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Effectiveness of Kangaroo Mother Care in Reducing Pain from Intravenous Procedures among Preterm Neonates in Selected Pediatric Hospitals, Hyderabad

V Stephina Immaculate

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Abstract

Introduction: Historically newborn infants were believed to be decorticate beings without the capacity to feel or be affected by pain like adults. Infants were considered comparable to a semi – anesthetized adult. Many surgical procedures, including circumcision, have been routinely performed on infants younger than three months without anesthesia or analgesia. Our knowledge of pain in neonates has increased dramatically in the past two decades. Supported by an impressive body of neuroanatomical, neurochemical, and biobehavioral evidence, term and preterm infants possess the ability to perceive and respond to pain and remember pain experiences. Kangaroo Mother Care has been shown to prevent infections, promote breastfeeding, regulate the baby's temperature, breathing, and brain activity, decreases pain and encourages mother and baby bonding. So the investigator performed an experimental study to assess the Effectiveness of Kangaroo Mother Care in reducing pain from intravenous procedures among preterm neonates in selected hospitals, Hyderabad. ***Methodology:*** Research design selected for the present study was experimental design.[18] Premature Infant Pain Scale was used to collect data. The study was conducted at Niloufer children's hospital Red hills, during a specified period of 14 days. Simple Random sampling technique was used for the selection of sample. Total sample for the study were 60.[8] ***Results:*** The study results showed that majority of preterm neonates 26 (86.7%) from control group were having severe pain. Majority of preterm neonates in experimental group 28 (93.3%) were having moderate pain. The mean of control group is 15.87 whereas mean of experimental group is 8.67. The calculated t- value (16.187) is more than the table value (2.0017) at the level of 0.05 probability. Hence it can be stated that kangaroo mother care is effective in reducing the pain.[11]

Keywords: Preterm Neonates Effectiveness; Kangaroo Mother Care; Pain; Intravenous Procedures.[3]

Introduction

Premature infants are more hypersensitive to nociceptive stimuli compared to full-term infants because of immature sensory processing within the spinal cord leads to lower thresholds for excitation and sensitization, thereby potentially maximizing the central effects of tissue-damaging inputs.[1] Acute physiologic changes caused by painful or stressful stimuli can be implicated as important factors in the causation or subsequent extension of early intraventricular hemorrhage (IVH) or the ischemic changes leading to periventricular leukomalacia (PVL). Therapeutic interventions that provide comfort/analgesia in preterm neonates were correlated with a decreased incidence of severe IVH.[1] Anand, K. J. (1998)

Kangaroo Mother Care was originated as an alternative for an incubator5. The mother is a great source of heat and comfort to her baby. Kangaroo Mother Care (KMC) is a special way of caring of babies. Skin-to-skin contact is a remarkably potent intervention against the pain experienced during heel stick in newborns.[5] Gray, L (2000).

Skin-to-skin contact is a remarkably potent intervention against the pain experienced during heel stick in newborns.[5] (Gray 2000)

Kangaroo care (skin-to-skin holding) is an intervention that meets development care criteria by fostering neurobehavioral development. The five dimensions of neurobehavioral development are autonomic, motor, state, attention/interaction, and self-regulation. Kangaroo care promotes stability of heart and respiratory function, minimizes purposeless movements, improves behavioral state profiles, offers maternal proximity for attention/interaction episodes, and permits self-regulatory behavior expression.[9] (Anderson 1999).

The effect of repeated Kangaroo Mother Care analgesia remains stable in preterm infants over repeated painful procedures. Given the many invasive procedures that are part of clinical care in preterm infants and most mothers preferred to provide comfort for their infants during painful procedures,

Kangaroo Mother Care may be a safe analgesic alternative in preterm infants in whom it is feasible.[10] (Johnson et al 2008)

It fosters their health and wellbeing by promoting effective thermal control, breast feeding, infection prevention and bonding. Infant held in KMC for 15 minutes prior to and throughout heel lance procedure, pain was marked with Premature Infant Pain Profile (PIPP), which is comprised of three facial actions, maximum heart rate, and minimum oxygen saturation levels from baseline in 30-second blocks from heel lance showed moderate pain10. Johnston et al (2008) Pain assessment tool effectively quantified neonates' pain Hodgkinson[6] (1994). There are many invasive procedures performed for preterm babies and using kangaroo Mother Care is the effective means of reducing pain in these children.

Objectives of the Study

- To assess the level of pain from intravenous procedures among preterm neonates with Kangaroo Mother Care in experimental group in selected Pediatric Hospitals.
- To assess the level of pain from intravenous procedures among preterm neonates without Kangaroo Mother Care in control group in selected Pediatric Hospitals.
- To evaluate the effectiveness of Kangaroo Mother Care in reducing pain from intravenous procedures among preterm neonates in experimental and control group in a selected pediatric hospital.
- To determine the association between level of pain and selected demographic variables.

Hypothesis

H_1– There will be a significant difference in reduction of pain from intravenous procedures among preterm neonates receiving Kangaroo Mother Care in experimental group in selected pediatric hospitals.

H_2– There will be a significant association between the effectiveness of Kangaroo Mother Care in pain reduction among preterm neonates with selected demographic variables in selected pediatric hospitals.

Materials and Methods

The Research approach: Quantitative Approach.

Research design: true experimental design posttest only.

The Research setting: Niloufer Hospital, Red Hills, Hyderabad.

Sample: Preterm neonates who were admitted in neonatal intensive care unit. The total number of samples for the study were 60 (30- Experimental, 30-Control).

Sampling technique: Random Sampling.[8]

Data collection procedure: The investigator collected the data at Niloufer children's hospital Red hills, during a specified period of 14 days. Tool had two sections.

Section 1: The first part of the tool consisted of nine items about the selected background variables such as Age, Gender, Birth weight, Gestational age, Gravida, Religion, Socio- Economic status, Mode of delivery, Birth order of the child.

Section 2: Pain scale- premature infant pain profile. {PIPP} which consists of 7 sub sections.

Scoring of Premature Infant Pain Profile

- Score gestational age before examining infant.
- Score the behavioral state before the potentially painful event by observing infant for 15 seconds.
- Record the baseline heart rate and oxygen saturation.
- Observe the infant for 30 seconds immediately following the painful event. Score physiologic and facial changes seen during this time and record immediately.

Premature Infant Pain Profile = SUM (Points for all 7 indicators)

Interpretation

Minimum score: 0

Maximum score: 21

The higher the score the greater the pain behavior.

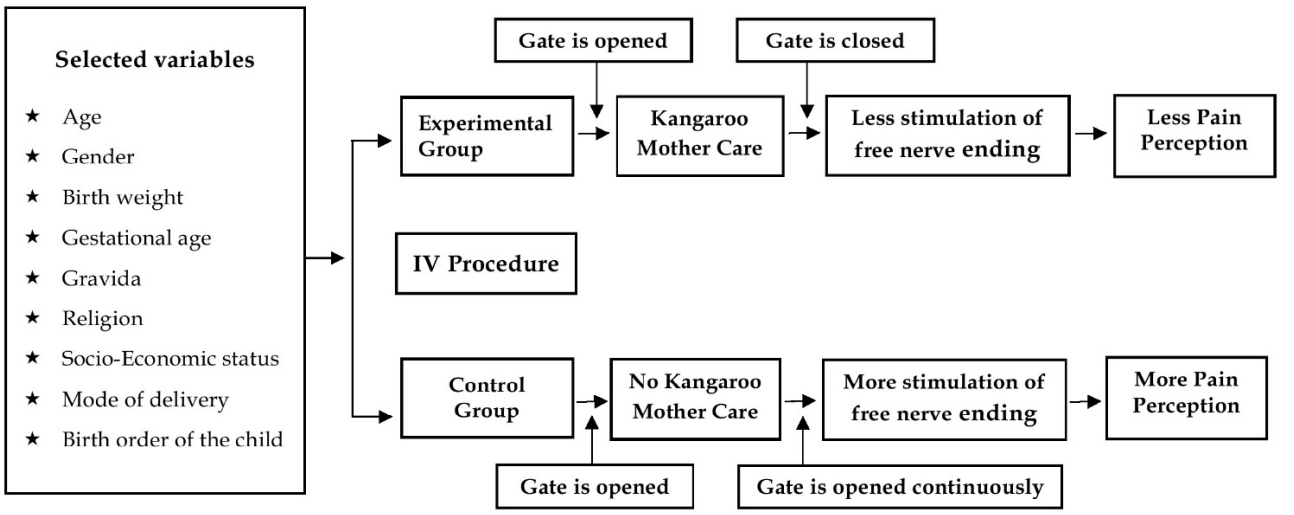

Fig I: Conceptual Framework (Wall and Malzack's Gate Control Theory).

Variables under Study

Dependent Variable: Reduction of pain in preterm neonates.

Independent Variable: Kangaroo Mother Care.[2]

Demographic variables: Age, Gender, Birth weight, Gestational age, Gravida, Religion, Socio- Economic status, Mode of delivery, Birth order of the child.[1]

Tool: Premature Infant Pain Scale was used to collect data. The content validity of the tool was obtained from experts in the field of Medicine and Nursing.

Validity of the tool: 8 experts including five experts in field of Child Health Nursing and three pediatricians (M.D).

Reliability: The reliability of the tool- Premature Infant pain scale was established by split–half method among[6] Preterm neonates admitted in selected pediatric hospitals. The co-relation

coefficient was computed using Karl Pearson's Formula which showed 'r 'value 0.98 which indicated that the tool was highly reliable.[8]

Conceptual framework: Gate control theory[3]. The main aim of this model was to assess the pain levels by conducting post test and integrating research findings in such a way as to facilitate the generation of testable hypothesis.[1]

Results and Discussion

Majority of preterm neonates 26 (86.7%) from control group were having severe pain.

Table 1: Frequency and percentage distribution of preterm neonates in control and experimental group according to the pain level.

Level of Pain	Control		Experimental	
	Frequency	(%)	Frequency	(%)
Mild	0	0	0	0
Moderate	4	13.3	28	93.3
Severe	26	86.7	2	6.7
Total	30	100	30	100

Table 1: shows the level of pain from intravenous procedures among preterm neonates with Kangaroo Mother Care in experimental group at selected pediatric hospitals. Majority of preterm neonates 28(93.3%) were having moderate pain.

Table 2: Mean, Standard deviation, Standard means error of pain levels among preterm neonates in control and experimental group.

Group		Mean	Standard Deviation	Standard Mean Error
Post Test Pain Levels	Control	15.87	1.907	.348
	Experimental	8.67	1.516	.277

Table 2: shows that the mean of control group is 15.87 whereas mean of experimental group is 8.67. The calculated t-value (16.187) is more than the table value (2.0017) at the level of 0.05 probability8. Hence it can be stated that kangaroo mother care is effective in reducing the pain.

Table 3: Mean, Standard deviation, T- value of pain levels among preterm neonates in control and experimental group.

Group	Mean	Std. Deviation	t- value	Df	Table value
Control	15.87	1.907	16.187	58	2.0017
Experimental	8.67	1.516			

Table 3: Shows that the mean of control group is 15.87 were as mean of experimental group is 8.67. The calculated t- value is more than the table value at the level of 0.05 probability.[8] Hence it can be stated that Kangaroo Mother Care is effective in reducing the pain.[1]

Hence it is proved that Kangaroo Mother Care was effective. Chi square values computed for pain levels related to demographic variables in both control and experimental group are lesser than the table value at 5% level of significance 8 except for gestational age and gender among control group.[8]

This implies that there is no significant association existing between pain level and demographic variables.

Discussion

A Similar study was conducted by Ambika Chidambaram (2013) this crossover trial was conducted at a tertiary care teaching hospital in south India. Premature Infant Pain Profile (PIPP) related to heel prick was assessed in 50 preterm neonates undergoing KMC and compared with 50 preterm babies without KMC. PIPP scores at 15 minutes and 30 minutes after heel prick were significantly less in KMC group compared to control group. This study highlighted that Mean PIPP difference between baseline and 30 minutes after heel prick was also significantly low in KMC group compared to control group and proved that KMC is effective in reducing pain due to heel prick among preterm babies.

In the present study it shows that the mean of control group is 15.87 were as mean of experimental group is 8.67. The calculated t-value is more than the table value at the level of 0.05 probability.[8] Hence it can be stated that Kangaroo Mother Care is effective in reducing the pain. Chi square values computed for pain levels related to demographic variables in both control and experimental group are lesser than the table value at 5% level of significance[8] except for gestational age and gender among control group.

Conclusion

The findings of this study have been discussed with reference to the objectives and hypothesis. The study shows a level of decreased pain in preterm neonates with Kangaroo mother care. Recent studies of this kind should be on going and the authority should provide enough opportunities to apply this in the clinical practice.

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Knowledge towards COVID 19 among the Nursing Students during the Rapid Rise Period of COVID 19 Outbreaks: A Quick Online Cross-Sectional Survey in Navi Mumbai

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Abstract

Background: The corona virus disease 2019 (COVID-19) emerged in Wuhan, China at the end of 2019. Since then, it has spread to 200 countries and has been declared a global pandemic by the World Health Organization (WHO). To date, there are more than 2.3 million positive COVID-19 cases recorded with at least 150,000 deaths globally. ***Aim:*** The overall aim of the study is to determine the knowledge of Covid -19 among nursing students in selected nursing colleges of Navi Mumbai and to assess the association between knowledge score and selected demographic variables among nursing students in selected nursing colleges of Navi Mumbai. ***Method:*** Descriptive survey approach with a typical descriptive design was adopted in the present study. Convenience sampling technique was used for the selection of the total 40 online samples. A self develop online knowledge questionnaire was used to assess the knowledge of Covid -19 among nursing students by using Google forms. Reliability of the knowledge questionnaire was checked by using split-half method and Spearman brown coefficient and the r = 0.9489. Prior permission from the concern authority of selected colleges was taken. The main study was conducted in Bharati Vidyapeeth Deemed to be University College of Nursing. After data collection the self-instruction module on information on Covid -19 was distributed to nursing students via mails to improve their knowledge. ***Result:*** Result revels that 37.5% of the nursing students had moderate level of knowledge and 62.5% had adequate level of knowledge. With the help of self instructional module students will improve the knowledge. Samples consist of 15% males and 85% females.17.5% were in 17-18yrs, 47.5% were in 18-19yrs and 30% were in 19-20yrs, 5% were in above 20yrs. Regarding background knowledge of COVID 19, 75% of the samples has knowledge on COVID. 75% of samples got knowledge from news channel, 10% samples got knowledge from doctors and 10% samples got knowledge from other sources. ***Conclusion:*** The overall findings of the study revealed that majority nursing students had moderate and inadequate knowledge regarding COVID-19. Hence, it is concluded that further improvement of knowledge on COVID-19 is needed.

Keywords: Knowledge; Assess; Covid-19; Self-Instruction Module.

Introduction

Coronavirus disease 2019 (COVID-19) is an emerging public health problem threatening the life of over 2.4 million people globally. According to the World Health Organization (WHO), the outbreak of corona virus disease 2019 (COVID-19) has become a pandemic, which at the time of writing had affected more than 100,000 people and caused more than 3000 deaths worldwide.

The epidemics of COVID-19 have been recorded over 200 countries, territories, and areas with 2878196 confirmed cased and 198 668 death cases. On 11 March 2020, WHO changed the status of the COVID-19 emergency from public health international emergency (30th January 2020) to a pandemic. Nonetheless, the fatality rate of the current pandemic is on the rise (between 2%-4%), relatively lower than the previous SARS-CoV (2002/2003) and MERS-CoV (2012) outbreaks.

In India, a confirmed case of COVID-19 was reported on 30thJanuary 2020, who was a student travelled from Wuhan, China and has successfully recovered from the infection on 14th February 2020. On 27th April 2020, the Ministry of Health and Family Welfare confirmed a total of 28,380 confirmed cases, 6362 cured/ discharge cases, and 886 death cases in the country from 32 states/ union terrrities. The infection rate of COVID-19 in India is reported to be 1.7%, significantly lower than the worst affected countries, as the report on 29 March 2020. After a 14-hour voluntary public curfew named as 'Janta Curfew', India immediately announced the implementation of a nation-wide complete lockdown for 21 days (i.e. up to 14th April 2020), which only allowed essential services to operate over the entire 130 million population of India. The battle against covid-19 is still unending in India.

In December 2019, a pathogenic human corona virus SARS-CoV-2, corona virus disease 2019 (COVID-19), was recognized and has caused serious illness and numerous deaths. The ultimate scope and effect of this outbreak are unclear at present as the situation is rapidly evolving. The disease causes respiratory illness (like the flu) with main clinical symptoms such as a dry cough, fever, and in more severe cases, difficulty in breathing. COVID- 19 is highly contagious with a certain mortality rate, and it was classified as a class B infectious disease and managed as a class a infectious disease in China in January 2020. China has taken firm infection control measures, isolating the exposed and suspected cases according to international standards, constantly updating the diagnosis and treatment process, and carrying out public education.

Statement

Knowledge towards Covid-19 among the Nursing students during the rapid rise period of COVID-19 outbreaks: a quick online cross-sectional survey in Navi Mumbai.

Objectives

- To determine the knowledge of Covid-19 among nursing students in selected nursing colleges of Navi Mumbai.
- To assess the association between knowledge score and selected demographic variables among nursing students in selected nursing colleges of Navi Mumbai.

Hypothesis

H1: There will be significant level of knowledge among nursing students regarding Covid-19 in selected Nursing colleges of Navi Mumbai.

H2: There will be significant association between level of knowledge and selected demographic variables among nursing student.

Material and Method

Study Design and Setting: Descriptive online survey approach with a typical descriptive design was adopted in the present study.

Sampling Size and Sampling Method: In current study Sample size was 40 and Convenience sampling technique was used for the selection of Nursing students who are given consent and willing are included in the study.

Data Collection Tool and Technique: Self developed online knowledge questionnaire on COVID–19 was used for collecting relevant information from first year nursing students. The tools were divided into two parts.

Part I: Baseline Proforma to elicit socio-baseline information of the samples and it consists of items from 1-4.

Part II: Structured knowledge questionnaire with 25 items regarding knowledge Covid-19. The investigator administered the questionnaire to the samples after obtaining consent and instructed them to fill online Google form which has given multiple choice questions. Instructions given to them to click on correct response. Total score was 25, correct response will scored as '1' and '0' for wrong answer.

Data was collected from 22nd march 2020 to 28th march 2020. Online questionnaire was distributed among nursing students. Total 50 students have filled the online questionnaire but 10 forms wear incomplete so our sample size was 40.

Statistical Analysis

Statistical analysis was done by using descriptive and inferential statistics. Data were collected, revised, coded, analyzed, and tabulated using number and percentage distribution.

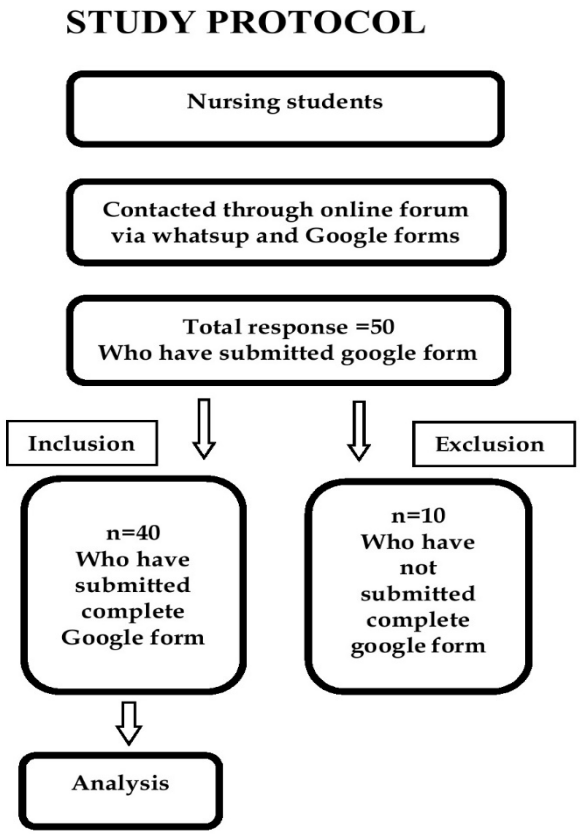

Fig. 1: Study Protocol.

In order to assess level of knowledge of nursing students regarding COVID-19, the percentage scores were graded arbitrarily as follows:

Interpretation of knowledge	Score
Adequate	More than 75%
Moderately adequate	50%-75%
Inadequate	Less than 50%

Result

The results have been organized and presented in 3 parts:
Section I: Data on demographic.

Table no. 1: Data on demographic variables.

n=40

Characteristics	Category	Respondent	
		Number	Percentage
Gender	Male	4	15%
	Female	36	85%
Age	17-18yrs	7	17.5%
	18-19yrs	19	47.5%
	19-20yrs	12	30 %
	Above 20yrs	2	5%
Do you have any knowledge about COVID 19	Yes	38	95%
	No	2	5%
If yes from where?	News channel	30	75%
	Peer group	0	0
	Whats app group	0	0
	Doctors	4	10%
	Others	4	10%
	Total	40	

The above data reveals on Age distribution of samples. Regarding data on Gender distribution of samples, 15% were males and 85% were females.17.5% were in 17-18yrs, 47.5% were in 18-19yrs and 30% were in 19-20yrs, 5% were in above 20yrs. Regarding background knowledge of COVID 19, 75% of the samples has knowledge on COVID. 75% of samples got knowledge from news channel, 10% samples got knowledge from doctors and 10% samples got knowledge from other sources.

Section I: Data on knowledge level about Covid-19 among nursing students.

Table 2: Frequency and percentage distribution of existing knowledge of nursing students regarding COVID-19.

n=40

Content	Frequency	Percentage
Adequate	25	62.5%
Moderate adequate	15	37.5%
Inadequate	0	0
Total	40	100%

Data shown in the Table 2 shows that 37.5% of the nursing students had moderate level of knowledge and 62.5% had adequate level of knowledge.

Table 3: Mean, SD and mean percentage of level of knowledge regarding COVID-19 among nursing students.

Mean	Median	Mode	SD
19.4	19.5	18	0.41

Data in Table 3 reveal that the overall mean percentage of the nursing student's knowledge regarding COVID-19 Mean is 19.4, median 19.5 and SD is 0.41.

Part III: Data on association between knowledge of nursing students on COVID-19 and selected demographic variables.

Table 4: Association of knowledge level of nursing students on COVID-19 and selected demographic variables.

Base Line Variable	DF	Calculated Value (X2)	Table Value	Inference
Age	3	2.0037	7.82	Non-Significance
Gender	1	O.296	3.84	Non-Significance
Do You Have Any Knowledge About COVID 19? Yes No	1	0.1404	3.84	Non-Significance
If yes from where? News channel Peer group Whatsapp group Doctors Others	2	0.8885	5.99	Non-Significance

*NS = Not significant; S = Significant.

To find the association between the knowledge and selected baseline variables of nursing students, the following null hypothesis was formulated against research hypothesis. The hypothesis was tested by using chi-square test at 0.05 levels of significance.

H_0: There will be no significant association between the level of knowledge and selected demographic variables among nursing students.

Discussion

Findings of the current study is supported by study done on Knowledge, attitude, and practice towards Coronavirus disease 2019 (COVID-19) among medical students: A cross-sectional study done by Sonam Maheshwari, Puneet Kumar Gupta, Richa Sinha et al. Objective of the study was to assess knowledge, attitude, and practice of medical students towards coronavirus disease 2019 (COVID-19). A self-designed questionnaire was developed and given to the students of a government medical college in Uttarakhand. The demographics mean knowledge, attitude, and practice of the participants were investigated, and the scores were calculated. t-test and ANOVA were used for statistical analysis. Results revels that out of the total participants (n=354), 50.3% were male and 54.5% were 21-23 years. Almost all the participants (96.6%) increase the frequency of washing hands under the influence of COVID-19. Although no significant relationship was found between different religions, age-categories in terms of knowledge, the participants who were aged 21-23 years had higher knowledge. In addition, gender had a significant impact on practice scores ($P<0.05$) while no demographic variable was found to have a significant relation with attitude score ($P>0.05$).

In current study 37.5% of the nursing students had moderate level of knowledge and 62.5% had adequate level of knowledge.

Nursing Implications

Current study proved that the knowledge of COVID-19 among nursing students is moderately adequate, and it can be improved by distributing the information booklets. More and more research can be carried out on the knowledge of COVID-19 and teach them transmission, symptoms and various measures to prevent COVID-19 and its precautions in public. The nurse researchers can further plan, implement, and evaluate a planned health education program on the various measures to prevent transmission and control COVID-19.

Recommendation

Based on the findings of the present study, the following recommendations are offered for further research:

- A similar study could be undertaken on a large sample where findings can be generalized.
- A similar study could be undertaken on a large sample of non medical peoples where findings can be generalized.
- A follow-up study can be conducted to evaluate the effectiveness of self-instruction module.

Conclusion

There is a moderate awareness related to transmission and symptoms of COVID-19 among educated population in India. Continued professional education is advised among Health care workers to improve knowledge of Covid-19. We recommend follow up studies involving teaching and non-teaching hospitals across the country.

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To Assess the Effectiveness of Instructional Play Therapy in Reducing Anxiety Level among Hospitalized Children in Selected Hospital

Switi Besekar

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Abstract

Play is an integral aspect of a child's growth and development and is an important part of their daily lives. Toys are the "tools" of play that provide a child with a more "natural" atmosphere. Toys that are chosen and used properly will help to minimize the stressful impact of hospitalization and assist in the healing process of illness.[1] ***Objectives:*** To Assess the Anxiety Level among Hospitalized Children. To Assess the Effectiveness of Instructional Play Therapy in Reducing Anxiety Level among Hospitalized Children. To associate the findings with selected demographic variables. ***Material and Methods:*** Research approach used for this study was an evaluative approach with one group pretest and posttest design, Population was Hospitalized Children in age group of 3 to 6 Years. Total 60 samples (Table1) were selected by using non-probability Convenient sampling technique. ***Result:*** The mean Anxiety Level in Pretest was 1.58 and in posttest was 2.67. The tabulated 't' value was 2 (df=59) which is less than the calculated' i.e. 13.00 at 5% level of significance.[3] Also, the calculated 'p'=0.0001 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that there is significant difference in Anxiety Level at pre and posttest among Hospitalized Children.(Table 2) There was no association found between Age, Gender, Birth Order, Number of days of hospitalization, Type of family. ***Conclusion:*** The Instructional Play Therapy in Reducing Anxiety Level among Hospitalized Children was effective.

Keywords: Instructional Play Therapy; Anxiety; Hospitalized Children.

Introduction

Children of all ages find hospitalization stressful. Even older children have a strong need for their parents during a severe illness and can only bear their absence for brief periods of time. They must know that their parents will be there for them when they are in need, and that they are loved and missed.[1]

Need of the study

Play is an essential part of a sick child's treatment plan. Play provides a child with an outlet for artistic speech, distraction, and successful coping. A supervised play programme in the hospital offers a warm, comfortable environment in which the child can continue to grow and develop.[5] In larger hospitals a child life specialist may coordinate the play program. A place to play, suitable materials and other children to play with are essential. Because play is a child's way of learning; toys, materials, and equipment are learning tools. The play programme can be coordinated by a child life specialist in larger hospitals. It's crucial to have a safe place to play, as well as enough materials and other kids to play with. Toys, supplies, and equipment are all learning resources for children who learn by play.[2]

Via play games, the child may find suitable outlets for his or her hostility.[3] The right toys can be beneficial in terms of being positive, instructional, motivating, calming, diverting, or therapeutic. Play is an important part of the development of healthy people, and it is also an important part of the development of young children. It happens naturally in children and provides a valuable outlet for informal learning. Play isn't just a mindless activity to while away the hours of childhood; it's an important part of a child's academic, social, and emotional growth.[4]

Objectives

- To Assess the Anxiety Level among Hospitalized Children.
- To Assess the Effectiveness of Instructional Play Therapy in Reducing Anxiety Level among Hospitalized Children.
- To associate the findings with selected demographic variables.

Hypothesis

H_1: There will be a significant difference between the pretest and posttest level of anxiety among hospitalized children after play activities.

H_2: There will be a significant association in the posttest level of anxiety with the selected demographic variables.

Assumptions

The study was based on the following assumptions:

- It will highlight those areas in children's development which require genuine care and support.
- It will help the team members to understand hospitalized children as unique & whole and therefore provide them improved quality care.
- It will promote sensitive care in order to meet effectively the needs of ill and hospitalized children and thus promote more positive health outcomes.

Material and Methods

One group pre testpost test design was used. The study Population was Hospitalized Children in age group of 3 to 6 Years in A.V.B.R. Hospital, Sawangi (Meghe). 60 Samples were selected by using convenient sampling Technique. (Table1)

Variables: Dependent variable: Anxiety level of hospitalized children.

Independent variable: Instructional Play therapy.

Criteria for Sample Selection:

Inclusive criteria was: Children admitted in hospital and Children who could understand Marathi.

Exclusive criteria was: Who are critically ill children, Children with complications.

Tools of Data Collection: The tools were divided into two sections.

Section 1: Demographic variables consist of Age, Gender, Birth Order, Number of days of hospitalization, Type of family.

Section 2: Modified Anxiety scale.

Procedure of the Data Collection: The researcher personally approached the samples and also explained about the study and its purpose to the Parent and children so as to ensure better cooperation during the data collection. The samples were selected by using convenient sampling technique and keeping in mind the criteria of study. Written informed consent was obtained from parents of each participant. Pretest was conducted by the researcher with observation on structured anxiety scale to the samples. After Pretest Instructional Play therapy was administered to the hospitalized children and continued for 7 days after that posttest was conducted with the same anxiety scale.

Validity of the Tool: Content validity of the tool was done by experts from field of child health nursing and Pediatrician. The experts were requested to give their opinions and suggestions regarding the relevance of the tool for further modification to improve the clarity and content of the items.

Reliability of the Tool: In this study the reliability of tool was determined by administering it to 10% of the study samples. The reliability was determined by using Spearman Brown Split-Half method and it was found to be r = 0.88, which indicates that the tool was reliable.

Ethical Permission: Ethical approval was taken from Institutional Ethical committee.

Result

The analysis and interpretation of the findings are given in the following sections:

Section 1: Distribution of subjects with regards to their demographic variables.

Section 2:

(I) Assessment of pretest level of anxiety among Hospitalized Children. (Fig. 1)

(II) Assessment of posttest level of anxiety among Hospitalized Children. (Fig. 2)

Section 3: Evaluate Effectiveness of Instructional Play Therapy in Reducing Anxiety Level among Hospitalized Children. (Table 2)

Sections 4: Association of the findings with selected demographic variables.

Table 1: Percentage wise distribution of hospitalized children according to their demographic variables.

n- 60

Demographic Variables	No. Samples	Percentage
Age		
3-4 years	26	43.34 %
4.1-5 years	14	23.33 %
5.1-6 years	20	33.33 %
Gender		
Male	25	41.66 %
Female	35	58.34 %
Birth Order		
First born	40	66.66 %
Second & above	20	33.34 %
Number of days of hospitalization		
1-2	10	16.66 %
3-4	20	33.34 %
5-7	30	50 %
Type of family		
Nuclear	38	63.34 %
Joint	22	36.66 %

Section 2: (I) Assessment of pretest level of anxiety among Hospitalized Children.

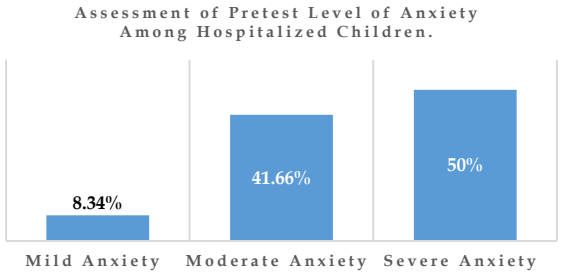

Fig. 1: Assessment of pretest level of anxiety among Hospitalized Children.

Figure 1 shows, percentage distribution of pretest level of anxiety among hospitalized children between 3-6 years. It indicates that majority 30 (50%) children had severe level of anxiety, 25 (41.66 %) had moderate level of anxiety and 5 (8.34%) of the children had mild anxiety.

(II) Assessment of posttest level of anxiety among Hospitalized Children.

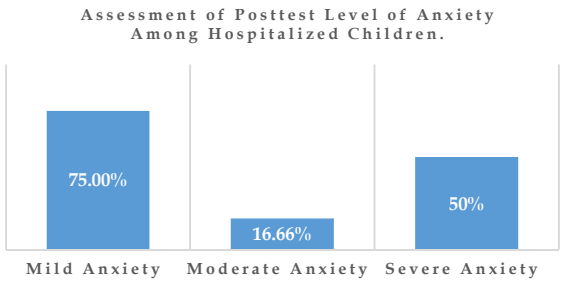

Fig. 2: Assessment of posttest level of anxiety among Hospitalized Children.

The above figure2 represents the percentage distribution of posttest level of anxiety among hospitalized children. In the post test majority 45 (75 %) of the children had mild anxiety, 10 (16.66

%) of the children had moderate anxiety and 5 (8.34 %) of the children had severe anxiety.

Table 2: Evaluate Effectiveness of Instructional Play Therapy in Reducing Anxiety Level among Hospitalized Children.

n=60

Overall	Mean	Std. Deviation	t-value	p-value
Pretest	1.58	0.65	13.00	0.0001 S,p<0.05
Posttest	2.67	0.63		

The above table 2 shows the comparison of Anxiety Level in pre and posttest among Hospitalized Children. The mean Anxiety Level in Pretest was 1.58 and in posttest was 2.67. The tabulated 't' value was 2 (df=59) which is less than the calculated' i.e. 13.00 at 5% level of significance. Also, the calculated 'p'=0.0001 which was much less than the acceptable level of significance i.e. 'p'=0.05.

As a result, it's assumed that there's a major difference in Anxiety Levels between pre- and post-test among hospitalized children. As a result, the effectiveness of Instructional Play Therapy in Reducing Anxiety Levels among Hospitalized Children has been statistically determined. As a result, the H_1 is approved.

Sections 4: Association of the findings with selected demographic variables.

There was no association found between Age, Gender, Birth Order, Number of days of hospitalization, Type of family.

Discussion

The present study shows the comparison of Anxiety Level in pre and posttest among Hospitalized Children. The mean Anxiety Level in Pretest was 1.58 and in posttest was 2.67. The tabulated 't' value was 2 (Df=59) which is less than the calculated' i.e. 13.00 at 5% level of significance. Also, the calculated 'p'=0.0001 which was much less than the acceptable level of significance i.e. 'p'=0.05(Table 2).

Hence it is interpreted that there is significant difference in Anxiety Level at pre and posttest among Hospitalized Children. Hence it is statistically interpreted that the Instructional Play Therapy in Reducing Anxiety Level among Hospitalized Children was effective. Thus, the H_1 is accepted.

The study supported by a study was conducted to assess the effectiveness of play therapy on anxiety among hospitalized children. The result of the study was in experimental post test mean score, 37.87 and SD was 14.708 respectively. The obtained "t" value 14.015 statistically was significant at 0.000 level. So research hypothesis was accepted, in Comparison of mean score of experimental post – test and control post – test that the obtained "t" value is 8.165 statistically value was .000 so it is significant (< 0.05) therefore research hypothesis was accepted so it clearly shows that the level of anxiety was reduce in experimental group in post test The study concluded that children's was anxious in the pre-test and were as in the post-test shows that children's was not anxious or reduced so, it indicates that play activities was effective.[3]

Conclusion

Instructional Play Therapy was shown to be successful in reducing anxiety levels in hospitalized children.

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I, **Dinesh Kumar Kashyap**, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/-

(Dinesh Kumar Kashyap)

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Knowledge Regarding Importance of Kangaroo Mother Care for LBW Babies among Staff Nurses

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Abstract

Background: Kangaroo mother Care (KMC) is a type of care for low birth weight (LBW) babies whereby the LBW baby is placed in an upright position against the mother's chest, with early skin-to-skin contact between the mother and infant. Despite the apparent feasibility of KMC, currently, only a few low birth weight babies in low-income countries have access to this intervention. Therefore, present study aimed to assess the effectiveness of self instructional module (SIM) on knowledge regarding importance of KMC among staff nurses at Geetanjali & Pacific hospital, in Udaipur. ***Method:*** Quantitative Pre-experimental research design was selected to conduct study. Only 80 staff nurses were selected as samples based on exclusion and inclusion criteria through non-probability convenient sampling techniques. ***Results:*** The mean post-test knowledge score 25.71 (91.82%) was apparently higher than the mean pre-test knowledge score 12.3 (43.93%). The calculated "t" value of 19.47 was significantly higher than the table value 1.96 at 0.05 level of significance. This indicates that there was significant difference in pre test and post test knowledge score of respondents and SIM was effective in increasing the knowledge of the respondents regarding importance of KMC for LBW babies. There was a significant association between knowledge of staff nurses and demographic variables such as Age in years ($\chi 2$= 10.473), Work experience ($\chi 2$= 10.196). ***Conclusion:*** Self instructional module was effective in improving the level of knowledge of staff nurses regarding Kangaroo Mother Care (KMC).

Keywords: Self Instructional Modules; Staff Nurses; Low Birth Weight Babies; Kangaroo Mother Care.

Introduction

Nearly 20 million low-birth-weight (LBW) babies are born each year, because of either preterm birth or impaired prenatal growth, mostly in developing countries. They contribute substantially to a high rate of neonatal mortality whose frequency and distribution correspond to those of poverty. LBW and preterm birth are thus associated with high neonatal and infant mortality and morbidity. Of the estimated 4 million neonatal deaths, preterm and LBW babies represent more than a fifth. Therefore, the care of such infants becomes a burden for health and social systems everywhere.[1] Kangaroo Mother Care (KMC) is one of the most promising ways to save preterm and low birth weight babies in high- and low-income settings alike. This form of care, initiated in hospital, involves teaching mothers and other caregivers how to keep newborns warm through continuous, 24 hours per day, skin-to-skin contact on the mother's chest. KMC has been shown to prevent infections, promote breastfeeding, regulate the baby's temperature, breathing, and brain activity, and encourages mother and baby bonding.[2] Globally, Prematurity is the leading cause of newborn deaths and the second leading cause of death after Pneumonia in children under the age of five. India is the biggest contributor to the world's prematurity burden, with almost 3.6 million premature births-accounting for 23.6% of the around 15 million global pre-term births reported each year of these, 13%are live pre-term births. Measures such as antenatal Steroid injections, Kangaroo mother care, antiseptic cream for the umbilical cord, and antibiotics to treat newborn infections were some of the measures to save premature babies.[3] worldwide more than 20 million babies are born each year with low birth weight. This represents 15.5% all births. Of these low birth weight babies, 95.6% are born in developing countries. The World Health Organization defines low birth weight baby at birth less than 2500grams. Of these babies, approximately one third die before stabilization or first twelve hours. Low birth weight and very low birth weight babies require intensive neonatal nursing care from often limited resources at a vast expense.[4] A systematic review focusing on infants with birth weights <2000 g in low- or middle-income countries found a significant reduction in neonatal mortality when KMC was started in the first week of life (RR 0.49, 95% CI 0.29 to 0.82). A recently updated Cochrane review explored the effectiveness of KMC as an alternative to conventional NICU care of low-birth weight infants (birth weight <2500 g). Based on 16 studies (2518 infants), 11 of which were conducted in low- or middle-income countries, the review concluded that KMC reduced not only mortality at discharge (RR 0.60, 95% CI 0.39 to 0.93), but also severe illness, infections and length of hospital stay, as well as improving mother-infant bonding, breastfeeding and maternal satisfaction.[5]

Objectives

- To assess the pre-test knowledge score of staff nurses regarding importance of Kangaroo Mother Care for low birth weight babies.
- To administer the self instructional module regarding importance of Kangaroo Mother Care for low birth weight babies.
- To assess the post- test knowledge score of staff nurses regarding importance of Kangaroo Mother Care for low birth weight babies among staff nurses.
- To assess the effectiveness of self instructional module on staff nurses regarding importance of kangaroo Mother Care for low birth weight babies.
- To find out the association between pre- test knowledge score of staff nurses regarding importance of kangaroo Mother Care for low birth weight babies with selected demographic variables.

Hypothesis (at 0.05 significance level)

H_1: There will be significant difference between pre test and post test knowledge scores among staff nurses regarding importance of Kangaroo Mother Care (K.M.C) for low birth weight babies.

H_2: There will be significant association between knowledge of staff nurses regarding importance of Kangaroo Mother Care (KMC) for low birth weight babies with selected demographic variables**.**

Materials and Method

A quantitative, Pre-experimental, One group pre- test and post-test research approach was used to assess the effectiveness of self instructional module on knowledge regarding importance of kangaroo mother care (KMC) among staff nurses. The present study was conducted at Geetanjali hospital & Pacific hospital, Udaipur after obtaining permission from authorities. The sample consisted of staff nurses meeting inclusion criteria and those willing to participate in study. Through non probability purposive sampling method techniques 80 staff nurses were selected. The tools selected for the present study include socio-demographic scale and structured questionnaire. Structured questionnaire consists of questionnaires for assessing the knowledge of staff nurses about kangaroo mother care (KMC). 28 multiple choice questions were used to assess the knowledge. Based on total scores obtained, the level of knowledge is divided into three levels. Those who scored below 50% (correct less than 14 questions) were in Inadequate level of knowledge category, between 51 – 75% (correct between 15-21questions) were in Moderate level of knowledge category and Above 75%(correct between 22-28 questions) were in Adequate level of knowledge category. The construct validity was found to be r = 0 .71. This was highly desirable so no modification was made. Prior to tool administration all subjects were given an information sheet, explaining the purpose and outcome of study. Informed consent was taken from participants and self explanatory tools were administered to participants. Permission for study was taken from concerned authorities. The data collected from participants was analysed using SPSS software 21 version.

Results

According to table 1, majority of the respondents 69% belongs to the age group of 21-30 years, 20% respondents were 31-40 years, 10% respondents were 41-50 years and only 1% respondents belongs to age group of above 51 years. Majority of the respondents, 51% were Hindus and 44% of respondents were Christians and only 3% were belongs to Muslims and other religions. Majority of the respondents 70% were GNM, 11% respondents were Post Basic B.Sc. Nursing, 16% respondents were B.Sc. Nursing and 3% respondents were M.Sc. Nursing. Majority of respondents, 45% had work experience of 0-5 years, 31% of them had 6-10 years, 23% had experience of 11-20 years and 1% had experience of more than 21 years. Regarding sources of knowledge majority of the respondent 48% respondent had information regarding KMC from health personnel, 42% respondent got the information from Electronic media regarding KMC and 9% respondents got information regarding KMC from Print Media and only 1% respondents got information from some other sources.

According to table 2, area wise analysis in pre test shows that the maximum mean percentage score obtained by the respondents was 60% in the aspect of eligibility criteria for baby and mother for KMC, 50% score obtained equally in the concept of KMC, area of hygiene and breast feeding respectively, 43% in the aspect of concept of low birth weight while 42% in the aspect of method and procedure, and 37% obtained in the components and benefits of KMC. Area wise analysis in post test reveals that the maximum mean percentage score, 100% obtained in the area of breast feeding, equally 93% obtained in concept of low birth weight and components and benefits of KMC, 92% obtained in aspect of method and procedure of KMC, equally 90% in the aspect of eligibility criteria for baby and mother for KMC and hygiene while 80% obtained in the concept of KMC.

The data given in below tables 3 and 4 revealed that majority 50 % of the staff nurses had inadequate knowledge and 50% had moderate knowledge in the pre test. After administration of self instructional module 96.25% of the subjects had adequate knowledge, 3.75% had moderate knowledge regarding importance of KMC for LBW babies. Paired t-test and chi-square findings: The mean post test knowledge score is 25.71(91.82%) is greater than the mean pre test knowledge score 12.3(43.93%) which was statistically significant at 0.05 level of significance in paired t-test (t = 19.47* at p<0.05 level). As per table 5, there was a significant association between pre-test knowledge scores and socio demographic variables like age in years and work experience but the rest of the socio demographic variables were

Table 1. Distribution of sample according to socio demographic variables.

N=80

Demographic Variables	Samples	
	Frequency	Percentage %
Age (in years)		
21-30 years	55	68.75%
31-40 years	16	20.00%
41-50 years	08	10.00%
> 51 years	01	1.25%
Religion		
Hindu	41	51.25%
Muslim	02	2.50%
Christian	35	43.75%
Others	02	2.50%
Educational Qualification		
GNM	56	70.00%
PB B. Sc. Nursing	09	11.25%
B. Sc. Nursing	08	10.00%
M. Sc. Nursing	07	8.75%
Work Experience		
0-5 years.	36	45.00%
6-10 years	25	31.25%
11-20 years	18	22.50%
Above 21 years	01	1.25%
Source of Knowledge		
Health personals	38	47.50%
Electronic media	34	42.50%
Print media	07	8.75%
Others	01	1.25%

not significantly associated with the pre test knowledge score. Thus it is concluded that self instructional module was effective in enhancing the knowledge of staff nurses regarding kangaroo mother care (KMC) in low birth weight babies and there was partial association with pretest knowledge score and selected socio demographic variables of staff nurses.

Table 2: Area wise pre test and post test knowledge score of respondents regarding importance of Kangaroo mother care for Low birth weight babies.

N=80

Area	Maximum Score	Pre-Test Scores		Post Test Scores	
		Mean	Mean %	Mean	Mean %
Concept of LBW	6	2.6	43.33%	5.6	93.33%
Concept of KMC	2	1	50%	1.6	80%
Components and benefits of KMC	3	1.1	36.67%	2.7	93.33%
Eligibility criteria for baby & mother for KMC	2	1.2	60%	1.8	90%
Methods and procedure of KMC	13	5.4	41.54%	11.9	92.31%
Hygiene	1	0.50	50%	0.9	90%
Breastfeeding	1	0.50	50%	1	100%
Total	28	12.3	43.93%	25.71	91.82

Table 3: Pre-test and post-test level of knowledge regarding kangaroo mother care (KMC) among staff nurses.

N=80

Level of Knowledge Regarding Kangaroo Mother Care (KMC)	Sample Group			
	Pre-Test Scores		Post Test Scores	
	Freq.	%	Freq.	%
Inadequate Knowledge (0-50%)	40	50%	00	00%
Moderately adequate Knowledge (50-75%)	40	50%	03	3.75%
Adequate Knowledge (76-100%)	00	00%	77	96.25%

Table 4: Pre-test and post-test knowledge score mean, SD and paired 't' test value regarding kangaroo mother care (KMC) among staff nurses.

N=80

Knowledge	Mean	Mean %	SD	DF	Paired 't' value	Inference
Pre-test	12.3	43.93%	5.8	79	19.47*	Significant
Post-test	25.71	91.82%	2.07			

Table 5: Associations between pre-test knowledge scores in staff nurses with their socio-demographic variables.

N=80

Demographic Variables	Level of knowledge			χ^2	df	Level of significance
	Below median	Above median	Total			
Age						
21-30 years	32	23	55			
31-40 years	08	08	16	10.47	3	S
41-50 years	00	08	08			
> 51 years	00	01	01			
Religion						
Hindu	23	18	41			
Muslim	01	01	02	0.817	3	NS
Christian	16	19	35			
Others	01	01	02			
Educational Qualification						
GNM	33	23	56	5.77	3	NS
PB B. Sc. Nursing	04	05	09			
B. Sc. Nursing	01	07	08			
M. Sc. Nursing	03	04	07			
Work Experience						
0-5 years.	20	16	36			
6-10 years	17	08	25	10.19	3	S
11-20 years	04	14	18			
Above 21 years	00	01	01			
Source of Knowledge						
Health personals	23	15	38	3.838	3	NS
Electronic media	14	20	34			
Print media	03	04	07			
Others	01	00	01			

S- Significant **NS- Not significant**

Discussion

The present study was aimed at assessing the knowledge of staff nurses regarding kangaroo mother care in low birth weight babies and providing them a self instructional module to enhance their knowledge. The key focus of the present study was kangaroo mother care in low birth weight babies. A study conducted by Kiran Batra, Mamta (2014)[6] on "Effectiveness of structured teaching protocol on knowledge related to Kangaroo mother care among staff nurses revealed that the overall mean knowledge score in a pre test was 20.52 whereas it had been increased to 29.54 in the post test. In our study there was increase in post test mean knowledge level in various aspects regarding KMC among LBW babies, this finding was also supported with study conducted by Kiran Batra, Mamta (2014)[6] in which they have revealed about item-wise knowledge increase in post test regarding KMC among staff nurses. The statistical paired't' test indicated that enhancement in the mean knowledge scores is highly significant (t value=4.77, p level=0.005).[6] Present study revealed that staff nurses were having inadequate (50%) and moderately adequate (50%) level of knowledge during pre-test and in the post test (96.25%) staff nurses were having adequate level of knowledge, and 3.75% staff nurses were having moderately adequate level of knowledge regarding kangaroo mother care in low birth weight babies. The overall mean of pre-test knowledge among staff nurses regarding importance of kangaroo mother care for low birth weight babies was 12.3 with standard deviation of 5.8 and mean of post-test was 25.71. This revealed that the respondents had significantly higher knowledge after exposure to the self instructional module. Our finding which suggest enhancement in the knowledge level also supported by a study conducted by Shubharani, Muragod S. (2013)[7] and Samya El-Nagar, Josephin Lawend (2013)[8] with the similar results.

After self instructional module, post-test changed as only 3 (3.75%) staff nurses had moderately adequate level of knowledge and 96.25% staff nurses had adequate level of knowledge regarding kangaroo mother care for low birth weight babies. This result was statistically significant at 0.05 level in paired t-test (t = 19.47*). The findings are supported by a study conducted by Gayatri S. Sampada S (2016)[9] et al. on effectiveness of Structured Teaching Programme (STP) on kangaroo mother care among mothers of low birth weight babies: calculated paired 't' value (t calculated =3.04 p <0.005)) was greater than tabulated value.[9] A study conducted by Komal et al (2017)[10] on effectiveness of STP on knowledge of postnatal mothers regarding KMC also found similar result with present study which were in pretest, majority of postnatal mothers (80%) had average knowledge and 20% of had below average knowledge regarding kangaroo mother care. In post-test, majority of postnatal mothers (95%) had good knowledge and 5% had average knowledge regarding kangaroo mother care. The pre-test mean knowledge score was 21.38 and the posttest mean knowledge score was 29. Our finding revealed that there was a

significant association between knowledge of staff nurses and demographic variables such as Age in years ($\chi 2$= 10.473), Work experience ($\chi 2$= 10.196). The result also supported by study conducted by Arohi Dalal, Bala D. V. (2013)[11], on knowledge and attitude regarding kangaroo mother care practice among health care providers in Ahmadabad District. A statistically significant association was observed between training status of the HCPs and their total score regarding knowledge related to KMC ($p<0.001$) as well as their age and total score ($p<0.01$).

Conclusion

The study concluded that the self instructional module has a significant effect in terms of gain in the level of knowledge among staff nurses regarding KMC in LBW babies. This study also showed that there was significant association between the pre-test knowledge score and the demographic variables such as age and work experience. The exclusive breastfeeding is vital for not only health babies but also for the LBW babies[12]. The present study highlighted the need of different educational interventions to enhance the knowledge of the nurses.

Limitations: Though, the study was conducted with the best efforts, still perfection is rare and following limitations can be outlined- The small size of the sample made it difficult to draw generalization, non probability purposive sampling method was used for conducting this study which restricts the generalization of result. A structured questionnaire was used for data collection which restricts the amount of information that can be obtained from the respondents, only knowledge was assessed; no attempt was made to assess their attitudes and practice due to time shortage and less resources.

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Conflict of Interest: There was no conflict of interest involved while conducting the present study.

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Current Trends in Care of Pediatric Oncology and Aspects of Nursing Care

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Abstract

The rate of disease in adolescence is increasing. It is assessed that the rate of youth malignant growth in the United States is expanded by 0.6% year. The most well-known malignancy type in adolescence is leukemia. Advances in the treatment of youth disease have been demonstrated an improvement in guess in ongoing years. Therefore, survivor pace of kids with malignancy is going to ascend in the past decade .Expanded occurrence of kids determined to have malignancy has prompted changes in the treatment and visualization of the infection just as in nursing care. In this audit article, it is meant to survey the new patterns and ongoing consideration approaches in pediatric oncology nursing. We could state that the writing, particularly in the course of recent years, for the most part centred around the subjects as family-focused consideration, innovation based consideration, program advancement, essential consideration of youngster, medicinal services supplier, survivors and home consideration, and non-pharmacological care. Every classification could collaborate with one another. The entirety of the themes in the classes add to perform proof based consideration .Human services benefits in the present social orders require proof based practices across disciplines. Principles, rules, and reports could be utilized in explicit care.

Keywords: Oncology; Leukemia; Myelogenous Leukemia; Neuroblastoma; Wilms' Tumor; Radioisotope.

Introduction

A disease conclusion is upsetting at any age, yet particularly so when the patient is a child. It is normal to have numerous inquiries, for example, who should treat my kid, Will my kid recover, what does the entirety of this mean for our family, not all inquiries have answers, yet the data and assets on this page give a beginning stage to understanding the essentials of youth malignant growth. Expanded frequency of kids determined to have malignant growth and survivors was an effect on changes in pediatric hematooncology nursing care. In this survey article, it is planned to explore the new patterns and late consideration approaches in pediatric oncology nursing. The ongoing consideration points were normal in the writing as family-focused consideration, innovation based consideration, program improvement, essential consideration of kid, social insurance supplier, survivors and home consideration, and non-pharmacological care. The entirety of the subjects add to perform proof based consideration for wellbeing advancement and prosperity in pediatric hemato-oncology nursing. Exploration audits indicated that numerous current themes for the consideration of youngsters and their folks have entered in the writing. There is a requirement for progressively randomized controlled investigations to improve the degree of proof of new nursing draws near.[1]

Definition: Pediatric cancer is a cancer in among children in which the abnormal growth of cells occurs in age group of 0 to 14 years.

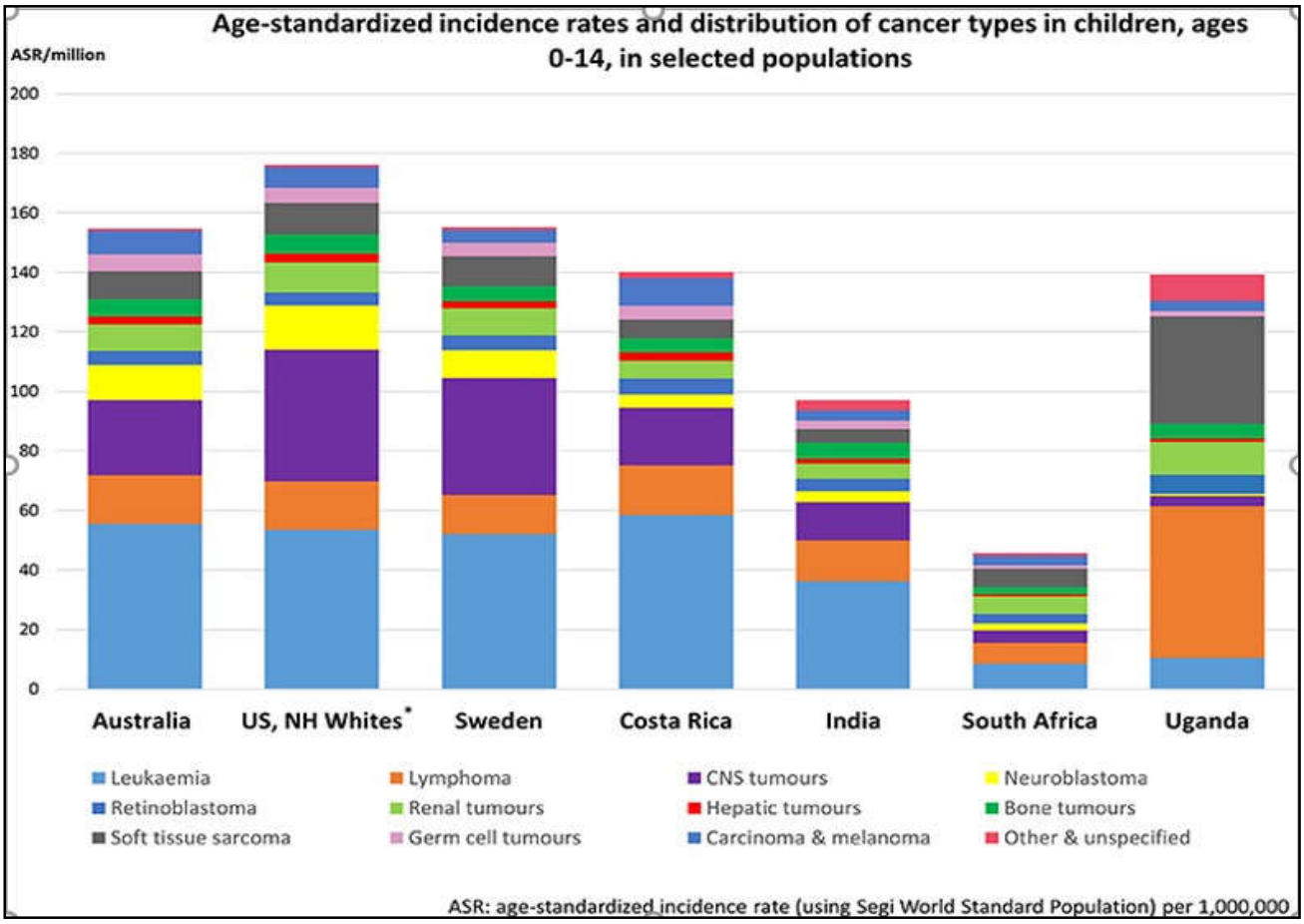
Current Scenario of Pediatric Oncology Cases:

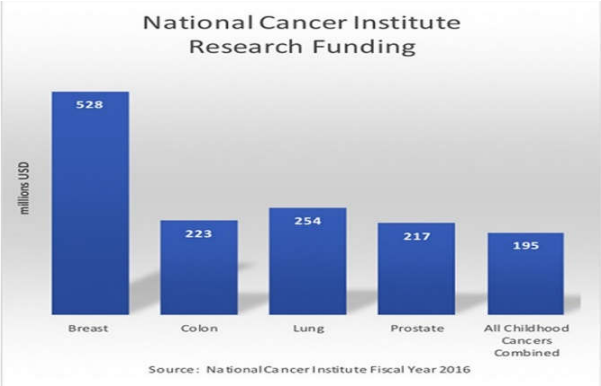
Observed age-standardized incidence rates and distribution of cancer types in children, ages 0–14 in selected populations, ordered by degree of socioeconomic development. Data compiled from the International Incidence of Childhood Cancer, Volume III, 12 and cancer register data from Costa Rica, 25 and South Africa, 26. Diagnostic groups defined according to the International Classification of Childhood Cancer, including non-malignant intracranial and intraspinal tumors. Exceptions are the CNS tumor rates of Costa Rica, India, South Africa, and Uganda; these rates do not include non-malignant brain tumors 2 (Graph 1).

Patterns of Childhood Cancer Incidence in Various Countries

Populace based malignant growth vaults around the globe report generally speaking occurrence rates for youth disease that fluctuate by a factor of around four, between under 60 to more than 200 for every million every year. The financial improvement of a populace is by all accounts related with the detailed occurrence of youth malignancy in the separate country .This is reflected in the higher frequency rates announced for HICs, especially for intense lymphoblastic leukemia, the most well-known disease type in youngsters in HICs ,and for disease in babies, contrasted with low-and center pay nations . Children malignancy occurrence designs are comparative and all around portrayed for high-asset nations, with ongoing age-normalized frequency of cases is 155, 176, and 155 for each million youngsters being accounted for Australia, US Non-Hispanic Whites, and Sweden, separately.

Graph 1: At worldwide level.





Graph 2: National level Scenario.

Interestingly, top notch information from LMICs is restricted and announced occurrence designs are different. Occurrence cases of 140, 97, 46, and 139 for every million have been accounted for Costa Rica, India, South Africa, and Kampala in Uganda, with considerable varieties in the conveyance of malignant growth types among LMICs and in contrast with HICs. For instance, in Sub-Saharan Africa, Burkitt lymphoma, Hodgkin lymphoma, Kaposi sarcoma, or hepatocellular carcinoma are more continuous (Graph 2). Then again, in some LMICs, especially in Sub-Saharan Africa and parts of Asia where library information is poor, astoundingly low youth leukemia rates have been noticed. Interestingly, occurrence paces of intense lymphoblastic leukemia for some Latin-American nations rank among the most noteworthy on the planet, while lower frequency rates contrasted with HICs are noticed for moststrong tumors including dangerous focal sensory system tumors. In any case, assessing and looking at the occurrence of children malignancy around the world is hindered by an absence of solid information for a considerable of piece LMIC.[3]

Types of Pediatric Oncology Strategies

Medical Oncology: Dealing with malignant growth by utilizing approachs like chemotherapy, immunotherapy, hormonal treatment and focused on treatment is known as Medical Oncology.

Radiation Oncology: A specific division in medication that permits radiation in treating malignancy with the target of relieving it, decreasing the agony or some other indications set off by disease is known as radiation oncology or radiation treatment.

Surgical Oncology: This specific division of medical procedure has been shaped to distinguish, review and afterward give treatment to malignancy and a number disease related indications. Careful oncology has been suggested in blend with corresponding therapies for malignancy, for instance, chemotherapy, radiation treatment, and immunotherapy and focused on treatment which might be regulated either previously or after the surgery.

Bone Marrow Transplantation: An operation by which red blood cells are imbued into your body to replace the debilitated or polluted bone marrow is known as a bone marrow relocate. Where the body can't create the essential measures of solid platelets, a bone marrow relocate might be vital. A bone marrow relocate might be utilized to re-establish another insusceptible framework in the body or even supplant the bone marrow that has been obliterated by high portions of chemotherapy and radiation. The bone marrow relocate should be possible by two

strategies – either by utilizing the patient's own bone marrow or by utilizing the bone marrow from a giver.

Robotic Surgery: robotic surgical procedure is a medical procedure is presently being utilized to treat a wide range of disorders and problems. A critical factor behind such wide acknowledgment of robotic surgery is a medical procedure is the manner in which it can deal with complex tasks with most extreme accuracy. Specialists who have been extraordinarily prepared in the robotic surgery can have all out control and flexibility over the whole working procedure which is absurd during traditional surgical activities.

Hyperthermic Intra-Vesical Chemotherapy: Various difficulties should be defeated prior to transforming HIVEC into a fruitful treatment for each patient. Being an ideal cooperative energy of sympathy and innovation, our Uro-Oncology division puts each pediatric patient at the focal point of a specialist group and gives a remarkable degree of customized care to effectively perform HIVEC and treat malignant growth to improve things.

Paediatric Oncology Areas of Care: The mastery in treating pediatric malignant growth condition is unmatched, regardless of whether it the most widely recognized disease or the most uncommon. Following are our specialized pediatric oncological conditions.

- The oncological condition of Acute Lymphoblastic Leukemia
- The Acute Myelogenous Leukemia
- The Chondrosarcoma in children
- Chronic Myelogenous Leukemia
- The various Differentiated Thyroid Cancer
- The Ewing Sarcoma
- The condition of Hepatoblastoma
- Hodgkin Lymphoma
- Juvenile Myelomonocytic Leukemia
- Medullary Thyroid Cancer
- Neuroblastoma
- Non-Hodgkin Lymphoma in Children
- Osteosarcoma
- Pediatric Brain Tumors
- Pediatric Leukemias in children
- Relapsed or Refractory Neuroblastoma
- Retinoblastoma in pediatric group
- Rhabdomyosarcoma among kids
- Skin Cancer in Children
- Soft Tissue Sarcomas
- Wilms' Tumor

Symptoms & Diagnosis

Possible signs and symptoms of cancer in children Signs and manifestations of malignant condition are difficult ones to distinguish in kids as they have an extremely close similarity to normal sicknesses and wounds. Albeit unprecedented in kids, the accompanying bizarre side effects may be characteristic of malignant growth on the off chance that they don't disappear.

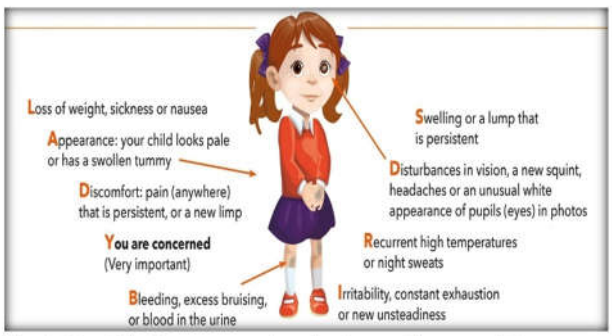


Fig. 1: Possible Symptoms of pedatric oncology condition.

- An abnormal occurrence lump or swelling in body part.
- Unexplained paleness on face and lack of energy level.
- Easy signs of bruising.
- A regular pain in one part of the body
- Signs of Limping
- Raised body temperature or illness which present constantly.
- regular headaches, might with episodes of vomiting
- Sudden changes in vision.
- Sudden weight loss due to unexplained cause.

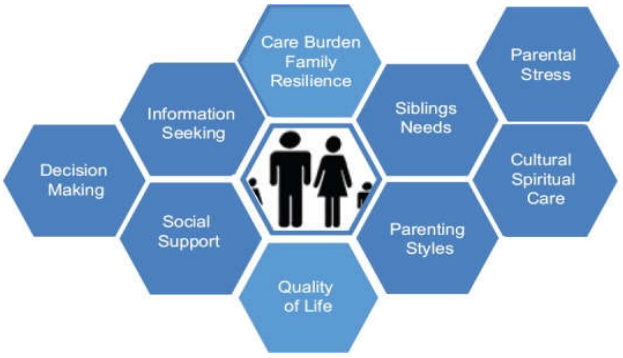
These symptoms can overlap with any common health issues like injury or infection that affect your child. However, to ensure early diagnosis, reach out to professional help if these symptoms do not subside soon. The tests to be conducted are decided on case to case basis. It is helpful to conduct the following tests under the supervision of a skilled pediatrician. Additional tests that may be used to diagnose childhood cancer include. (Fig. 1)

Diagnostic Evaluation

- Blood investigations
- Biopsy procedure
- The Bone marrow aspiration and procedure of biopsy
- The Lumbar puncture procedure
- Ultrasonography
- Computed tomography scan
- Magnetic resonance imaging
- Positron emission tomography investigation.
- Scans or radioisotope studies

Depends upon the conditions identified the doctors select appropriate treatment later on the treatment which is received with all diagnostic investigations reflects the results.

New Treatment Strategies for Pediatric Oncology:



Family Centred Care

Fig. 2: Various family centred care paradigms.

Family-focused consideration and organization in-care models and topics, for example, dynamic and data looking for are increasingly engaged in late investigations in the field of pediatric hemato-oncology nursing. For instance, for one ongoing examination, Coyne et al. expressed that reality of the disease influences the jobs of youngsters and parent in dynamic. Youngsters engaged with minor choices (decisions about consideration conveyance) rather than significant ones to give control and trust sense.The data looking for practices and dynamic encounters of guardians of kids with disease were explored in another examination and found that guardians for the most part looked for data about their kid's ailment, treatment, and providing care issues. Besides, they characterized that guardians were coordinated fundamentally by human services suppliers during their dynamic process. One investigation centered the migrant guardians' encounters about family-focused consideration in pediatric oncology wards in Canada. They found that guardians were commonly fulfilled from this consideration. In any case, a few territories of concern distinguished like irregularity in the nature of care and mechanical way of a couple staff. In a writing search study, social and strict components of guardians in pediatric palliative

consideration about dynamic were researched and it was prescribed to give socially delicate finish of-life care on account of the dynamic status of culture.[4] (Fig. 2)

Technology Based Care

For instructive and psychosocial support with innovation based intercessions, one examination was directed to evaluate the viability of a proof based site. The guardians and youngsters were given separate passwords, and they had gotten to the 140 pages about malignant growth, family, and living with disease points for a 4-month time frame. The discoveries recommend that the utilization of the site was improved the malignant growth information on kids and families. In another comparable site study, the web program including liveliness, pictures, recordings, conversation sheets, overviews, and intuitive structures comprised of 12 intelligent modules. Youths found the program acceptable and accommodating when they were first determined to have cancer. Videoconferencing is another technique used to associate kids with malignant growth to their self-teach. This innovation based mediation could furnish benefits incorporating more grounded associations with cohorts and educators, peer acknowledgment, and school reintegration. In another innovation based examination for information assortment and self-assessment, the automated side effect catch instrument dependent on iPad application was utilized to investigate the manifestations which young people experienced during the chemotherapy treatment. The side effects were researched with graphical pictures and brief, free content reactions. Members portrayed the program accommodating to comprehend their manifestations better, and indications were assembled effectively. Similar to this investigation, Baggott et al. made the Sisom, an enlivened PC device for youngsters and youngsters with incessant ailments to assess the reports of side effect. They expressed that Sisom gives an orderly and connecting with technique to assess side effects revealed from children. In another examination, kids and guardians finished the PC based side effects and personal satisfaction questions and input was given about the scores to intercession gathering. Passionate subcategory of personal satisfaction in the mediation bunch was discovered higher than control group. Furthermore, electronic video recording and information assortment could be helpful and practical on Facebook. The innovation based intercessions could be utilized for human services experts to improve proof based follow-up cares, an online emotionally supportive network for clinical choice making. For instance, an e-getting the hang of preparing program about regenerative wellbeing in the young people with malignancy for oncology medical attendants comprised of a 10-week electronic program. The educational program of the program included separation learning-based development, master e-learning conversations, brief tests, ask-the-master modules, and intelligent gathering discussions.

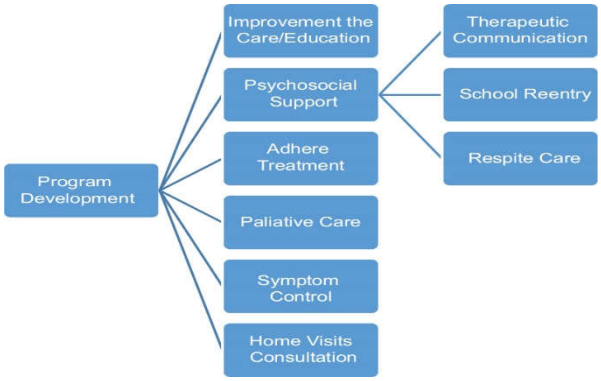


Fig. 3: Pattern of oncology care.

Extending the extent of innovation based mediations is an alluring objective. How fast continuous innovation based intercessions will adjust to the oncology care settings is as of now obscure. In this manner, more innovation based intercessions are expected to improve the proof based methodologies. Building up a compelling and practicable innovation based mediation for youngsters in their development and advancement period has a wide extension and can possibly decidedly affect pediatric malignant growth care results Possible Applications of Technology Based Approaches to Pediatric Oncology Nursing Care (Fig. 3).

Program Development Techniques

As of late, working with a dream and crucial turn of events and quality improvement of pediatric oncology settings is required to broaden the usage of projects. Result of youth disease treatment can be improved significantly by usage of projects. There are various types of projects in pediatric oncology settings, for example, helping youngsters and guardians to lessen their uneasiness, teach about ailment and treatment, follow the treatment, give side effect control, improve the mind and follow-up framework, and school remergence programs.[5]

In India, a social help program by voluntary organisation was actualized, and new quality improvement administrations were applied to pediatric oncology patients. The consequences of the program were as a decrease in holding up time in the emergency clinic, diminished in uneasiness levels, better medication consistence, and improved follow-up. On the other hand, a finish of-life program was comprised to assess the results for kids with brain tumors. Program was incorporated four parts: consistently conversations, medicines for manifestation control, family interview, and home visits. Patients who got the program were less hospitalized and preferable manifestation the executives over the control group. Another study was directed to decide the impact of a 5-day program including drawing, composing, and shared narrating strategies on the anxiety level of children aged of 9–16 years going through malignancy treatment in medical clinic. They found that nervousness level of kids was lower after the intercession than starting.

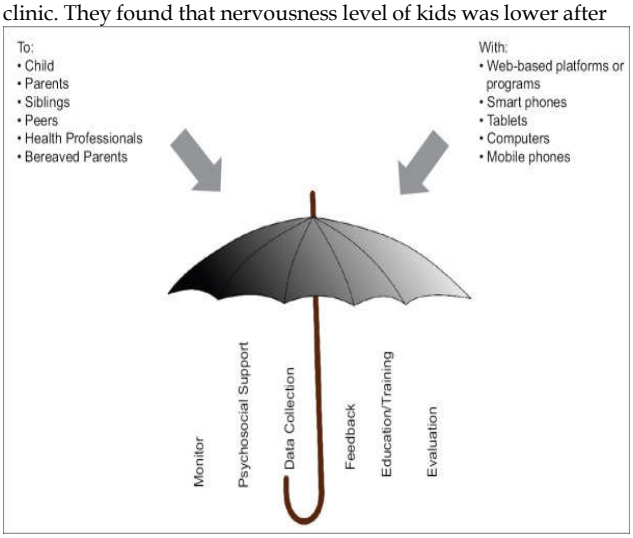


Figure 4: Program development aspects.

A program was comprised for children with acute lymphoblastic leukemia, moreover. Yeh et al. researched the impacts of the locally established home based program on decreasing lethargy in these kids. It was resolved in the primary examination that weakness level has diminished in the mediation bunch contrasted with the control group. In another investigation for parents and kids of pediatric oncology patients, a break care program was created, and the relief care suppliers were emergency clinic volunteers went to a 3 h reprieve care instructional course. Purposes behind the guardian relief care demand incorporated a need to leave the clinic for brief periods like eating a meal or conversing with the clinical group. Parental

figures and staff fulfilment level were discovered higher about the program. On the other hand, Helms et al. audited the school reemergence programs for kids with disease. They expressed that these projects have critical impact to upgrade scholastic accomplishment and lessening the degrees of melancholy in children. (Fig. 4)

Treatment Pattern

Treatment and suggestions differ contingent upon the elements like sort and phase of disease, pediatric general wellbeing, and possible results.

- Surgery
- The Chemotherapy drugs administration
- Radiation therapy implementation
- Immunotherapy for immunity
- Stem cell transplantation
- Transplantation of bone marrow.

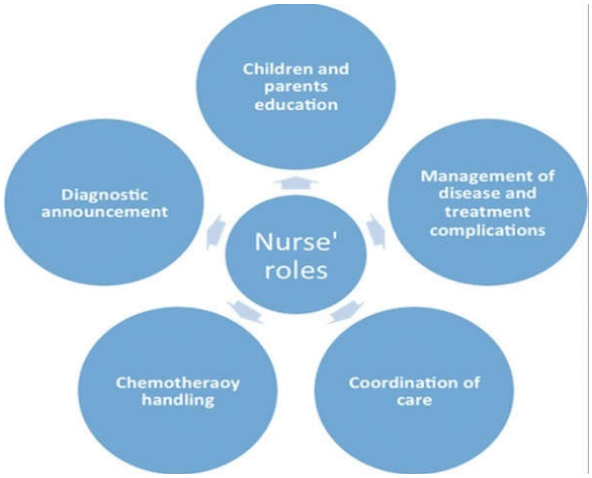


Fig. 5: Various Nursing Roles in pediatric oncology care.

Role of Pediatric Oncology Nurses

Oncology nurses are at the core of handling the expanding worldwide cases of malignancy. Their commitment is interesting a direct result of the scale and the variety of care jobs and duties in malignancy care.

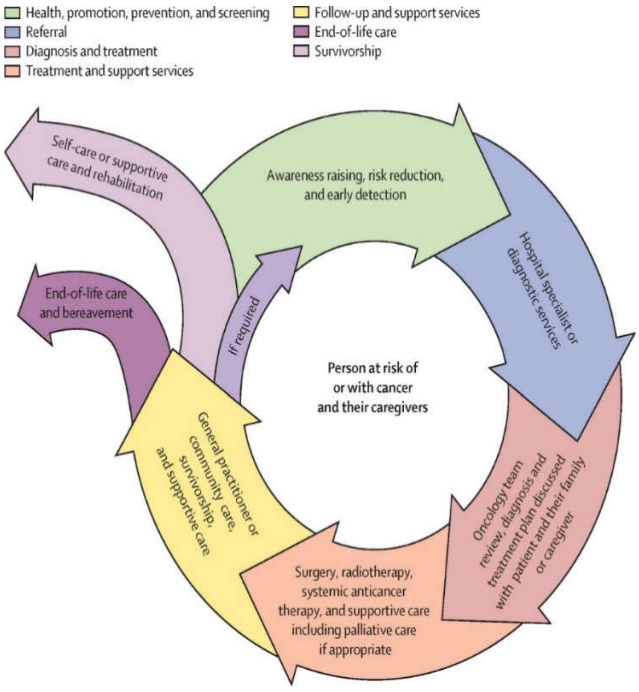


Fig. 6: standard pattern of oncology therapeutic care.

In this Series paper, to commend the International Year of the Nurse and Midwife, the feature of the commitment and effect of oncology along the malignant growth care continuum.
Conveying individuals focused incorporated consideration and ideal correspondence are fundamental parts of oncology nursing care, which are frequently made light of quality care. (Fig. 5) More oncology nurses utilizing, doing, and driving exploration will additionally show the key nursing care on consideration as a component of a group. The oncology nurses leads an impact in saving lives through counteraction and early discovery of malignancy is essential. Steady consideration, the focal mainstay of oncology nursing, empowers and engages individuals to self-oversee where conceivable. Universally, oncology nurses have an extraordinary beneficial outcome to malignancy care around the world .their pivotal commitment all through the continuum of care warrants the consideration and advancement of nursing in each country's disease procedure. 2020 is the time of the nurses: let us take this figuring out how to what's to come.[6] (Fig. 6)

Conclusion

A vital part of a efficient and successful pediatric malignant growth treatment is the delivery of care by trained professional persons. Key activities of the pediatric oncological consideration incorporate assessment of models of nursing care and techniques to upgrade the change interaction between research results and essential consideration suppliers; extension of instructive projects identified with care for the two medical attendants and kids/families; advancement of proof based practices for wellbeing advancement and prosperity; improvement of direction proposals to improve and normalize the nursing care of kids with malignancy. By and large, nursing care including screening, anticipation, advancement, research, support, training, and care coordination is keys to pushing nature of care ahead.

In a survey, it was expected to look through the new nursing care patterns, particularly the previous 5 years in the pediatric hemato-oncology field. Be that as it may, some new advancements couldn't be referenced or not came to due to the assortment in the writing. In the field of pediatric oncology, apparently numerous current subjects for care of kids and their folks have entered in the writing7. There is a requirement for more randomized controlled examinations to improve the degree of proof of new nursing draws near. The current methodologies in consideration and executing advancements will expand the personal satisfaction of the kids and their families who are followed or watched with the analysis of malignancy management.

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Corporate (collective) author

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