4years of age. The peak incidence among males is greater than that in females often leukemia and hospitalization are first crises in children and it will create more stress. Stress may be defined as a real or interpreted most threat to the physiological or behavioral response. It is a bodily or mental tension resulting from factors that tend to change an existing equilibrium. Being hospitalized separated from family, friends, unfamiliar environment, people and erosive procedure all contributed to create more stress, anger, panic, loneliness, depression and discomfort for the hospitalized children. All the negative emotions are the cause to changes mental and physical equilibrium of the body, which can be eased with humor and laughter. Humor and laughter are truly the shock absorbers of life.

Play Therapy is a form of counseling or psychotherapy that uses play to communicate and help the people (especially for children) to prevent or to solve psychosocial challenges. This is thought to help them towards better social integration and development.

Play Therapy can also be used as a tool for diagnosis in children. A play therapist observes a clients while playing with toys to determine the cause of the disturbed behavior. The objects and patterns of play as well as the willingness to interact with the therapist can be used to understand the underlying rationale for behavior both inside and outside the session.

According to the psychodynamic view people (especially children) will engage in play behavior in order to work through their interior obfuscations and anxieties. In this way play therapy can be used as a self-help mechanism, as long as children are allowed time for "free play" or "unstructured play" .Normal play is an essential component of healthy child development.

The play has been recognized as an important in child development since the time of Plato, who reported and observed “You can discover more about a person in an hour of play than in a year of conversation”. In the eighteenth century Rousseau , in his book wrote about the importance of observing play as a vehicle to learn and understand about a child.

Researchers say about the play therapy **Friedrich Frobel**, in his book mentioned about the Education of Man, emphasized the importance of symbolism in the play. He observed “play is the highest development in

childhood, for it alone is the free expression of what is in the child's soul…. Children's play is not mere sport, it is full of meaning and import".

The first documented case in describing the therapeutic use of play, when Sigmund Freud published his work with "Little Hans". Little Hans was a five-year-old child who was suffering from a simple phobia. Freud saw him once briefly and recommended that his father take note of Hans' play to provide insights that might assist the child. The case of "Little Hans" was the first case in which a child's difficulty was related to emotional factors.

Melanie Klein began to implement the technique of using play as a means of analyzing children under the age of six. She believed that child's play was essentially the same as free association used with adults, it was provided access to the child's unconscious.

Anna Freud utilized play as a means to facilitate positive attachment to the therapist and gain access to the child's inner life.

David Levy developed a technique called "release therapy". His technique emphasized a structured approach. A child who had experienced a specific stressful situation would be allowed to engage in free play subsequently the therapist would introduce play materials related to the stress-evoking situation allowing the child to react the traumatic event and release the associated emotions.

Gove Hambidge expanded on Levy's work emphasizing a "Structured Play Therapy" which was more direct to introduce a situation. The format of the approach was to establish rapport, recreate the stress-evoking situation, play out the situation and then free play to recover.

"Filial therapy" developed by Bernard and Louise Guerney, it was a new innovation in play therapy. The filial approach emphasizes a structured training program for parents in which they learn how to employ child-centered play sessions in the home.

American academies of pediatrics focus on play as a design in which to reduce their anxiety, stress and boost self confidence. The modified feeling great program consisted of a series of mental training exercises used to improve the quality of life since 6-17 years old children with leukemia.

The effectiveness of play therapy as a behavioral intervention designed to decrease distress during the post test assessment procedure was examined in pediatric oncology patients in this study.

NEED FOR THE STUDY:

Leukemia is one of the malignant disorders. It leads severe stress and frustration to the child comparing the other children who having another illness. The leukemia children's are having more stress due to severe symptoms like bleeding, fever, pain, vomiting, fatigue, muscle wasting, weight loss, hepatomegaly, splenomegaly, lethargy and irritability.

Leukemia is classified into **acute** (rapidly developing) and **chronic** (slowly developing) forms. In children, about 98% of leukemia's are acute.

Approximately 60% of children have acute lymphoid leukemia (ALL), and about 38% have acute myelogenous leukemia (AML). Although slow-growing chronic myelogenous leukemia (CML) may also be seen in children.

Higher incidence rates are reported for North American, European and Australian populations, with rates ranging between 10 per 1, 00,000 in men and 6 per 1, 00,000 from women. In the developing countries, including India, threats are 3 to 4 per 1, 00,000 population.

In developed countries like America nearly 11.4% were diagnosed leukemia under 20 years of age and death rate were 3.3% due to leukemia under the same age group because of modernization and increased intake of Jung foods (fast food).

Based on birth rates from 2000-2002, 1.27 % of men and women or 1 in 79 men and women born today will be diagnosed with leukemia at some point during their lifetime. These statistics are referred to as the lifetime risk of developing cancer worldwide.

In **developing countries like India** childhood leukemia was 26.45%. In the present series, it was 35.95% for ALL, 21.9% for AML, 38.4% for CML and 2.89% for CLL.

Grant medical college who conducted a study on the frequency rate of leukemia in India, the cases of acute and chronic leukemia registered in the Hematology laboratory of J. J. Hospital and the Department of Pathology, Out of total 242 cases, 64 cases (26.45%) were children and 178 were adults (73.55%) Among the children, 41 were males and 23 were females (Male: Female ratio of 1.7: 1). The youngest patient of the series was a female aged 3 weeks. In children, the majority of cases of ALL was nearly equally distributed in the 3 age groups viz. 0-3 yr, 4-6 yr and 7-9 yr. 6 patients with AML were diagnosed in late childhood (10-12 yr). Chronic leukemia was rare in children but this also seen with pediatric group. In children the

incidence of acute leukemia was more (23.96%) compared to that of chronic (2.47%). The incidence of ALL was found to be higher than that of AML.

The frequency of all types of leukemia as reported from different parts of India is depicted in Compared to another series from Bombay, by Advani. et. al, we have fewer cases of CLL and most cases of AML. This compilation reveals geographic variation in frequency of leukemia. ALL is reported to be the most frequent in the South, and intermediate in the West and central India. Pradhan. et. al., also observed the incidence of ALL is lesser in Eastern India as well as Northern areas. On the other hand, the frequency of CML is maximum in North 45.4% and 57.7% as reported by Rani. et. al, and Sakhuja. et. al.

KOLKO et.al, the first studies of interactive media with childhood cancer, used simple video games. These games were mainly used as distractions during painful treatment procedures

Carol A. James, founder of inspired living coded that, laughter is one of the healthiest antidotes to stress. Researchers have discovered that exposure to humor will lead to decrease in stress hormones including epinephrine and dopamine and an increased in immune system activity. When we laugh even smiles. Blood flow to the brain increases and the hormone endorphins are secreted highly which will act on the limbic system to reduce the stress level.

A study conducted on psychological functioning in 8-16years old cancer survivors and their parents by **H. Greenberg et al,** he reported that the children with severe medical late effects have a poor self-confident and more depressive symptoms. Therapies for childhood cancer are now well

standardized and many long-term deleterious effects are known, so children at risk can be identified readily and steps taken early in treatment to prevent or mitigate future psychological problems.

There are abundant sources of humorous materials-comedy programs on television, dolls, finger paints, clay, wagons, building blocks, puzzles, puppets, crayons, favorite toys magic play games, drawing materials, chess, chrome, paper cutting and video games. A good sense of humor can help them to release tension, dispel worry and improved relaxation.

Many studies have proven that play therapy was an effective treatment modality in reducing stress, depression and anxiety, distress of clients with various life issues. Hence the investigator had a working experience in cancer department. Many of the clients were suffering physically as well as psychologically with cancer. The investigator noticed many of the children were irritable with illness so the investigator provided the play materials and engaged with Childs play. After a few days of play therapy the child was happy, so the investigator felt that play therapy would be an effective method in reducing the stress of leukemic children's, and which has made him to select the present study.

The literature indicates that many of young children as well as their siblings develop psychosocial problems secondary to this stressful diagnosis. As a nurse, we are in the position to reduce the stress level of the children by encouraging the child to play and other expressive activates provide one of the best opportunities for expression and safe release of anger, depression, guilt and hostility.

The word plays in children it gives a way to reduce their stress and forgetting their illness. When the child is hospitalized the nurse will use several types of therapeutic play activities to foster the child's sense such as medical play or play therapy. Whatever type of play is used, play activities should be considered as an essential component of nursing care .Assessment of child projected outcomes of care will ensure that play care is sufficient to meet the child needs.

STATEMENT:

"A study to assess the effectiveness of play therapy on reduction of stress among the leukemic children between the age group of 8-18 years in selected hospitals at Nagercoil."

OBJECTIVES:

- To assess the level of stress among the children before and after giving play therapy between the age group of 8-18 years with leukemia.
- To evaluate the effectiveness of play therapy on reduction of stress among the leukemic children.
- To find out the interrelationship between physical, psychological, social and spiritual level of stress.
- To find out the association between the level of stress and selected demographic variables such as age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence,

method of food preparation, family history of cancer and habit of consuming Jung foods.

HYPOTHESIES:

- There will a be a significant reduction of stress in the post test score than in the pretest score.
- There will be a significant interrelationship between physical, psychological, social and spiritual level of stress.
- There will be a significant association between the level of stress and selected demographic variables such as age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation, family history of cancer and habit of consuming Jung foods.

OPERATIONAL DEFINITION:

EFFECTIVENESS:

In this study it refers to the reduction of stress level in leukemic children after play therapy as measured by Modified perceived stress assessment scales.

PLAY THERAPY:

In this study it refers to the form of psychotherapy used with children in order to help them express or act out their experiences, feelings, and problems, by playing with dolls, toys, puzzle, chess, charm, drawing,

painting, coloring and also child interested game , under the guidance or observations of an investigator.

LEUKEMIA:

In this study it means the malignant disorder such as ALL, AML, CML and CLL characterized by persistent and uncontrolled production of immature and abnormal white blood cells. It is a disease of abnormal proliferation and maturation of bone marrow which interfere with the formation of normal RBC, WBC and Platelet.

STRESS:

In this study stress refers to the harmful psychological effect experienced by the leukemic children in the view of physical, psychological, social and spiritual health tension as measured by Modified perceived stress assessment scale.

ASSUMPTION:

- All Leukemic children will have the same level of stress.
- The play therapy will be an effective means of stress reduction.
- Leukemic children will have stress due to the severity of the illness.

LIMITATIONS:

- Study period is limited to six weeks.
- Sample size is only 60.
- The study is limited to those willing to participate.

PROJECTED OUTCOME:

- The finding of this study would help the investigator to know the effectiveness of play therapy on reduction of stress level among leukemic children's.
- The result of the study would be the platform to bring out positive behavior change in leukemic children.
- This study would help to bring the needed information while managing the children with stress.
- This study would motivate and arouse interest in health professionals especially nurses to conduct studies to assess the effectiveness of play therapy in other chronically ill children.
- This study would provide an impetus for nurses to conduct a comparative study of play therapy with other studies.

MODIFIED CONCEPTUAL FRAME WORK BASED ON ROY's ADAPTATION MODEL.

The conceptual framework is a group of concepts and a set of preposition that spells out the relationship between them. The overall purpose is to make scientific findings more meaningful and generalizable.

- Polite & Hungler (1995).

It is the process of forming ideas, design and plans. The conceptual model acts as a guide to the research process .The major goals of the conceptual framework are to clarify the concepts used in the study to find the purpose and relationship between the concepts. The present study was aimed to “assess the effectiveness of play therapy on the reduction of stress among the leukemic children between the age group of 8-18 years in selected hospitals at Nagercoil". The framework for the study is based on the Roy's adaptation model.

According to Roy's theoretical model the goal of the nursing is to facilitate adaptation between the person and environment through the management of stimuli. The unique focus of the model is the input of the focal, contextual and residual stimuli acting through the regulator and cognitive coping mechanism to produce a behavioral response. The focal stimuli are the internal and external stimulus immediately affecting system; contextual stimulus is all other stimuli present in that situation and residual stimuli are the environmental factors.

RAM (1976) is made up of four factors as follows:

- INPUT: - Stimulus those are focal, contextual and residual.

- CONTROL PROCESS: - Regulatory or cognitive subsystem.
- EFFECTOR: - Behavioral responses in four modes-physiological, self concept, role function and interdependence.
- OUTPUT: - Adaptive response or Ineffective response.

INPUT

In the present study, the **input refers** to the assessment of children's stress under various factors like physical stress, psychological stress, social stress and spiritual stress.

CONTROL PROCESS

The **control process** is participating in play therapy which could reduce the stress.

EFFECTORS

The **effectors results** in adaptive response to the play therapy or in adaptive response to the play therapy through various models. The physiological response is less tired, less pain, getting adequate sleep feel comfortable. Psychological responses are the positive thought about treatment, not worry about health status, interested to know about the health status. Social responses are mingling with society, willing to see their friends, positive thought towards the family members and others and spiritual responses are prayer and meditation.

OUTPUT

Output is nothing but evaluation, which determined the degree to which extend outcomes are attained.

CHAPTER-II

REVIEW OF LITERATURE

The literature review is the key step in the research process. The main goal of the literature review is to develop a strong knowledge base to carry out research activities in the education and clinical practice.

This chapter deals with the information collected for relevant to the present study through published and unpublished materials. These publications were the foundation to carry out the research work. Highly extensive review of literature pertaining to research topic was done to collect maximum information for laying the foundation of the study.

REVIEW OF LITERATURE IS DISCUSSED UNDER THE FOLLOWING HEADINGS AS FOLLOWS:

PART-I

General concept of play.

PART-II

1. Literature related to play needs of children's.

2. Literature related to effectiveness of play on stress reduction.

PART-I

General concept of play

Play mirrors all of the developmental tasks and allows children to experiment safely with their newly learned skill. Play during infancy

represents the various social and cognitive modalities proposed by Ericson and Piaget.

Knell SM (2000), conducted a study on cognitive-behavioral play therapy. It was an experimental approach. CBPT typically contains a modeling component through which adaptive coping skills are demonstrated. Through the use of play cognitive change is communicated indirectly and more adaptive behaviors can be introduced to the child. Modeling in tailored for use with many specific cognitive and behavioral interventions. Generalization and response prevention are important features of CMPT with minor modifications; many of the principles of cognitive therapy, as delineated for use with adults are applicable to young children. Case examples are presented to highlight the application of CBPT. Although CBPT has a sound therapeutic base and utilizes proven techniques more rigorous empirical scrutiny is needed.

Zahra's (2001) conducted a study on therapeutic play and the impact on anxiety in hospitalized children. The study supported the use of puppet shows, as therapeutic play to decrease anxiety in hospitalized preschoolers. The results support group's research Utilization project to educate nurses on the effects of therapeutic play on anxiety levels in hospitalized children. Nurses could use this information to implement therapeutic play in hospitals throughout the world. Feasibility issues would include the cost of materials needed and the time involved to educate nurses. More research should be done on therapeutic play as a method to decrease anxiety in children. Future research could be conducted using other cultures or age group.

Meschiany a, Krontal S. (2001), conducted a study on toys and games in play therapy. The present article discusses the differences between play therapy with toys and play therapy with games from a psychodynamic point of view. Toys are regarded as offering the child an opportunity to develop a variety of transference reactions while games, because of their inherent competitive characteristic restrain the scope of possible transference reactions. The authors claim that therapists should consider there eventually when choosing which games or toys are to be available in the therapy room. This choice might determine in advance, the initial characteristics of the parent's transference.

D1XA (2002), conducted a study on clinical management. Where medicine meets management. There is evidence that hospital play hastens children's recover increases compliance and decreases the need for general anesthesia. The children's national service framework recommends that all children in the hospital have daily access to a play specialist. A survey showed an 11 percent rise in no of play specialists in the past two years but more is needed.

Lima RA (2002), conducted a study on paying in hospital; addition to nursing care. The goal of this paper was to discuss the theory and practice principles to subsidize the Utilization of play in the aid to the hospitalized children. The empiric data collection was realized through the participant observation of 11 children who were interned in a pediatric Unit of a teaching hospital in the state of Sao Paulo up country. They identify that the act to play has repercussions in the child nurse and hospital. To the child it is not abstract the development help it in the understanding about what is occurring by itself and discharge fear tension anxiety and frustration;

promote satisfaction, fun and spontaneity and allows it to transform experiences that should support inactive in active discharge. To the nurse it is a tool of intervention and a way of communication, that allows defect the Uniqueness of each child. Related to the hospital change the current view that is only a pain and suffering place.

Stewart EJ, Alrgen c, Arnold S (2002), conducted a study on preparing children for a surgical experience. Many hospitals have developed formal and informal orientation programs for preparing children for surgery. Films / videos, slide presentations, coloring books, photograph albums, puppet shows and tours often are used to introduce the child to the surgical environment. In some cases play therapy in a mock operating room is used. There should be a willingness to discuss the Childs ideas, fears and misconceptions concerning their perioperative experience. In additions, children should be given the opportunity to learn about their body the health care profession, and the surgical setting.

Dvarionas D, (2002), conducted a study on play therapy in social work with children. This article introduces the results of scientific research performed in 2001 -03 in Kaunas Primary school with 1st & 2nd grade child exhibiting behavioral disorders. Play group counseling or play media counseling is shown as an imported method in working with early primary grade children especially those who present behavioral problems in the classroom main conclusions to correspond with the hypothesis child for the research are a) children inhibiting behavioral problems are less active in the educational process. b) By means of systematic use of the play group counseling method in school problems children are able to solve their difficulties and to optimize their academic improvement c) There is a

complementary rule and regulations with Childs self esteem and his/her satisfaction with his/her vital activity .

Christine .N and Maritha .S (2005), defined play as an integral part of Childs growth and development. Play is the universal language of children. **Newman. C (2006)** founded that the power of play and the potential of the young child from births to eight is virtually an untapped area of research. Ellis stated that infant's, preschoolers and adults all perform the mysterious called play. Pretending and imaging is rather common activities and actions. Child's play is considered necessary for cognitive development and learning.

Lamp. N (2006), defined play as the occasion where the adult is engaged in interaction with the infant or attempted to stimulate the infant, other than by simply vocalizing, smiling or engaging in care taking activities. Smiling, looking and laughing, were defined as facilitating behavior while proximity touching, approaching, seeking to be held fusing and reaching were considered to be attachment behaviors.

William Li HC. et.al, (2007), conducted a study on the effects of pre-op therapeutic play on outcomes of school age children undergoing day surgery. The purpose of this study was to examine the effects of therapeutic play on the outcomes of children undergoing day strategy. 203 children admitted for day surgery were invited to participate in a randomized control trial. The experimental group received therapeutic play. The control group received routine information preparation. Children in the experimental group reported significantly lower state anxiety scores in pre and Postoperative Periods and exhibited fever negative emotions at induction of anesthesia than children in

the control group. No Significant differences were found between the two groups in postoperative pain. The study provides some evidence that therapeutic play is effective in pre as opposed to post surgical management of children.

CAMHS. et. al, (2007), conducted a study on evaluating clinical practice; using play based techniques to elicit children's views of therapy. The challenge is to find methods that accurately reflect children's views of therapy. Here discuss four different directive play therapy techniques three of which have been piloted in the first author's practice to help children express their views of therapy at the end of their interventions. These are the expert show, the miniature playroom technique and puppet and large doll evaluations. Explanations and samples are given for pilot research with 12 children. The issues and challenges inherent in play based evaluations also are explored. They argue that expressive therapists are in a Prime position to evaluate children's services and the children appear well able to express their views of therapy with these child centered techniques.

Hendon C, Bohan LM (2008), conducted a study on hospitalized children's mood differences during play and music therapy. The institutions often provide play and Music therapy to enhance the child's sense of normality. The purpose of this study was to test whether children in a hospital were happier during music rather than playing therapy. 60 children were observed either during play or music therapy. Happiness was operationally defined as the frequency of smiles during a 3 minute period. Increasing the amount of time hospitals provide music therapy for child patients may be a way to increase positive effect and ultimately to increase mental and physical well being in hospitalized children.

PART -II

1. Literature related to play needs in children

Play activity is important in children through processes and it also provides a means for non-verbal communication. The emergence of simple object play follows predictable development scales. By age 7 to 8 months infants begin to explore objects tactilely as well as visually in infant of that age, presented with a small cube, will inspect it, turn it and transfer it from hand to hand. Between ages 9 to 15 months simple manipulations mounting and banding of objects decrease and object appropriate action increased by 21 months, children will initiate every day activity. They will feed a doll and comb its hair. By 30 months children will act out familiar sequences (meal time, bedtime searching for a playmate). Informal observation of play activity can provide important clues to a Childs development level, especially a child who is unable to cooperate for more formal testing such as autistic world.

Gallingan. A. C (2001), stated that play and creativity are essential ingredients of therapeutic work with children.

Taneja. N . et. al, (2002) concluded that short daily sessions of play could significantly improve the development of children. It was vital to remember that children grow not by bread alone.

Liusr, Y.F (2003), conducted that by the uses observation role play leading to drawing and interviews, used projects cognitive child development and game therapy reduced the victims to eliminate her confusion.

Lemche .E (2003), stated play was demonstrated to provide a navel window toward internal emotional regulation and mental representations.

Optiz. B. (2004), said that play therapy affect behaviors in different ways and that autistic symptamatology of young children may be amenable to treatment.

Cavalry .W (2004), stated that activity and play occur at first with parents then alone then cooperatively with pears for healthy development play is patterned after the Childs observation of the adult world. Participation in play is one venue through which the child can test him or herself within peer group and provide a milieu in which success and failure can be meshed which is all important in the growing up process and developing coping skills for dealing with various stresses.

Bowner (2005) suggested that the use of puppet show as play therapy to decrease anxiety in hospitalized preschoolers. Nurse on the effects of play therapy on anxiety levels in hospitalized children. Nurses could use this information to implement play therapy in the hospital and throughout the world.

Hall. D (2006), stated that play in hospital has developed along side of changes towards a more family centered model of care. The recreational and educational role of play has been significantly extended toward a therapeutic purpose. If considered the relationships between play workers and teachers, nurses and parents and presents some European example of the use of play in hospitals.

Bolig. R. et al (2006), Suggested that play revealed now well or poorly children were coping with stress simultaneously plan can influence the

balance between affect and cognitive as well as between children and their environment play is a process by which children can control contingencies and affects outcomes.

Frank, D.J (2006), reported that toys are an indispensable component of play therapy for hospitalized children they can also be dangerous and may result in catastrophic accidents. Extreme care should be exercised in the purchase of "safe toys" for all infants and children in and out of the hospital.

2. Literature related to effectiveness Play therapy on stress reduction.

Establishing the precise mechanism and routes of the mind body connection has not been easy. Nevertheless a considerable body of literature attests to the physiological basis of stress induced diseases.

Hall .C and Deet. M (2000), reported that the play is recognized as an essential component of a child's life. Playing with children in hospital can aid nurses in assessing, communicating and providing nursing care. Play workshops can facilitate nursing students understand the importance and benefits of play. The play benefits children health care and parents in the hospital setting.

RUUSS. Y.W (2001) stated that play therapy serves two major functions aiding in the development of the therapist the child relationship and providing a vehicle for change.

Fredrick .P (2001), conducted that first play allows catharsis and labeling of feeling. The play is a pretend mode of communication therapy

facilitating feeling. Secondary play therapy provides opportunities for a corrective emotional experience.

Boxce. W.T (2001), conducted a study demonstrated that stress can alter the susceptibility of individuals to disease and that infections represent a good example. The incidence of streptococcal illness increased consistency in children with medium and high level of stress can assess independently. Other studies of children have found a correlation between the amount of stress and injuries during illness and hospitalization.

Antonio I.J (2002) suggested that play can be a tool to understand and intervene with pediatric patient's collaboration with nurse clinical specialties, early childhood educators and others who have expert knowledge of children and play equipment is useful to plan purposeful play programs or play seasons for the special needs of hospitalized children.

Nernroff. S and Anunziaja S.V (2002), demonstrated that play therapy is based on the assumptions that children's problem stem from the unconscious conflicts and developmental deficits that will reveal themselves in their play. The result was found that through verbalization and through their relationship between child therapist helped to understand and what is troubling them.

Chan J.M (2003) reported that the child like therapist utilize play techniques with hospitalized children for preparation and interaction before and after medical procedures and surgery. Through manipulating appropriate play materials include my miniature size medical equipment. Children communicate if facts of preparation have been understood; misinterpreted or

denied concrete play experiences enable children to understand hospital routines and sequences of events.

Clatworthy. S (2004), suggested that therapeutic play as a potential treatment of hospital induced anxiety in 5 to 11 yrs old children. It was demonstrated that play therapy is a valuable interaction with hospitalized children.

Riberio. C. A (2005) described the realization and the results of the experimental research accomplished with children from 3 to 5 yrs of age recently hospitalized used the play therapy. The results showed that it helped children behave more according to what is expected of this 3 to 5 years age group as well as show signs they had adopted or presented ego strength.

Wallen. C (2005), viewed that play enhanced Childs physical growth and development and contributes to the mastery of language and social skills. It is essential for the child psychological development and maturation. An overview of the field of play prevented an outline of the function of play for the physically ill child.

Loranger N (2006) reported that the play therapy is an effective nursing intervention for helping the toddler deal with separation anxiety. The use of play therapy responds to separation of anxiety in the toddler and allowed the toddler to work through feels and express issues of separation are examined.

Worchel V et al (2006), compared the efforts of play on the psychosocial adjustment of 46 children hospitalized for acute illness who were placed in one of 4 groups, play therapy diversionary play, verbal support and no treatment rating of psychological adjustment included self

report as well as nursery and parent ratings .Children in the play therapy conditions evidence and significant reduction in self reported hospital fears. Parents in all 4 groups rated their children less anxious from pre test to post test.

CHAPTER-III

RESEARCH METHODOLOGY

This chapter explains the methods adopted by the investigator to assess the effectiveness of play therapy. It deals with research approach, research design, study setting, population, criteria for selection of the sample, sample size, sampling technique, development of the tool, content validity, pilot study, reliability, feasibility, procedure for data collection and statistical analysis.

RESEARCH APPROACH

The quantitative research approach was used to assess the effectiveness of play therapy.

RESEARCH DESIGN

Pre experimental one group pretest and post test design was adopted for this study. It involves manipulation of experimental group and no control group in this study. In the experimental groups who have stress due to leukemia those were selected and given pretest, intervention and post test.

Pre test	Intervention	Post test
O1	X	O2

O1- Pretest assessment of level of stress among leukemic children.

X- Intervention [play therapy].

O2-post test assessment of level of stress among leukemic children.

SETTINGS OF THE STUDY

The study was conducted in selected hospitals in Nagercoil. The selection of an area on the basis of feasibility in terms of co-operation and accessibility in selecting the samples those were required for the study. This study was conducted in the CSI Mission Hospital, Neyyour, Nagercoil, and Tamilnadu. This hospital is located nearly 17 kilometers away from Nagercoil; it is a rural based hospital. This hospital is affiliated with state government. In this hospital all the diagnostic measures like CT, MRI, Lab Investigations and Bone Scan, as well as on the treatment basis chemotherapy, radiation and surgical treatments are available. The total bed strength of the hospital is 300. Per day nearly 40 to 50 patients were visiting doctors as an outpatient and admission per day nearly 30 to 40 and total strength of the pediatric ward is 30 bedded.

POPULATION

The population of this study was the leukemic children in the age group of 8 -18 years.

SAMPLE

Samples were in the age group of 8-18 years who were hospitalized in and around Nagercoil.

SAMPLE SIZE

60 samples were selected for this study who fulfills the inclusion criteria.

SAMPLING TECHNIQUE

Purposive sampling technique was used to select 60 samples.

CRITERIA FOR SELECTION OF SAMPLE

Inclusion criteria

- Children in the age group of 8-18 years.
- Children those who were willing to participate in this study.
- Both male and female children were included.
- Children' diagnosed with leukemia for a minimum period of one year.
- Children who were residing in Nagercoil.

Exclusion criteria:

- Children who were not willing to participate in this study.
- Children in the age group of below 8 years and above 18 years.
- Children with newly diagnosed leukemia.

DEVELOPMENT OF THE TOOL

The tool was prepared after reviewing the related literature such as books, journals, previous studies and past experiences. Expert opinions and suggestions were also taken for the development of the tool.

DESCRIPTION OF TOOL

Section –I

It deals with the demographic variables of samples such as the age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation, family history of cancer and habit of consuming Jung foods.

Section- II

Modified perceived stress assessment scale was used to assess the level of stress in leukemic children.

SCORING PROCEDURE

Section – I

The demographic variables were not scored but used for descriptive analysis.

Section- II

Modified Perceived Stress assessment scale was used to assess the level of stress. The total items are 25. This tool was a four point scale with response **never, sometimes, rarely and always.** The scale consisted of both positively items no 8,11,12,13,15,16,20,21,22,23,24,25 and negatively worded items no 1,2,3,4,5,6,7,9,10,14,17,18,19. The score given for the responses were 1, 2, 3 and 4 respectively for the positive items and a reverse scoring for the negative items. The stress of cancer patients was graded into

mild, moderate and severe depending on the total score. Maximum score was 100 and minimum score was 25 and total score was 100.

Level of stress	**SCORE**
Mild stress	>56
Moderate stress	57-66
Severe stress	<67

TESTING OF THE TOOL

VALIDITY

The validity of the tool was established with the guide and experts. As far as adequacy of content, all experts approved the tool constructed. The tool was found adequate and minor suggestions given by experts were incorporated.

RELIABILITY

Reliability of the tool was measured by split half method the value found that r=0.08.

PILOT STUDY

A pilot study was conducted in a CSI Mission Cancer hospital, Nagercoil. Six children who met the inclusion criteria were selected by using the convenient sampling.

A pilot study was conducted by using Modified Perceived Stress Assessment Scale. The result was analyzed based on the scores obtained from the samples and observed by the investigator. The pilot study confirmed the feasibility. The samples included in the pilot study were excluded from the main study. Children were actively participated in play regularly for one week. Then at the end of the week again level of stress was assessed.

PROCEDURE FOR DATA COLLECTION

Formal permission was obtained from the principal, HOD of Pediatric Department and research committee members from the Matha College of Nursing to conduct this study. Prior to data collection permission was obtained from Medical Superintendent and ward Incharge. The study period was 6 weeks, the very first day the investigator met the children in the hospital and the purpose of the study was explained to each subject. Then the nature of the study was explained and an assurance was given regarding confidentiality of the tool. A separate place was selected for the interview and privacy was maintained. The subjects were made comfortable and relaxed in order to assess the level of stress by using Modified Perceived Stress Assessment Scale. Every week 10 samples were selected basis on the inclusion criteria and intervention was given for 30 min for each sample to supervise them for performance of their play activity. During the assessment of stress level adequate explanation was given regarding the tool for children in the age group of 8-11 years.

The total period of the data collection was 6 weeks

Each week Day 1=Assessed the level of stress and Taught about games and their importance of play to the children's as well as to their parents.

Day2-5= play therapy was given (Intervention).

The day 6 = post test was conducted.

Days / Weeks	1	2	3	4	5	6
First	Pre test to assess the level of stress	**Intervention** Play therapy (Daily 30 min for each sample)				Post test to assess the effectiveness of play therapy.
Second						
Third						
Fourth						
Fifth						
Sixth						

DATA ANALYSIS

The data were analyzed according to the objectives of the study by using the descriptive and inferential statistics such as:

- Frequency and percentage distribution were computed for describing the samples and demographic variables.
- Paired "t" test was computed to compare the pre test and post test mean score level of stress.
- Correlation (r) test was computed to determine the interrelationship between the factors of the tool.

- The chi - square test was computed to describe the association between the samples and their demographic variables.

PROTECTION OF HUMAN SUBJECTS

The research proposal was approved by the dissertation committee prior to the pilot study. Verbal consent was obtained from the subjects and the purpose of the study was explained to each subject. Assurance was given regarding confidentiality of the tool.

CHAPTER – IV

ANALYSIS AND INTERPRETATION OF DATA

This chapter presents the analysis and interpretation of data collected from the samples to determine the level of stress after doing play therapy. A quantitative approach was used for the present study. The analysis was done in order to achieve the following objectives of the study.

The objectives of the study were

- To assess the level of stress among the children before and after giving play therapy between the age group of 8-18 years with leukemia.
- To evaluate the effectiveness of play therapy on reduction of stress among the leukemic children.
- To find out the interrelationship between physical, psychological, social and spiritual level of stress.
- To find out the association between the level of stress and selected demographic variables such as age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation, family history of cancer and habit of consuming Jung foods.

During the data analysis, the data were reduced to an interpretable form to summarize the findings, test the hypothesis and establish the relationship between the variables.

ORGANIZATION OF THE STUDY FINDINGS

Section I: Distribution of samples according to demographic variable.

Section II: Distribution of samples according to level of stress before and after intervention.

Section III: Effectiveness of play therapy on reduction of stress.

Section IV: Interrelationship between level of stress and physical, psychological, social and spiritual stress after intervention.

Section V: Association between level of stress and selected demographic variables.

SECTION I

Table 1: Distribution of the samples according to their demographic variables.

(N= 60)

Si. no	Demographic variables	No. of samples	
		Frequency	percentage [%]
1.	**Age in years**		
	a. 8-10years	2	3.3
	b. 11-13 years	20	33.3
	c. 14-16 years	24	40.0
	d. 17-18 years	14	23.3
2.	**Sex**		
	a. Male	29	48.3
	b. Female	31	51.7
3.	**Educational status**		
	a. Primary education	7	11.7
	b. Secondary education	16	71.4
	c. Higher secondary education	7	16.7
4.	**Religion**		
	a. Hindu	26	43.3
	b. Christian	25	41.7
	c. Muslim	6	10.0
	d. Others	3	5.0

Si. no	Demographic variables	No. of samples	
		Frequency	percentage [%]
5.	**Type of family**		
	a. Nuclear family	56	93.3
	b. Joint family	4	6.7
6.	**Family monthly income**		
	a. Below Rs 1000	2	3.3
	b. Rs 1001-3000	6	10
	c. Rs 3001-5000	23	38.3
	d. Rs 5001-7000	22	36.3
	e. Above Rs7001	7	11.7
7.	**No of children's in the family**		
	a. One	27	45.0
	b. Two	16	26.7
	c. Three	11	18.3
	d. Four and above	6	10.0
8.	**Type of leukemia**		
	a. ALL	41	68.3
	b. AML	9	15
	c. CML	8	13.3
	d. CLL	2	3.3

Si. no	Demographic variables	No. of samples	
		Frequency	Percentage (%)
9.	**Duration of illness**		
	a.1-2 years	41	68.3
	b.2-3 years	17	28.3
	c.3-4 years	2	3.3
10.	**Frequency of hospitalization**		
	a. Always	14	23.3
	b. Alternative days	11	18.3
	c. Alternative weeks	17	28.3
	d. Every months	18	30.0
11.	**Place of residence**		
	a. Urban	31	51.7
	b. Rural	29	48.3
12.	**Method of food preparation**		
	a. Gas stove	53	88.3
	b. Fire wood	3	5.0
	c. Microwave	2	3.3
	d. Induction stove	1	1.7
	e. Kerosene stove	1	1.7

Si. no	Demographic variables	No of samples	
		Frequency	**Percentage**
13.	**Previous history of cancer in the family**		
	a. Brother and Sister	2	3.3
	b. Grand parents	4	6.7
	c. None	54	90
14.	**Habit of taking Jung foods**		
	a. Never	53	88.3
	b. Occasional	5	8.3
	c. Frequently	2	3.3

The table-1 shows the frequency & percentage of demographic variables such as age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation, family history of cancer and habit of consuming Jung foods.

The age group of leukemic children selected for the study was divided into 4 groups, 2 [3.3%] were between 8-10 years, 20 [33.3%] were between 11-16 years, 24 [40.0%] were between 14-16 years, 14 [23.3%] were between 17-18 years.

Moving to the gender of the group 29 [48.3%] were males, 31 [51.7%] were females.

About educational status of the subjects 7 [11.7%] had primary education, 43 [71.6%] had secondary education and 10 [10.7%] had a higher secondary education.

With regard to religion 26 [43.3%] were Hindu, 25 [41.7%] were Christian, 6 [10.0%] were Muslim and 3 [5.0%] were others. In type of family 56 [93.3%] were living in nuclear families, 4 [6.7%] were living in joint family.

Moving to the monthly income of the family 2 [3.3%] were getting less than Rs/-1000, 6 [10.0%] were getting Rs/- 1001-3000, 23 [38.3%] were getting Rs/-3001-5000, 22 [36.7%] were getting Rs/- 5001-7000 and 7 [11.7%] were getting Rs/-7001and above. In number of children's in the family 27 [45.0%] had a single child at home, 16 [26.7%] had two children, 11 [18.3%] were having three children and remaining 6 [10.0%] had four children and above.

Regarding the type of leukemia 41 [68.3%] were affected by ALL (Acute lymphocytic leukemia), 9 [15.0%] were AML (Acute myeloid leukemia), 8 [13.3%] were CML (Chronic myeloid leukemia) and 2 [3.3%] were affected by CLL (Chronic lymphocytic leukemia).

About the duration of illness 41 [68.3%] were 1-2 years, 17 [28.3%] were 2-3 years and 2 [3.3%] were 3-4 years. With regard frequency of hospitalization 14 [23.3%] were always, 11 [18.3%] were alternative days, 17 [28.3%] were weekly once and 18 [30.0%] were monthly once visit the hospital. In place of residence 31 [51.7%] were living in urban and 29 [48.3%] were living in rural.

With regarding method of food preparation 53 [88.3%] were using gas stove, 3 [5.0%] were using fire wood, 2 [3.3%] were using microwave, 1 [1.7%] were using the induction stove and 1 [1.7%] were using kerosene stove.

With regard to previous history of cancer in the family 2 [3.3%] were brothers and sisters, 4 [6.7%] were grandparents and 54 [90%] were none.

In relation to habit of taking Jung foods 53 [88.3%] were never, 5 [8.3%] were occasional and 2 [3.3%] were frequent.

Figure-3 Distribution of samples according to the Age in years.

N=60

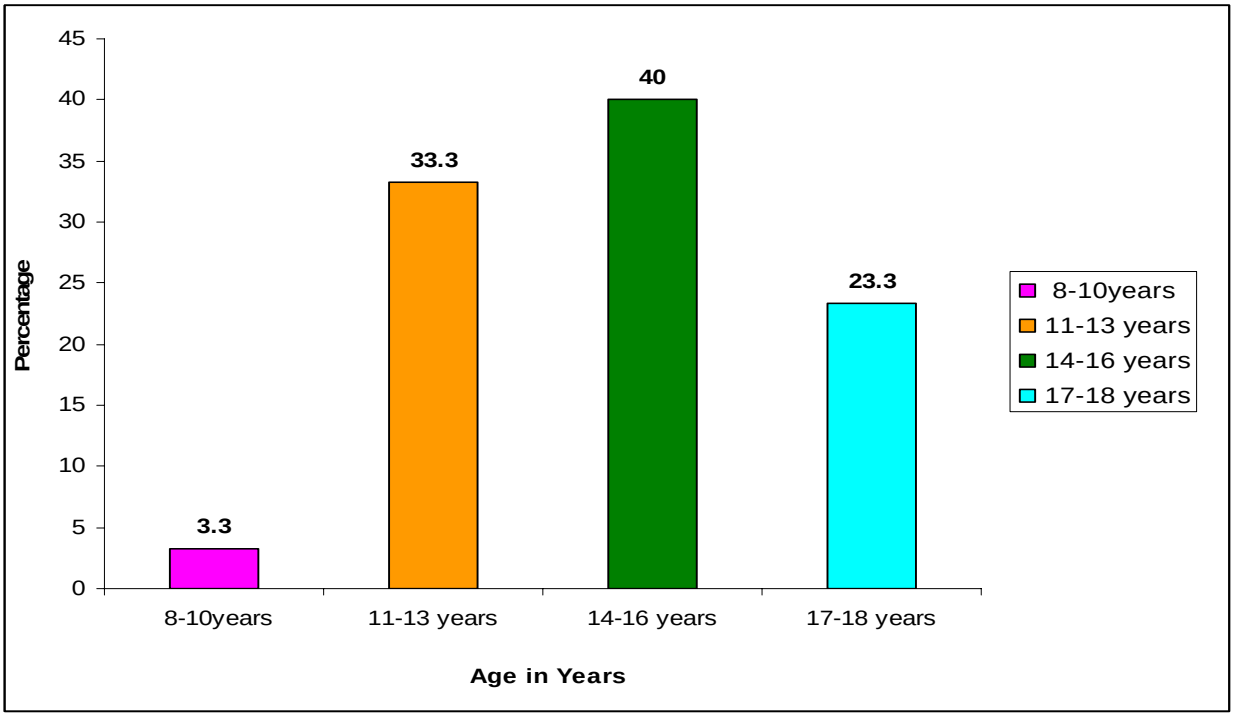


Figure-4 Distribution of samples according to the sex. **N=60**

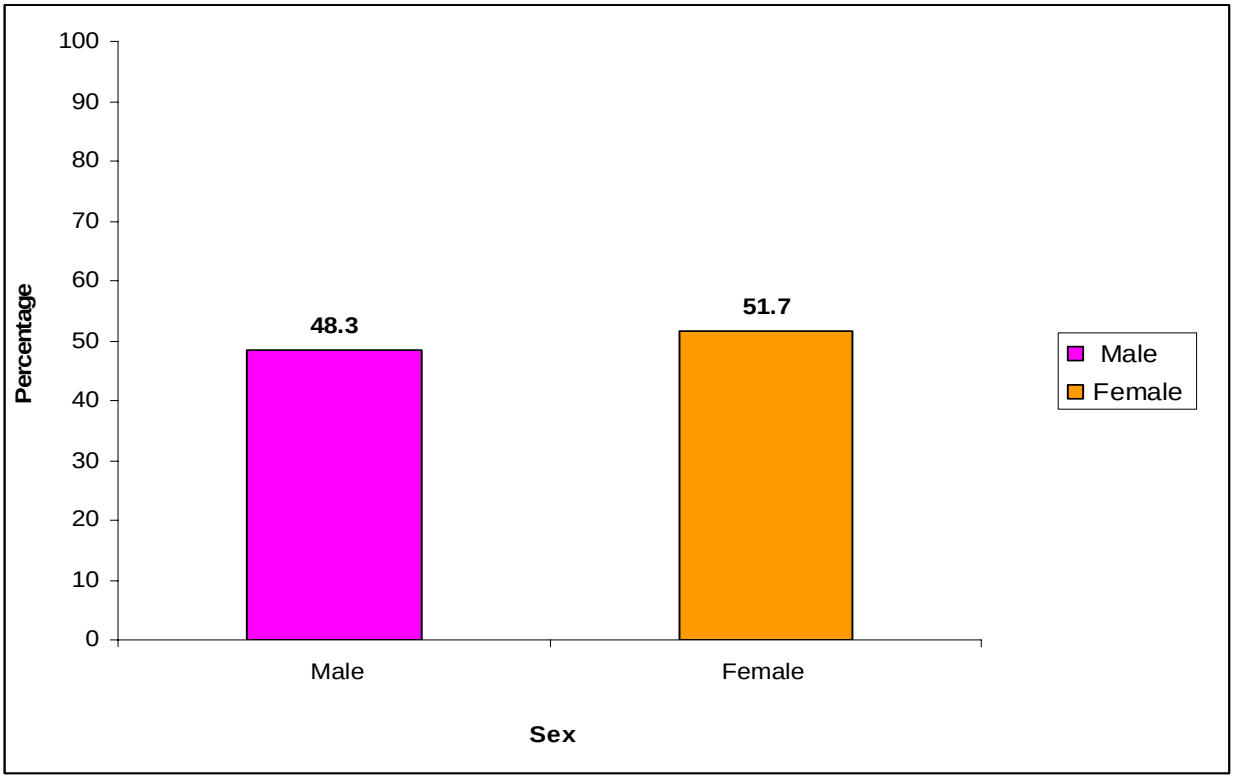


Figure – 5 Distribution of samples according to the Educational status.
N=60

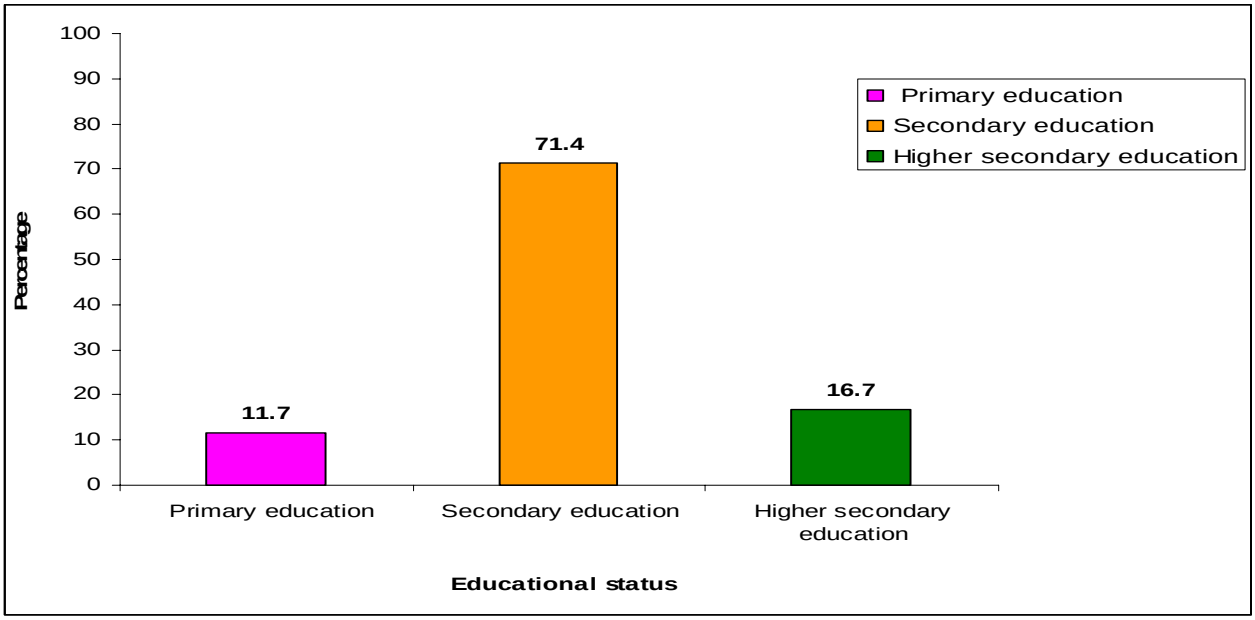


Figure-6 Distribution of samples according to the Religion. **N=60**

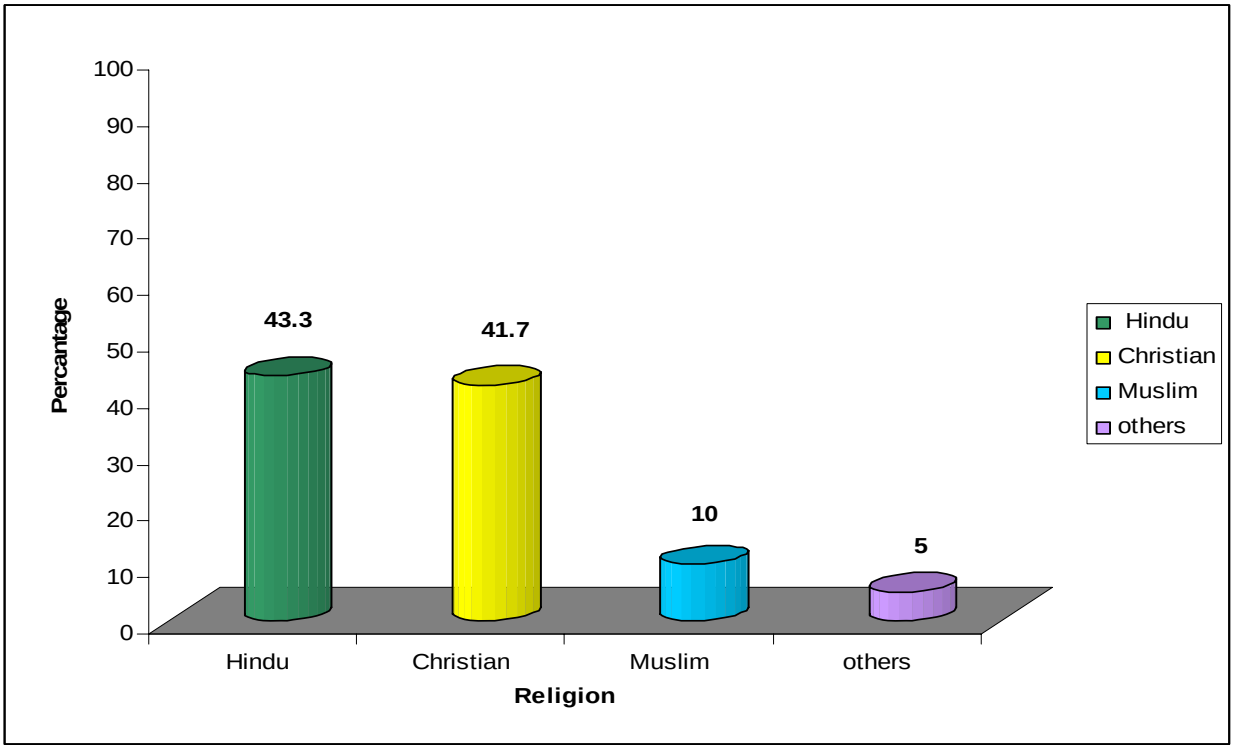


Figure- 7 Distribution of samples according to the Type of family.

N=60

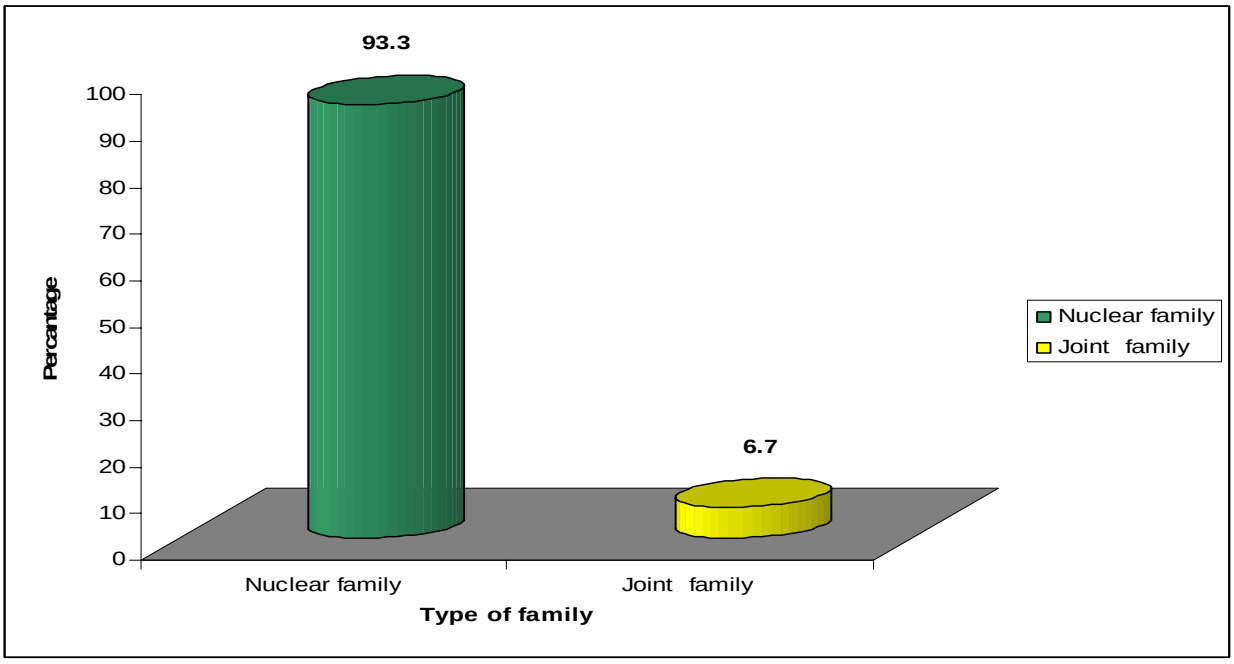


Figure-8 Distribution of samples according to the Family monthly Income.

N=60

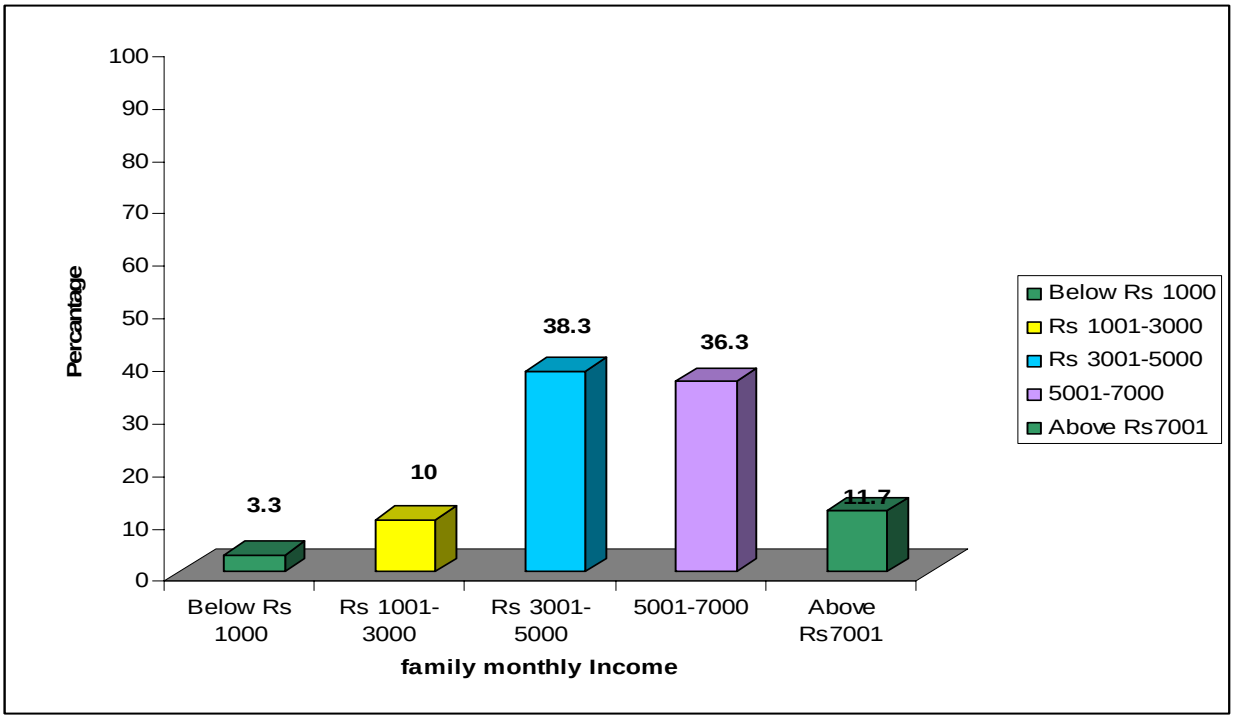


Figure- 9 Distribution of samples according to the No of Children in the family. N=60

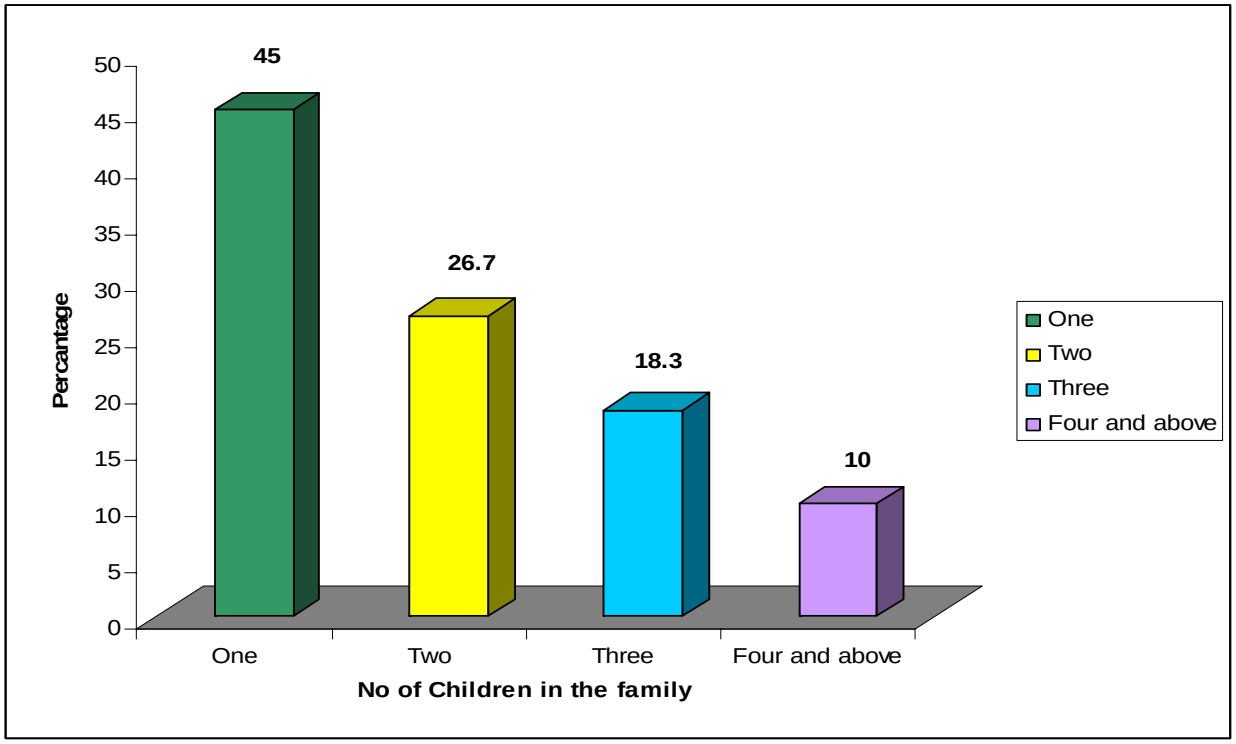


Figure-10 Distribution of samples according to the Type of Leukemia. N=60

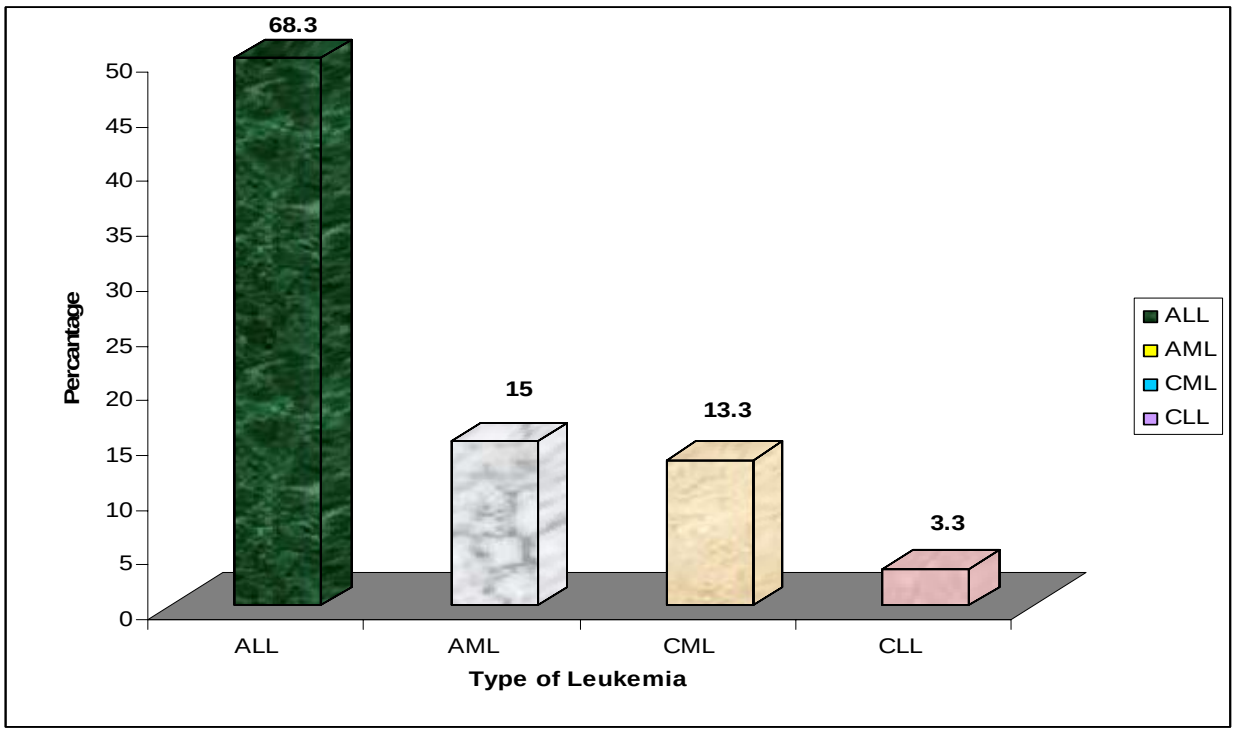


Figure-11 Distribution of samples according to the Duration of Illness.
N=60

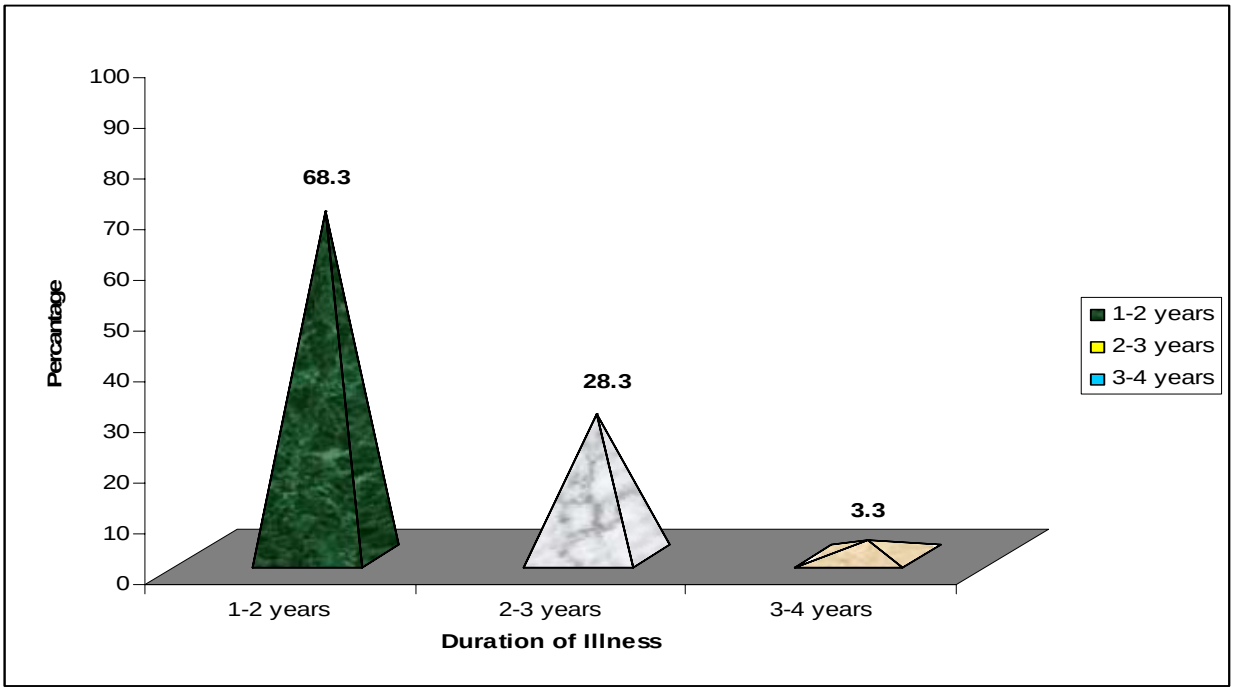


Figure- 12 Distribution of samples according to the Frequency of Hospitalization. **N=60**

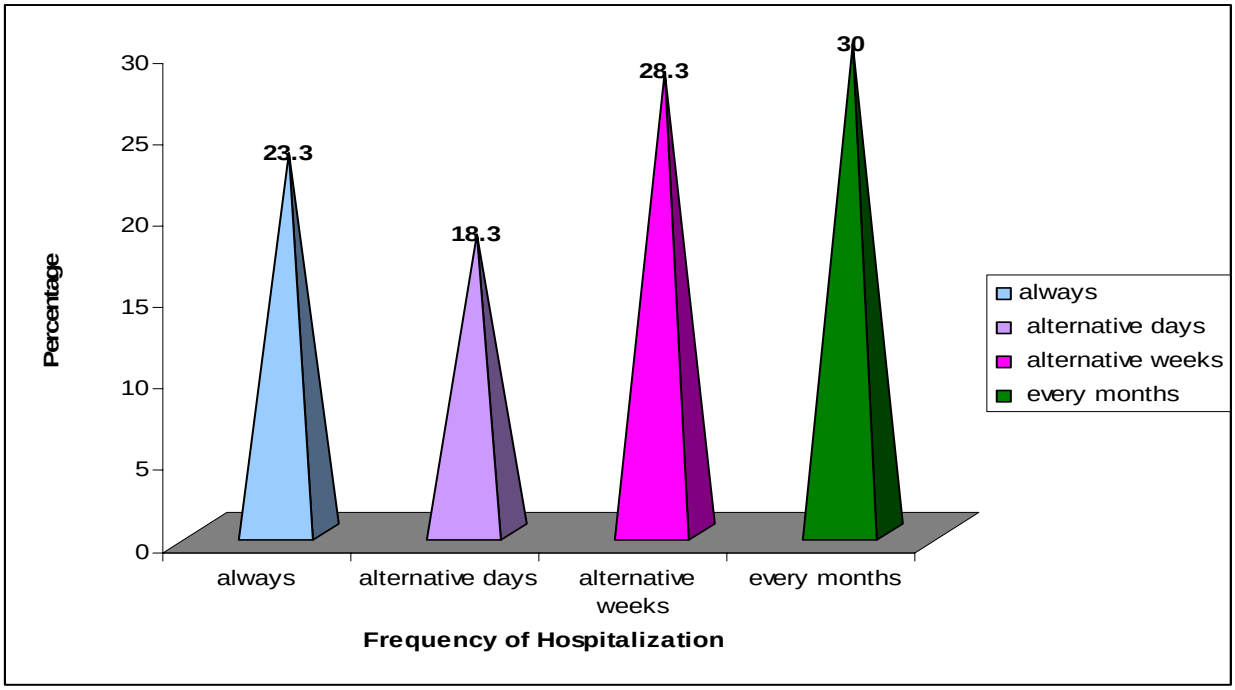


Figure-13 Distribution of samples according to the Place of Residence. N=60

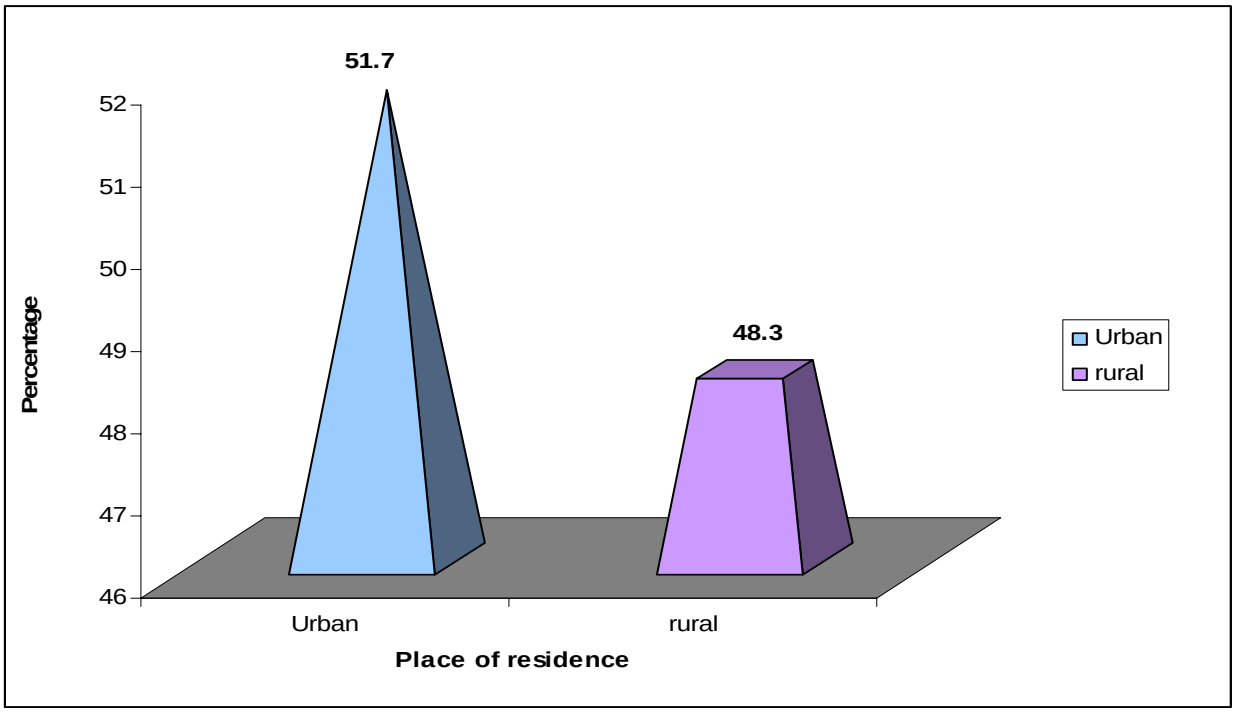


Figure-14 Distribution of samples according to the Method of Food preparation. N=60

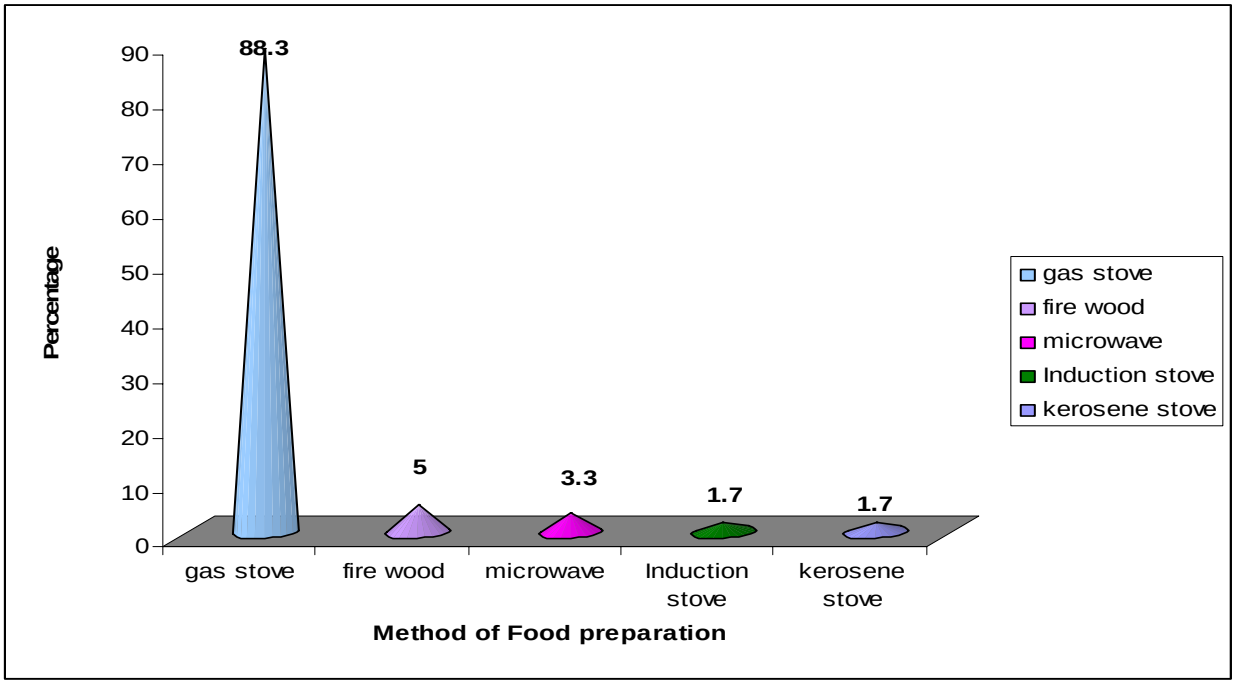


Figure-15 Distribution of samples according to the Previous history of cancer in the family. N=60

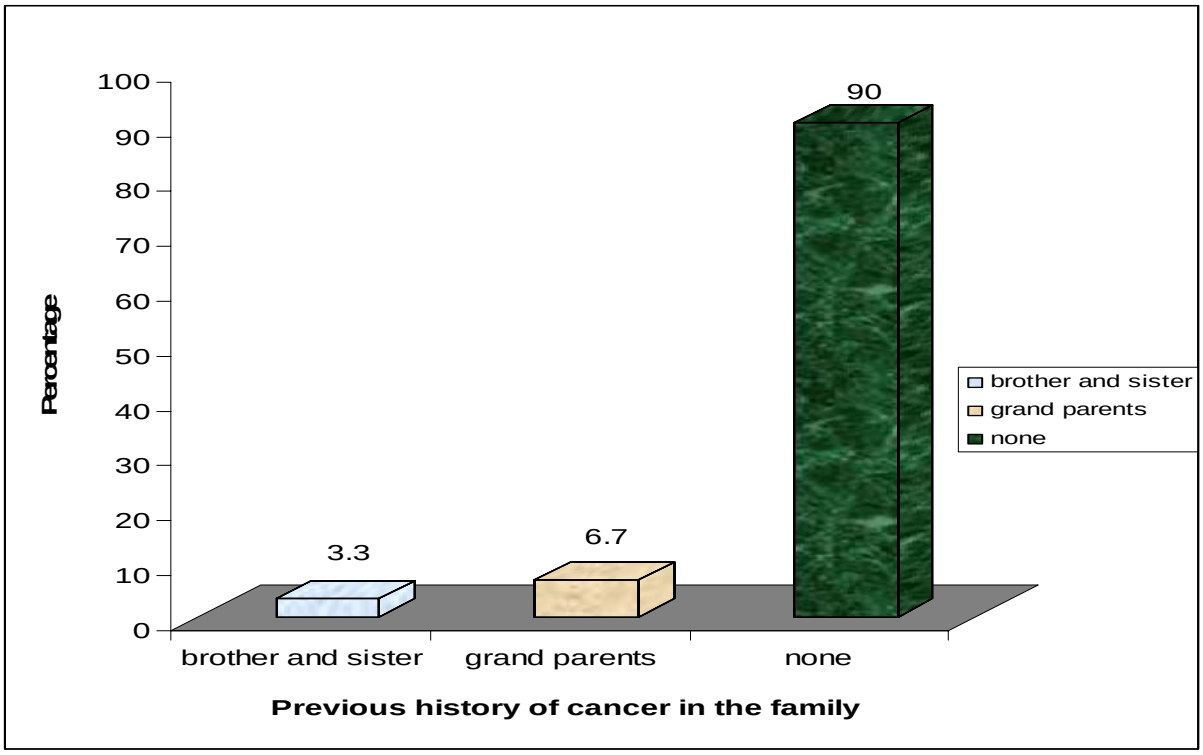
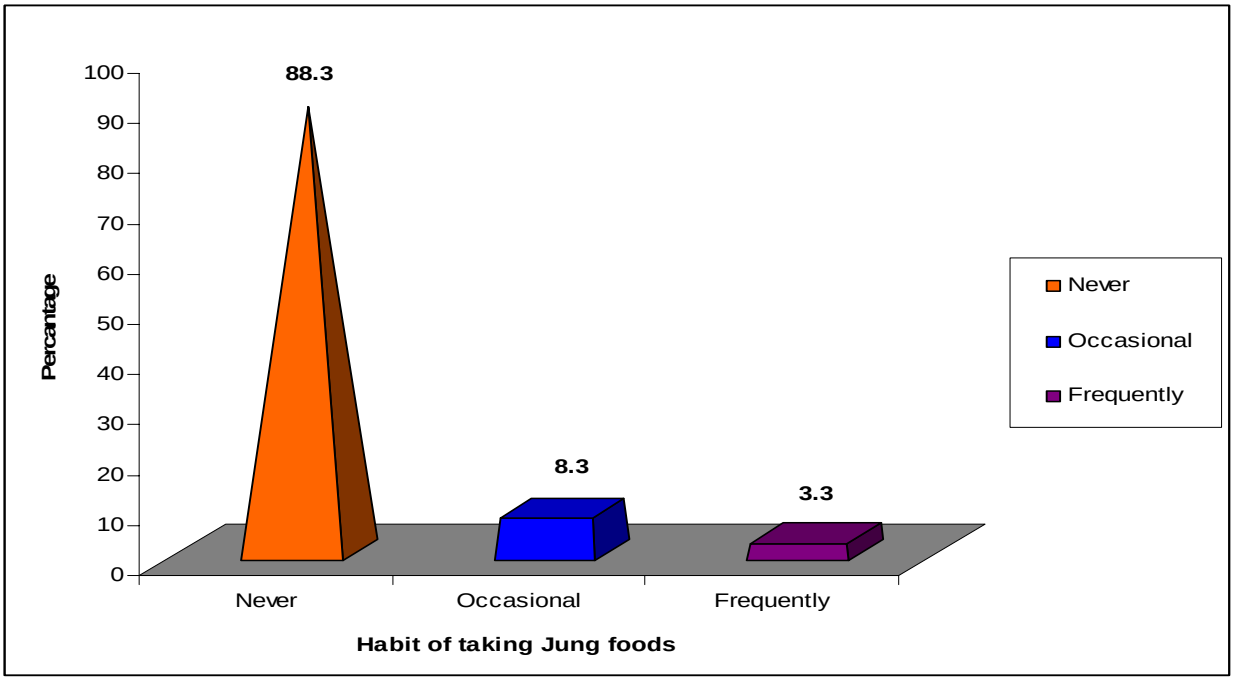


Figure-16 Distribution of samples according to the Habit of taking Jung foods. N=60



SECTION II

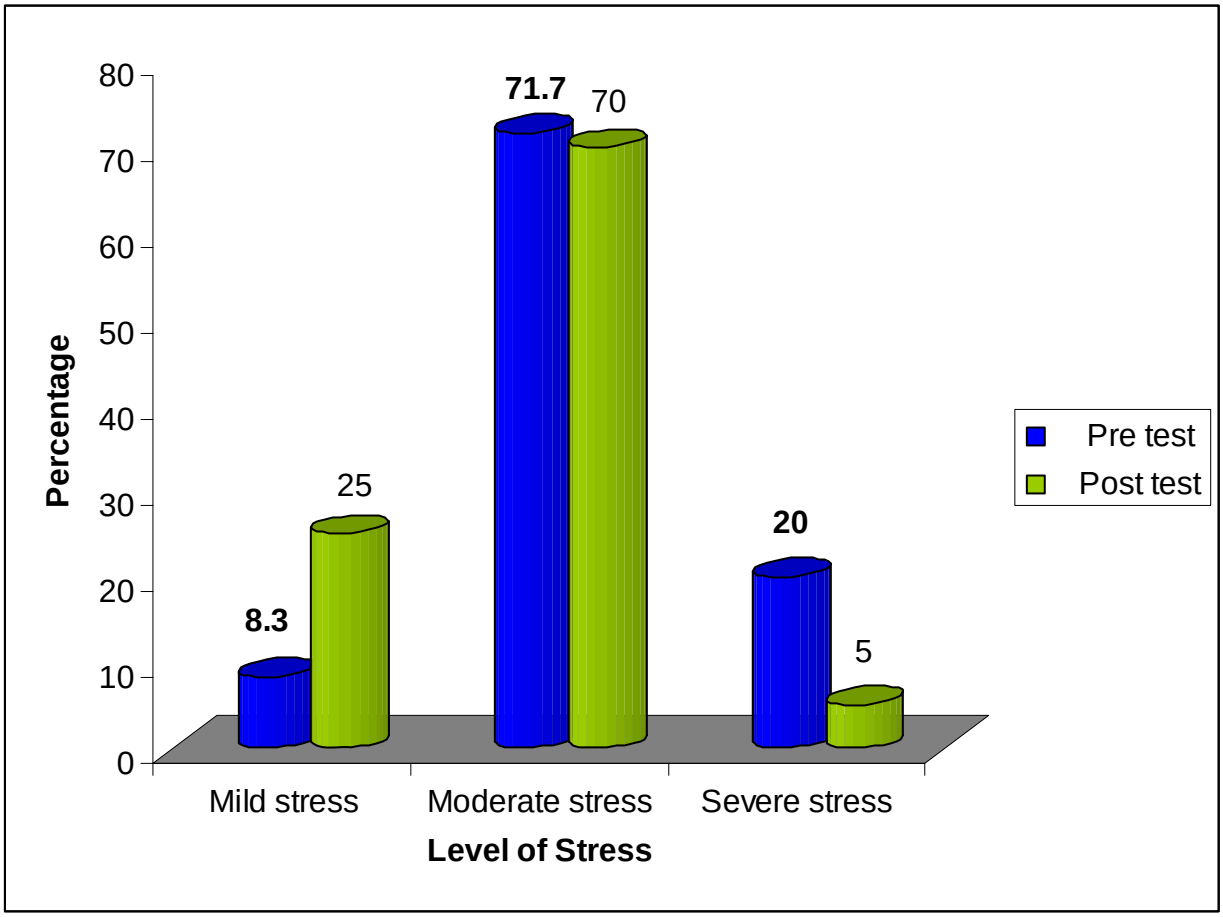
Table: 2 Distribution of samples according to level of stress before and after intervention.

(N=60)

Si .no	Level of stress	Pre test		Post test	
		F	%	F	%
1.	Mild stress	5	8.3	15	25
2.	Moderate stress	43	71.7	42	70
3.	Severe stress	12	20	3	5

The above table shows that pretest among the subjects, 5 [8.3%] had mild stress, 43 [71.7%] had moderate stress and 12 [20%] had severe stress. In post test among the subjects, 15 [25.0%] had mild stress, 42 [70.0%] had moderate stress and 3 [5.0%] had severe stress.

Figure – 17 Comparison between the pre test and post test for the Level of Stress. N=60



SECTION III

Effectiveness of play therapy on reduction of stress.

Table: 3 Mean post test score which was significantly lower than mean pre test score.

(N=60)

Sl. no	Level of stress	Mean	Standard Deviation	t-value	Table Value
1.	Before intervention	63.1333	4.20841	**7.962***	**2.000**
2.	After intervention	58.8333	3.64141		

***- Significant at 0.05 level**

The above table depicts Mean posttest score on the level of stress was 58.8333 which was significantly lower than the pretest score 63.1333 and the computed value of 't' was 7.962 is more than the table value [2.000] at df [59] which was statistically significant at 0.05 levels. This data showed that play therapy was effective in reduction of level stress.

SECTION IV

Table: 4 Interrelationship between physical, psychological, social and spiritual level of stress after intervention.

(N=60)

S. No	Variables	physical (r)	Psychological (r)	Social (r)	Spiritual (r)
1.	**Physical (r)**	1	0.209	0.044	0.130
2.	**Psychological (r)**	0.209	1	-0.210	-0.259*
3.	**Social (r)**	0.044	-0.210	1	0.067
4.	**Spiritual (r)**	0.130	-0.259*	0.067	1

*-correlation is significant at the level at the 0.05 level (2 tailed).

Table 4 illustrated that interrelationship between physical, psychological, social and spiritual level of stress. The physical level of stress was positively correlated with psychological, social and spiritual level of stress [r=0. 209, 0.044, 0.130]. Psychological level of stress was negatively correlated with Social and spiritual level of stress [r=-0.210, -0.259*] and the level of social stress was positively correlated with the level of spiritual stress [r=0. 067].

SECTION V

Table: 5 Associations between level of stress and demographic variables.

[N=60]

S. No	Demographic variables	level of stress						Table value	chi-square value ($\chi 2$)
		Mild		Moderate		Severe			
		F	%	F	%	f	%		
1.	Age • 8-10 years • 11-13years • 14-16years • 17-18 and above	0 2 10 3	0 3.3 16.6 5	2 17 13 10	3.3 28.3 21.6 16.6	0 1 1 1	0 1.6 1.6 1.6	12.59	**7.064#**
2.	Gender • Male • Female	5 10	8.3 16.6	22 20	36.6 33.3	2 1	3.3 1.6	5.99	**2.031#**
3.	Educational status • Primary • secondary • higher secondary	1 11 3	1.6 18.3 5	6 29 7	10 48.3 11.6	0 3 0	0 5 0	9.49	**1.900#**
4.	Religion • Hindu • Christian • Muslim • others	7 5 2 1	11.6 8.3 3.3 1.6	17 19 4 2	28.3 31.6 6.6 3.3	2 1 0 0	3.3 1.6 0 0	12.59	**1.637#**

S. No	Demo variables	Level of stress						Table value	Chi-square value ($\chi 2$)
		Mild		Moderate		Severe			
		F	%	F	%	f	%		
5.	Type of family • Nuclear family • Joint family	150	25 0	38 4	63.3 6.6	3 0	5 0	5.99	**1.837#**
6.	Monthly income • Below Rs1,000 • Rs 1,001-3,000 • Rs 3,001-5,001 • Rs 5001 -7000 • Rs7,001and above	1 11 47 1	1.6 1.6 6.6 11.6 1.6	1 4 19 13 5	1.6 6.6 31.6 21.6 8.3	0 1 0 2 0	0 1.6 0 3.3 0	15.51	**6.636#**
7.	No of children's in the family • One • Two • Three • Four and above	5 63 1	8.3 10 5 1.6	21 9 7 5	35 15 11.6 8.3	1 1 1 0	1.6 1.6 1.6 0	12.59	**3.334#**
8.	Type of leukemia • ALL • AML • CML • CLL	11 13 0	18.3 1.6 5 0	27 8 5 2	45 13.3 8.3 3.3	3 0 0 0	5 0 0 0	12.59	**4.020#**

S. No	Demo variables	Level of stress						Table value	Chi-square value ($\chi 2$)
		Mild		Moderate		Severe			
		F	%	F	%	f	%		
9.	Duration of illness • 1-2 years • 2-3 years • 3-4 years	13 2 0	21.6 3.3 0	27 13 2	45 21.6 3.3	1 2 0	1.6 3.3 0	9.49	**5.082#**
10	Frequency of hospitalization • Always • Alternative days • Every week once • Every monthly once	4 2 4 5	6.6 3.3 6.6 8.3	9 9 12 12	15 15 20 20	1 0 1 1	1.6 0 1.6 1.6	12.59	**1.377#**
11	Place of residence • Urban • Rural	10 5	16.6 8.3	18 24	30 40	3 0	5 0	5.99	**5.463#**
12	Method of food preparation • Gas stove • Fire wood • Microwave • Induction stove • Kerosene stove	12 1 0 1 1	20 1.6 0 1.6 1.6	38 2 2 0 0	63.3 3.3 3.3 0 0	3 0 0 0 0	5 0 0 0 0	15.51	**7.281#**

S. No	Demographic variables	Level of Stress						Table value	chi-square value ($\chi 2$)
		Mild		Moderate		Severe			
		F	%	F	%	F	%		
13	previous history of cancer in the family • Brothers and sisters • Grandparents • None	2 2 11	3.3 3.3 18.3	0 2 40	0 3.3 66.6	0 0 3	0 0 5	9.49	**8.053#**
14	Habit of taking Jung foods. • Never • Occasionally • Frequently	13 2 0	21.6 3.3 0	39 1 2	65 1.6 3.3	1 2 0	1.6 3.3 0	9.49	**16.472***

#- not significant

*** - significant at 0.05 levels**

The hypothesis stated that there will be a significant association between levels of stress and demographic variables. The same result was statistically proved. Above table depicts that the demographic variable like, habit of taking Jung food had **highly significant association at 0.05 level** and the demographic variable such as age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation and family history of cancer were not having association with level of stress.

CHAPTER-V

RESULT AND DISCUSSION

Leukemia is a stress full disease of children; however the term leukemia is generally used to refer cancers of the white blood cells (also called leukocytes or WBCs). When a child has leukemia, large numbers of abnormal white blood cells are produced in the bone marrow that can cause pain in the bones or joints, sometimes causing lymph node enlargement (neck, axilla, and groin), loss of hair, skin color changes due to chemotherapy and abnormally tired feeling.

The present study is designed to determine the effectiveness of play therapy in the reduction of stress and improving their lifestyle of the leukemic children.

A quantitative approach was used for the study. A purposive sampling was done to select samples. The data collection tools were used demographic variables, modified stress assessment scale was used to assess the level of stress experienced by the subjects.

The major findings of the study were highlighted. The formulated objectives were as follows;

OBJECTIVES

- To assess the level of stress among the children before and after giving play therapy between the age group of 8-18 years with leukemia.
- To evaluate the effectiveness of play therapy on reduction of stress among the leukemic children.

- ❖ To find out the interrelationship between physical, psychological, social and spiritual level of stress.
- ❖ To find out the association between the level of stress and selected demographic variables such as age of the client, gender, educational status of the children, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation, family history of cancer and habit of consuming Jung foods.

FINDINGS OF THE STUDY

Demographic distribution of the samples

The age group of leukemic children selected for the study was divided into 4 groups, 2 [3.3%] were between 8-10 years, 20 [33.3%] were between 11-16 years, 24 [40.0%] were between 14-16 years, 14 [23.3%] were between 17-18 years.

Moving to the gender of the group 29 [48.3%] were males, 31 [51.7%] were females. About educational status of the subjects 7 [11.7%] had primary education, 43 [71.6%] had secondary education and 10 [10.7%] had a higher secondary education.

With regard to religion 26 [43.3%] were Hindu, 25 [41.7%] were Christian, 6 [10.0%] were Muslim and 3 [5.0%] were others. In type of family 56 [93.3%] were living in nuclear families, 4 [6.7%] were living in joint family.

Moving to the monthly income of the family 2 [3.3%] were getting Rs/- below 1000, 6 [10.0%] were getting Rs/- 1001-3000, 23 [38.3%] were

getting Rs/-3001-5000, 22 [36.7%] were getting Rs/- 5001-7000 and 7 [11.7%] were getting Rs/-7001and above. In number of children's in the family 27 [45.0%] had one child in the home, 16 [26.7%] had two children, 11 [18.3%] had three children and remaining 6 [10.0%] had four children and above.

Regarding type of leukemia 41[68.3%] were ALL (Acute lymphocytic leukemia), 9[15.0%] were AML (Acute myeloid leukemia), 8[13.3%] were CML (Chronic myeloid leukemia) and 2[3.3%] was CLL (Chronic lymphocytic leukemia).

About the duration of illness 41 [68.3%] were 1-2 years, 17 [28.3%] were 2-3 years and 2 [3.3%] were 3-4 years. With regarding frequency of hospitalization 14 [23.3%] were always, 11 [18.3%] were alternative days, 17 [28.3%] were every weekly once and 18 [30.0%] were monthly once they visit the hospital. In place of residence 31 [51.7%] were living in urban and 29 [48.3%] were living in rural.

With regarding method of food preparation 53 [88.3%] were using gas stove, 3 [5.0%] were using fire wood, 2 [3.3%] were using microwave, 1 [1.7%] using the induction stove and 1 [1.7%] using kerosene stove.

With regard to previous history of cancer in the family 2 [3.3%] were brothers and sisters, 4 [6.7%] were grandparents and 54 [90%] were none.

In relation to habit of taking Jung foods 53 [88.3%] were never, 5 [8.3%] were occasional and 2 [3.3%] were frequent.

The first objective was to assess the level of stress before and after doing an intervention.

The level of stress of the samples was measured by Modified perceived stress assessment scale. The investigator found out of 60 subjects in pre test, 5 [8.3%] were having mild stress, 43 [71.7%] were having moderate stress and 12 [20.0%] had severe stress. In post test 15 [25%] were having mild stress, 42 [75%] were having moderate stress and 3 [5%] had severe stress.

The researcher concluded that most of the clients had moderate and severe stress due to inadequate relaxation technique (play therapy). Stress was one of the major problems in the children. Stress was significantly affecting the daily functions of the children and producing a severe form of anxiety and depression. Due to inadequate motivation of the nurse and their parents. Clients were not able to concentrate no play therapy continuously. Those who have severe forms of stress having negative feelings. Most of the samples reported that they had feared and higher levels of negative thinking. Most of the samples involved in relaxation technique. This is shown by the evident change in level of stress.

The study was supported by **Dogra and Veeraraghavan, (2004**) found parents and their children (ages 8–12) who had been diagnosed with conduct disorder and were exhibiting significant aggression, after receiving sixteen sessions of nondirective play therapy and parental counseling, showed significantly less “extra punitive” responses and significantly higher “impunitive” and “need-persistence” compared to the control group.

Additionally, they exhibited significant positive changes in an adjustable while significantly decreasing aggressive behaviors.

Wong et al., (1996), using the board game 'Stacking the Deck' to teach social skills to boys diagnosed with conduct disorder (ages 16–17) who were mildly retarded, found eight sessions or less showed "clear improvements after unit training."

The second objective was to find out the effectiveness of play therapy in the reduction of stress.

Mean pretest score on the level of stress was 63.13 and 58.83 in post test and computed value of 't'was 7.962 which was more than the table value [2.000] at df [59] which was statistically significant at 0.05 level. This data shows that play therapy was effective in reduction of level of stress.

The researcher concluded that the play therapy helps to modify the level of stress. Play therapy is the key that trains every client to change or to reduce the level of stress. In this study, after the intervention many of the client stress levels had reduced to some extent. Most of the subjects adopted the play therapy after participating in the study. About 60% of the samples were good at playing. The researcher observed that most of the samples responded to the questions very eagerly.

Schmidtchen, Hennies and Acke (2001) compared a treatment group of children (ages 5–8), who exhibited behavioral disturbances and received thirty sessions of nondirective play therapy, with a control group receiving non-play therapy social education. Results showed a decrease in behavioral disturbances and an increase in "person-centered competencies."

The third objective was to find out the relationship between physical, psychological, social and spiritual level of stress.

Table 4 illustrated that interrelationship between physical, psychological, social and spiritual level of stress. The physical level of stress was positively correlated with psychological, social and spiritual level of stress [r=0. 209, 0.044, 0.130]. Psychological level of stress was negatively correlated with Social and spiritual level of stress [r=-0.210, -0.259*] and the level of social stress was positively correlated with the level of spiritual stress [r=0. 067].

The researcher concluded that psychological level of stress and social level of stress were directly proportional to each other. There was an interrelationship between physical and psychological, social and spiritual level of stress. If the physical body of the person affected means that influence the psychological, social and spiritual level of stress.

There was an interrelationship between the social and spiritual level of stress, if the person's social system affected means that will influence the spiritual status of the persons.

There was a relationship between psychological and social and spiritual level of stress. Even though the psychological level of the person gets affected means that will not interfere with the social and spiritual status of the person.

The fourth objective was to associate the level of stress and demographic variables such as age, gender, education, religion, type of family, family monthly income , number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation, family history of cancer and habit of taking Jung foods.

The hypothesis stated that there was a significant association between levels of stress and demographic variables. The same result was statistically proved. The table depicts that the demographic variable habit of taking Jung food was having a significant association at 0.05 levels and the demographic variable age, gender, education, religion, type of family, family monthly income, number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation and family history of cancer were not having an association with level of stress.

The researcher concluded that most of the samples were on chemotherapy, prolonged hospital stay and separation from family and friends that lead to more frustration, anger, guilt and depression when compared other children so this influence the level of stress. There was a significant association between levels of stress and demographic variable like habit of taking Jung food, because of improper food preparation as well as food ingredients this could be the cause cancer in children. There was no significant association between levels of stress and demographic variables like age, gender, education, religion, type of family, family monthly income, number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation and family history of cancer.

CHAPTER VI

SUMMARY, FINDINGS, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

If you work hard enough, you probably don't need any doctor.

Bruce Chatwin

This chapter presents the summary of the study, findings and its implications for nursing and health care services and ends with recommendations for further research in this field.

SUMMARY OF THE STUDY

The purpose of the study was to evaluate the effectiveness of play therapy in the reduction of stress among leukemic children between the age group of 8-18 years clients in Nagercoil.

The experimental study was designed by the researcher to evaluate the level of stress. Purposive sampling technique was used to select 60 samples. The tool was developed and adopted after reviewing the relevant literature. Modified perceived stress assessment scale was used to assess the level of stress. The collected data were calculated and analyzed using both descriptive and inferential statistics based on the objectives of the study. The study was tested and accepted the hypothesis. The data collected were statistically analyzed and represented as tables and graphs in the previous chapter.

MAJOR FINDINGS OF THE STUDY:

- The majority of the age group of the subjects 24 [40%] were between 14-17 years.
- Regarding sex majority of the groups 31 [51.7%] were females.
- Regarding the educational status majority of group 16 [71.4%] had secondary education.
- With regard to religion majority of the subjects 26 [43.3%] were Hindu.
- Regarding the type of family majority of the subjects, 56 [93.3%] belonged to nuclear family.
- With regard to the monthly income of the family 23 [38.3%] majority were getting Rs/- 3001-5001.
- Regarding the number of children in the family 27 [45%] majority was one child in the family.
- Regarding the type of leukemia majority 41 [68.3%] were ALL.
- In relation to duration of illness majority 41 [68.3%] were on one to two years.
- Regarding the frequency of hospitalization majority 18 [30%] had visited the hospital monthly once.
- Regarding the place of residence majority 31 [51.7%] were living in urban.
- Regarding the method of food preparation majority 53 [88.3%] were prepared food in the gas stove.
- Regarding the previous history of cancer in the family majority 54 [90%] were no history of cancer in the family.
- In regards the eating of Jung foods majority 53 [88.3%] were told that they were not taking Jung foods.

- Level of stress showed that in the pretest, among the subjects 5 [8.3%] were in mild stress, 43 [71.7%] were in moderate stress and 12 [20%] were in severe stress. In post test among the subjects, 15 [25.0%] were in mild stress, 42 [70.0%] were in moderate stress and 3 [5.0%] had severe stress.
- In the effectiveness play therapy mean posttest score on the level of stress was 58.8333 which was significantly lower than the pretest score 63.1333 and the computed value of 't'was 7.962 was more than the table value [2.000] at df [59] which was statistically significant at 0.05 level. This data showed that play therapy was effective in reduction of stress level.
- There was an interrelationship between physical, psychological, social and spiritual level of stress. The physical level of stress was positively correlated with psychological, social and spiritual level of stress [r=0. 209, 0.044, 0.130]. Psychological level of stress was negatively correlated with Social and spiritual level of stress [r=-0.210, -0.259*] and the level of social stress was positively correlated with the level of spiritual stress [r=0. 067]. In positive correlation the level of physical stress increases automatic level of psychological, social and spiritual stress also will increase, as like same in the social stress increases spiritual stress also will increase. In the negative correlation the level of psychological stress increases that will not affect the social and spiritual level of stress.

- ❖ The demographic variable habit of taking Jung food was having significant at 0.05 level and the demographic variables such as age, gender, education, religion, type of family, family monthly income (in rupees), number of children in the family, type of leukemia, duration of illness, frequency of hospitalization, place of residence, method of food preparation and family history of cancer were not having an association with level of stress and there was no significance. The research hypothesis was accepted.

IMPLICATIONS:

Play therapy is a branch of rehabilitative health that uses specially as a tool of diagnosis. A play therapist observes a client playing with toys (playhouses, pets, dolls, etc.). To determine the cause of the disturbed behavior. Therapists can design an individualized program that emphasizes active and passive involvement of children in the play activity to reduce their stress level. In addition, modalities such as yoga, music therapy and divertational therapy are available for use if needed.

Nursing Practice

- ❖ Today nurses have a vital role in delivering quality care to children. Nurses are in a position to use non pharmacological methods to give care and safeguard the hospitalized children.
- ❖ The finding of the study clearly highlighted the importance of the play therapy to the children during hospitalization. The nursing personnel both in hospital and community can conduct an educational program.

- ❖ For nurse to develop professional skills independently by displaying the play material for children with stress.

Nursing Education

- ✓ Non pharmacological method or alternative therapies of stress management during hospitalization should be taught to the student nurses.
- ✓ Motivate the students to apply play therapy when they are in clinical practice in cancer ward.
- ✓ Conduct in-service education regarding play therapy for stress reduction in pediatric nursing settings.

Nursing Research

- ✓ This study also brings about the fact that more studies need to be conducted by using different techniques.
- ✓ Further studies with larger samples can promote generalize theory development on stress phenomena.
- ✓ This study results provides scope for further implementation of various alternative therapies and non-pharmacological methods of stress management on chronic illness among children.

Nursing Administration

- ✓ Nursing administrators should be efficient in organizing program regarding information on diversion techniques on reduction of stress.
- ✓ Nurse administrator must plan and organize program regarding play therapy for nursing personnel and other team members to update their knowledge.

- ✓ Ward in charge can arrange the needed resources and encourage nurses to use play therapy.

LIMITATIONS:

- The study period was limited to six weeks.
- The sample size was only 60.
- The study was limited to those willing to participate.

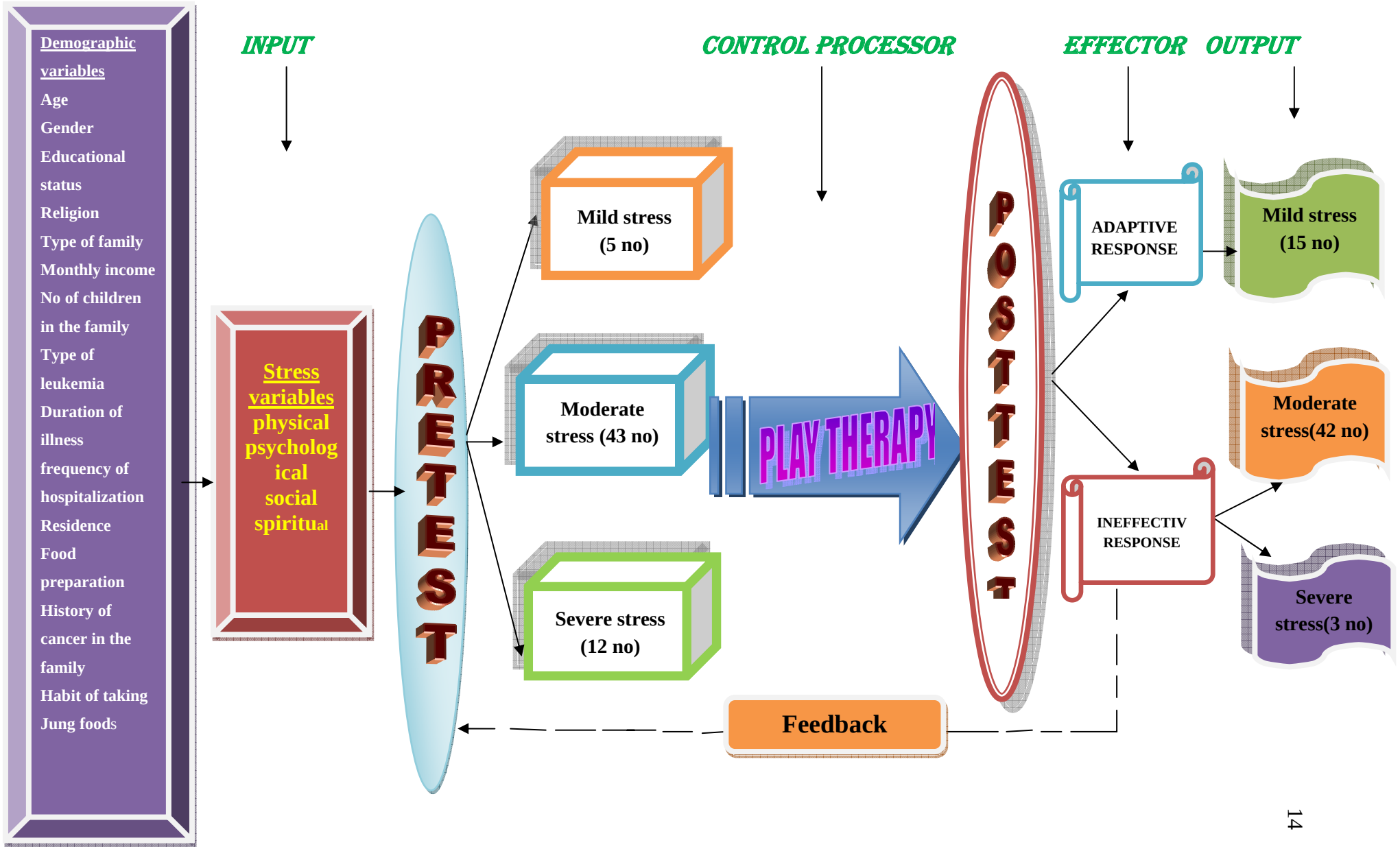
RECOMMENDATIONS

- ➢ A similar study can be replicated with larger sample size and in various other settings.
- ➢ The study can be conducted with other alternative therapies
- ➢ A similar study can be conducted to compare the effects of play therapy and any other non pharmacological intervention.
- ➢ A similar study can be conducted with different standardized stress scale for children.

CONCLUSION:

The following conclusions were made based on the above finding Most of the subjects were in moderate and mild level of stress after the intervention so the play therapy was effective in reducing the level of stress. The study was encouraging to all the age groups of children to reduce their stress. This was free of cost and done easily. It can be integrated into clinical practice and health education in order to enhance the life span of young children. A play therapy should focus on modifying the behavior and improving flexibility and recovering from stress. By working closely with the hospitalized children, the nurse can determine which plan will work for the person, based on the individual's needs and preferences.

FIGURE 1: MODIFIED CONCEPTUAL FRAMWORK BASED ON ROYS ADAPTATION MODEL (1976).



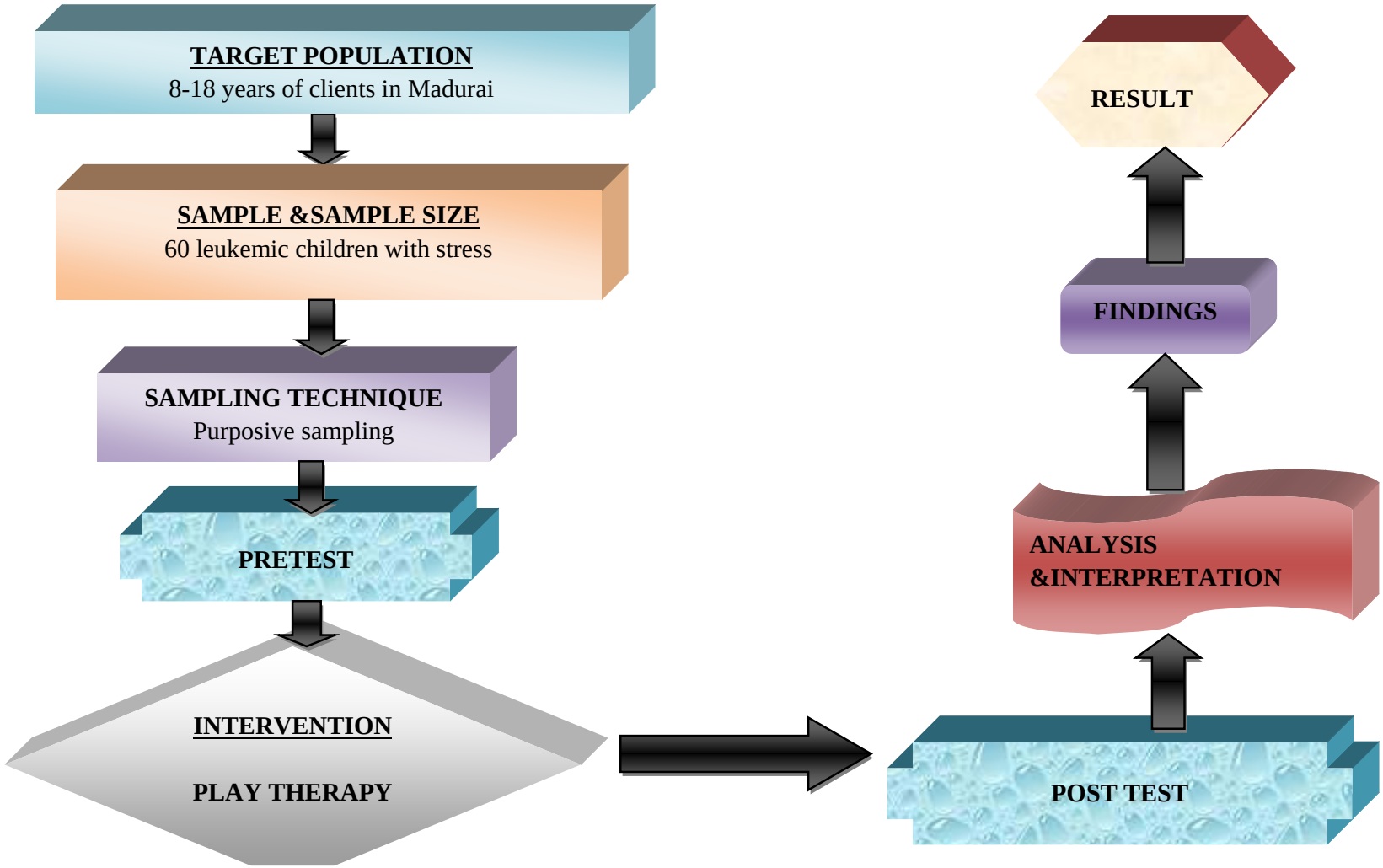


FIGURE 2: ***SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY***

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NET REFERECE:

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- www.the-bright-side.org
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APPENDIX-I

LETTER SEEKING PERMISSION TO CONDUCT STUDY

MATHA COLLEGE OF NURSING
(Affiliated to the Tamilnadu Dr.M.G.R. Medical University)
Vaanpuram, Manamadurai – 630 606.
Sivagangai District, Tamilnadu.

Prof: Shaberabanu, M.Sc., (N), (PhD)

Principal,

To

The Medical superintendent,

CSI Mission hospital,

Neyyour, Nagercoil.

Respected Sir / Madam,

Sub: Project work of M.Sc., Nursing student in clinical area around Nagercoil.

I am to state that Mr. Gopi. S.S. one of our final year M.Sc., Nursing students have to conduct a project, which is to be a partial fulfillment of university requirement for the degree of Master of Science in Nursing.

The topic of research is "An experimental study to assess the effectiveness of play therapy in the reduction of stress among the leukemic children between the age group of 8-18 years in selected hospitals at Nagercoil". Kindly permit him to do the research work in your organization. Thanking you.

Place: Manamadurai.
Date:

Yours faithfully,
Prof. Mrs. Shaberabanu.
(Principal)

APPENDIX-II
LETTER SEEKING EXPERTS' OPINION FOR CONTENT VALIDITY OF THE TOOL

From

Mr. GOPI.S.S.

M.Sc. Nursing, II Year,

Matha College of nursing, Manamadurai.

To

Through: The Principal, Matha College of Nursing, and Manamadruai.

Respected madam,

Sub: Requisition for getting expert opinion and suggestion for content validity of the tool.

I am a second year master degree student in Matha College of Nursing, Manamadruai in partial fulfillment of Master Degree in Nursing. I have selected the topic mentioned below for the research project to be submitted to the Dr. MGR Medical University, Chennai.

Problem statement:

"An experimental study to assess the effectiveness of play therapy on the reduction of stress among the leukemic children between the age group of 8-18 years in selected hospitals at Nagercoil."

I request you to kindly validate the tool and give your expert opinion for necessary modification and also I will be very grateful if you refine the problem statement and objectives.

ENCLOUSERS:

Statement of the Problem,
Objectives,
Hypothesis,
Research Tool,
Demographic profile.

Thanking you.

Place: Manamadurai. Yours faithfully,
Date: Mr. GOPI.S.S.

APPENDIX-III

CERTIFICATE FOR VALIDATION

This is to certify that the tool developed for data collection by **Mr. GOPI. S. S,** Final year student of Matha College of nursing, Manamadurai (affiliated to Dr. MGR medical university) is validated and can proceed with this tool and conduct the main dissertations entitled "An experimental study to evaluate the effectiveness of play therapy on the reduction of stress among the leukemic children between the age group of 8-18 years in selected hospitals at Nagercoil".

Date

Signature

APPENDIX-IV

LIST OF EXPERTS

1. **Dr. PRABAKAR NAVAMANI, M.D., D.C.H., (PAEDIATRITION)**
   Chief Consultant,
   Navamani children's specialty hospital, Madurai.

2. **Prof. Mrs. NALINI., M.SC (N).**
   Principal,
   Sacred Heart College of nursing, Madurai-10.

3. **Prof. Mrs. ROSE RAJESH., M.SC (N)., PhD**
   Vice principal,
   C S I college of nursing, Madurai-10.

4. **Prof. Mrs. JESSIE., M.SC (N).**
   Reader in Child Health nursing,
   C S I college of nursing. Madurai-10.

5. **Prof. Mrs. JASMIN SHEELA., M.SC (N).**
   Principal and H O D of Child Health nursing,
   Mount Zion College of nursing, pudukottai.

6. **Prof. Mrs. HELEN RAJAMANICKAM., M.SC (N).**
   H O D of community health nursing,
   Matha College of nursing, Manamadurai.

7. **Prof. Mrs. SHABERA BANU., M.SC (N)., (PhD).**
   Principal,
   Matha College of nursing, Manamadurai.

8. **Prof. Mrs. KALAIGURUSELVI., M.SC (N)., (PhD).**

   Vice principal,

   Matha College of nursing, Manamadurai.

9. **Prof. Mrs. THAMARAI SELVI., M.SC (N)., (PhD).**

   Principal**,**

   E.S College of nursing, Villupuram.

10. **Mrs. SARASWATHI., M.SC (N).**

    Principal,

    Ramachandra Naidu College of Nursing, Sangarankovil.

APPENDIX-V

INFORMED CONSENT

I **Mr.GOPI.S.S** II year M.Sc Nursing, in Matha college of nursing, Manamadurai conducting a study ***"An experimental study to assess the effectiveness of play therapy on reduction of stress among the leukemic children between the age group of 8-18 years in selected hospitals at Nagercoil".*** As a partial fulfillment of the requirement for the degree of M.Sc (Nursing) under the Tamil Nadu Dr. M .G .R. Medical University. The study participants will be assessed by Modified perceived stress assessment scale. I assure you that the response given by you will be kept confidential .So, I request you to kindly cooperate with me and participate in this study.

Thank you,

APPENDIX-VI

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation work ***"An experimental study to assess the effectiveness of play therapy on the reduction of stress among the leukemic children between the age group of 8-18 years in selected hospitals at Nagercoil".*** Done by Mr. GOPI. S. S, II year M.Sc Nursing, in Matha College of nursing, Manamadurai is edited for the English language is appropriate.

Signature:

APPENDIX-VII

DEMOGRAPHIC DATA

(This form will be filed by child or their parents)

1. Age in years ☐
    a. 8-10
    b. 11-13
    c. 14-16
    d. 17-18

2. Gender ☐
    a. Male
    b. Female

3. Educational status of the patient ☐
    a. Primary Education
    b. Secondary school
    c. Higher secondary

4. Religion ☐
    a. Hindu
    b. Christian
    c. Muslim
    d. Others

5. Type of family ☐
    a. Nuclear
    b. Joint

6. Family income /Month in rupees ☐
    a. 1000 and below
    b. 1001 -3000
    c. 3001 – 5000
    d. 5001 – 7000
    e. 7001 – above

7. No of children in the family ☐
    a. One child
    b. Two children
    c. 3 children
    d. 4 children and above

8. Type of leukemia ☐
    a. ALL
    b. AML
    c. CML
    d. CLL

9. Duration of illness ☐
    a. 1 year to 2 year
    b. 2^{nd} year – 3 year
    c. 3^{rd} year – 4^{th} year
    d. 4^{th} year and above

10.How often you will visit a Hospital ☐

a. Always
b. Alternative days
c. Every weekly
d. Every month

11.Place of residence ☐

a. Urban
b. Rural

12. Method of food preparation ☐

a. Gas stove
b. Fire wood
c. Microwave
d. Induction stove
e. kerosene stove

13. Previous history of cancer in your family ☐

a. Brothers and Sisters
b. Grand parents
c. None

14. Habit of taking Jung foods ☐

a. Never
b. Occasionally
c. Frequently

APANDIX-VIII

MODIFIED STRESS ASSESSMENT SCALE

(This form should be filled by the child)

S. No	Statement	Never	Sometimes	Rarely	Always
	PHYSICAL				
1	I feel tired easily				
2	I sweat profusely				
3	I have more body pain				
4	I have no energy for doing my daily activities				
5	I am not getting adequate sleep due to Illness				
	PSYCHOLOGICAL				
6	I feel sad because I have cancer				
7	I am happy after the confirmation of cancer.				
8	I am worried about my health status.				
9	I feel that my pain will be reduced by the treatment.				
10	I think through treatment my disease will cure.				

S. No	STATEMENT	Never	Sometimes	Rarely	Always
11	I thought about committing suicide attempt because of an incurable disease.				
12	I thought about after the diagnoses of cancer my studies are disturbed.				
13	I am interested to know about the prognosis of the diseases.				
14	I am interested to know about the Cancer patients who are recovering from Cancer through books and articles.				
15	I felt that, I am burdened to my family.				
	SOCIAL				
16	I feel happy when somebody visits me.				
17	I feel I will be dependent on others in the future.				
18	I am very afraid to go out home to the society because of cancer				

S. No	STATEMENT	Never	Sometimes	Rarely	Always
19	I feel that unable to enjoy my life with my disease				
20	I think my family members and friends are giving full support to recover from diseases.				
21	I think treatment is going in the correct way.				
22	I am interested to participate in social activities after diagnosis?				
23	I am interested to see my friends after the diagnosis of cancer?				
	SPIRITUAL				
24	I felt that prayer gives lots of relief when, I am in pain and suffering?				
25	I think that I got cancer because of curse from the god.				

APPENDIX-IX

பகுதி -1

(நோயாளி (அல்லது) பெற்றோர் விண்ணப்பங்களை பூர்த்தி செய்யலாம்)

1. நோயாளியின் வயது

   அ. 8-10 வயது வரை

   ஆ.11-13 வயது வரை ☐

   இ.14-16 வயது வரை

   ஈ.17- 18 வயது வரை

2. பாலினம்

   அ. ஆண் ☐

   ஆ. பெண்

3. நோயாளியின் படிப்பறிவு

   அ. 1 முதல் 5 ம் வகுப்பு வரை

   ஆ. 6 முதல் 10 ம் வகுப்பு வரை ☐

   இ. 11முதல் 12ம் வகுப்பு வரை

4. மதம்

   அ. இந்து

   ஆ. கிறிஸ்துவர் ☐

   இ. முஸ்லீம்

   ஈ. பிற மதத்தினர்

5. எந்த வகையான குடும்பம்

   அ. தனி நபர் குடும்பம் ☐

   ஆ. கூட்டு குடும்பம்

6. குடும்பத்தின் மாத வருமானம் (ரூபாயில்)

அ. ரூ 1000 க்கு கீழ்

ஆ. ரூ1001 — ரூ3000

இ. ரூ 3001 — ரூ5000

ஈ. ரூ 5001 — ரூ7000

உ. ரூ 7001க்கும் மேல்

7.குடும்பத்தில் உள்ள குழந்தைகளின் எண்ணிக்கை

அ. ஒரு குழந்தை

ஆ. இரண்டு குழந்தைகள்

இ. மூன்று குழந்தைகள்

ஈ. நான்கு குழந்தைகள் மற்றும் அதற்கும் மேல்

8. எந்த வகையான இரத்த புற்றுநோய்

அ. அக்யூட் லிம்பாயாட் லியூக்கேமியா

ஆ. அக்யூட் மைலோசைட் லியூக்கேமியா

இ. கிரானிக் லிம்பாயாட் லியூக்கேமியா

ஈ. கிரானிக் மையலோசைடிக் லியூக்கேமியா

9. நோயின் தாக்கம் எத்தனை வருடமாக

அ. 1 முதல் - 2வருடம்

ஆ. 2 முதல் -3 வருடம்

இ. 3 முதல் - 4 வருடம்

ஈ. 4 வருடத்திற்கு மேல்

10. எத்தனை நாட்களுக்கு ஒருமுறை மருத்துவமனைக்கு செல்வீர்கள்?

அ. எப்பொழுதும்

ஆ. ஒரு நாள் விட்டு ஒருநாள்

இ. வாரம் ஒருமுறை

ஈ. மாதம் ஒருமுறை

11. வசிக்கும் இடம்

அ. கிராமம்

ஆ. நகரம்

12. உணவு சமைக்கும் முறை

அ. கேஸ் அடுப்பு

ஆ. விறகு அடுப்பு

இ. மைக்ரோவேவ்

ஈ. இன்டக்ஸன் (மின்சார) அடுப்பு

உ. மண்ணெண்ணெய் அடுப்பு

13. குடும்பத்தில் யாராவது புற்றுநோயில் தாக்கப்பட்டுள்ளனரா?

அ. உடன் பிறந்தவர்கள்

ஆ. தாத்தா, பாட்டி

இ. யாரும் இல்லை

14. துரித உணவு (பாஸ்ட்புட்) உண்ணும் பழக்கம் உள்ளதா

அ. இல்லை

ஆ. எப்பொழுதாவது ஒருமுறை

இ. எப்பொழுதும்

பகுதி-2

(நோயாளி மட்டும் விண்ணப்பங்களை பூர்த்தி செய்யவேண்டும்)

திருத்தம் செய்யப்பட்ட மனஅழுத்தம் மதிப்பீட்டின் அளவுகோல்

வ.எண்	அறிக்கை	இல்லை	சிலமுறை	அரிதாக	எப்பொழுதும்
	உடல்				
1	நான் எளிதில் சோர்வடைந்து விடுவதாக உணர்கின்றேன்.				
2.	எனக்கு வியர்வை அதிகமாகவே வருகிறது.				
3.	எனக்கு உடம்பு வலி அதிகமாக இருக்கிறது				
4.	என்னுடைய அன்றாட நடவடிக்கைகளை செய்வதற்கு கூட எனக்கு ஆற்றல் இல்லை				
5.	நோயின தாக்கத்தினால் என்னால் சரிவர உறங்க முடியவில்லை				
	உளவியல்				
6.	எனக்கு புற்றுநோய் என்பதினால் நான் சோகமாக உணர்கின்றேன்.				
7.	புற்றுநோய் உங்களுக்கு கண்டறிந்த பிறகு நீங்கள் மகிழ்ச்சியாக இருக்கிறீர்களா?				
8.	உங்களுடைய உடல் நிலையை எண்ணி கவலைபடுகிறீர்களா?				
9.	உங்களுடைய உடம்பு வலி மருந்துகளின் மூலம் குறையும் என்று உணர்கிறீர்களா?				

வ.எண்	அறிக்கை	இல்லை	சிலமுறை	அரிதாக	எப்பொழுதும்
10.	மருத்துவத்தின் மூலம் உங்களுடைய புற்றுநோயை குணப்படுத்த முடியும் என நினைக்கிறீர்களா?				
11.	புற்று நோய் குணப்படுத்த முடியாத நோய் என்பதால் நீங்கள் தற்கொலை பற்றி எண்ணியது உண்டா?				
12.	புற்றுநோய் கண்டறிந்த பிறகு உங்களுடைய கல்வி பாதிக்கப்பட்டுள்ளது என்று நினைக்கிறீர்களா?				
13.	உங்களுடைய நோய் குணமடைவதை பற்றி அறிந்து கொள்ள ஆர்வம் உள்ளதா?				
14.	புத்தகங்கள் மற்றும் கட்டுரைகள் வாயிலாக புற்றுநோயில் இருந்து குணமடைந்தவர்களை பற்றி அறிய ஆர்வம் உள்ளதா?				
15.	நீங்கள் உங்கள் குடும்பத்திற்கு சுமை என்று உணர்கிறீர்களா?				
	சமூகம்				
16.	யாராவது என்னை காண வரும் போது நான் மகிழ்ச்சியாக உணர்கிறேன்.				
17.	நான் எதிர்காலத்தில் மற்றவர்களை சார்ந்து இருப்பேன் என்று உணர்கிறேன்.				

வ.எண்	அறிக்கை	இல்லை	சிலமுறை	அரிதாக	எப்பொழுதும்
18.	எனக்கு புற்றுநோய் என்பதால் வீட்டை விட்டு சமுதாயத்திற்கு செல்ல பயமாக இருக்கிறது.				
19.	நோய் இருப்பதினால் என் வாழ்க்கை மகிழ்ச்சியாக அனுபவிக்க முடியவில்லை என்று நினைக்கிறேன்.				
20.	உங்கள் குடும்பத்தினர் மற்றும் நண்பர்கள் நீங்கள் குணமடைய முழு ஆதரவு கொடுக்கிறார்கள் என்று நினைக்கிறீர்களா?				
21.	உங்கள் வாழ்க்கை நீங்கள் நினைத்தபடி செல்கிறது என்று உணர்கிறீர்களா?				
22.	நோய் கண்டறிந்த பிறகு சமூக நடவடிக்கைகளில் பங்கேற்க ஆர்வமாக உள்ளீர்களா?				
23	நோய் கண்டறிந்த பிறகு உங்களுடைய நண்பர்களை காண ஆர்வம் இருக்கிறதா?				
	ஆன்மீகம்				
24	நீங்கள் உடம்பு வலி மற்றும் பிற உபாதைகளால் அவதிப்படும் பொழுது பிரார்த்தனை உங்களுக்கு உதவியது என்று உணர்கிறீர்களா?				
25.	புற்றுநோய் உங்களுக்கு கடவுள் கொடுத்த சாபம் என்று நினைக்கிறீர்களா?				