

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/360032872>

Impact of Care Education on the Anxiety of Mothers of Children with Leukemia

Article · April 2022

CITATIONS

0

READS

55

1 author:



[Asad Imani](#)

Ilam University of Medical Sciences

8 PUBLICATIONS 26 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



trauma [View project](#)



pediatric [View project](#)

Vol 46 (1) March , 2022

Print: ISSN 0304-4904
Online: ISSN 2305-820X

Now Approved by CPSP



PAKISTAN PEDIATRIC JOURNAL



A JOURNAL OF PAKISTAN PEDIATRIC ASSOCIATION

Indexed in EMBASE/Excerpta Medica, Index Medicus WHO
IMEMR & Global Health/CAB Abstracts and UDL-EDGE Products and Services

www.pakpedsjournal.org.pk

<http://www.pakmedinet.com/PPJ>

ORIGINAL ARTICLE

Impact of Care Education on the Anxiety of Mothers of Children with Leukemia

TAHANI FATEMEH, IMANI ASAD, PARVIZY SOROOR

Pak Pediatr J 2022; 46(1): 20-24

ABSTRACT

Objective: The aim of this study was to assess the impact of care education on the anxiety of mothers of children with leukemia.

Study Design: This is a clinical trial study.

Place and Duration of Study: This study was conducted among 70 mothers of children with leukemia admitted to a pediatric hospital affiliated to Yazd University of Medical Sciences, Yazd/Iran over a period of 8 weeks.

Material and Methods: Participants were selected using stratified random sampling method. The control and the study group both included 35 mothers. The study group was given classes and educational material. Depression Anxiety and Stress Scales (DASS) was used to evaluate mothers' levels of anxiety.

Results: The study findings showed that before intervention, the mean score of anxiety among mothers in control and intervention groups were 16.68 ± 10.5 and 13.2 ± 8.34 respectively ($p = 0.129$). But after educational intervention, the mean score of anxiety in intervention group (4.22 ± 3.68) was less than control group (13.2 ± 8.66) and there was a significant statistical difference between two groups ($p < 0.001$).

Conclusions: According to present study findings, we recommended that for control of anxiety among mothers in children with leukemia were used an educational based care approach in nursing care plan. This educational approach can include booklet, lecture and question-answer classroom.

Key Words: *Anxiety, Childhood cancer, Care education*

Correspondence to:

Soroor Parvizi

Department of Pediatric Nursing,
Faculty of Nursing & Midwifery, Iran
University of Medical Sciences,
Rashid Yasemi St. Valiasr St.
Tehran, Iran

E-mail: s_parvizi@yahoo.com

Received 2nd September 2021;
Accepted for publication
2nd January 2022

INTRODUCTION

In present time, more than 7 million peoples died due to by cancer and with new cases increase to 15 million until 2030. Also as a debilitating disease, it is the most common cause of death in developing and developed countries.¹ Leukemia is the most common childhood cancer in children under 15 years old ages.² When the diagnosis is made and revealed, the parents experience anxiety related to the new role expectations of an ill child.³ Earlier studies show that the mothers are

often the main caregiver of children with leukemia and experience high level of anxiety as compared to fathers.⁴ Leukemia in children has a negative impact on experiences of mothers on parenting who is the primary caregiver.⁵

Lack of information related to trend of cancer improvement, accompanied signs, present cure and how to care could lead to mothers anxiety sources.⁶ Care education is one of the main concept of nursing and it is an approach based on preservation of familial integrity of patients and

represents a patient - oriented care for each person.⁷ It is one aspect of palliative care in controlling the psychosocial impact of cancer in mothers of children with cancer.⁸ This concept is important regarded to change in health system, importance of family data and family – oriented education. Today's, care education is on top of community – based health programs worldwide.⁹ In this study, we assessed the impact of care education on the anxiety of mothers of children with leukemia.

MATERIAL AND METHODS

This pre – post quasi - experimental study was conducted amongst mothers of children with leukemia whose child was admitted to pediatric oncology center of Shahid Sadooghi Yazd (situated in south east of Iran with a big pediatric hematology polyclinic) affiliated to Yazd University of Medical Sciences, Yazd, Iran. The sample size ($n = 70$) was calculated based on a pilot study of ten mothers of children with leukemia. Then 35 samples were enrolled to each control and experimental groups, randomly. The inclusion criterion of mothers of children with leukemia was included: children age between 2 – 5 year, verbal contact ability and literacy to read and write. Exclusion criteria were unwillingness of mothers to collaborate in study, absence in more than one session in educational classroom and eventual dying of their children. All samples who participated in the study gave informed consent. Also, this study was approved by the Ethics Committee of Shahid Beheshti University of Medical Sciences under the approval code: IR.IUMS.REC 1395.9211196204

Data collecting instruments included a demographic data questionnaire (age of mothers and children, sex, literacy level of mothers) and also we used DASS (depression Anxiety Stress scale) questionnaire for assess of anxiety of mothers. DASS questionnaire has been validated in other languages including Canada,¹⁰ Chinese,¹¹ Italian,¹² Spanish¹³ and Australia¹⁴ also in a study in Iran was shown that it is a useful inventory in Iranian psychological research and clinical settings.¹⁵ This instrument comprises three subscales: (1) the Depression sub-scale which measures hopelessness, low self-esteem, and low positive affect; (2) the Anxiety scale which assesses autonomic arousal, musculo-skeletal symptoms, situational anxiety and subjective

experience of anxious arousal; and (3) the Stress scale which assesses tension, agitation, and negative affect.¹⁶ In this study, we used findings of anxiety's subscale.

For using the scale, DASS was translated into Persian language and then its accuracy and fluency were confirmed by a translator expert in both Persian and English. Then the scale's face and content validity was determined according to special view of nursing academic members of Shahid Beheshti University of Medical Sciences and reliability was measured by Cronbach's alpha coefficient values (0.79).

Intervention was carried out in experimental group into attendance classes and educational booklet. Classes were conducted in three session of 45 – 60 minute in 10 – 12 person groups based on lecture and question-answer method. Content of classes included: First session: nature and trend of cancer, second session: the role of main caregiver on trend of treatment and child wellbeing, and the third session: the best care plan for children with leukemia related to control of secondary infection and follow up of treatment.

In the end of classes, a 38-page educational booklet was provided to mothers. The content of booklet was provided according to some headings such as: leukemia, talking with your children, environment of hospital, treatment and side effects, the most common problems in children with leukemia, and mother's conformity to future of disease.

The booklet's face and content validity were assessed and verified by the expert panel that constituted 10 members of Shahid Beheshti University of Medical Sciences.

The demographic questionnaire was filled by mothers in initial of study and the DASS questionnaire was filled in before and one month after intervention in both control and experimental groups.

RESULTS

In both groups, most mothers had daughter children. The mean age of children and mothers in control group was less than experimental group. Also the mean of time passed since awareness of cancer diagnosis in control group were 9.51 ± 5.88 months and in experimental group were 10.82 ± 6.77 months (table1).

TABLE 1: Demographic data

Groups variable		Control		Experimental		Statistical test results
		N	%	N	%	
Sex	Boy	14	40.0	17	48.6	$\chi^2 = 0.521$ df=1 p=0.47
	Girl	21	60.0	18	51.4	
Age of children	Less than 4 year	10	28.6	5	14.3	t=2.302 df=68
	4-5 years old	25	71.4	30	85.7	
Age of mothers	Mean \pm standard deviation		3.95 \pm 1.01		4.46 \pm 0.82	p=0.024
	Less than 30 years	12	34.3	9	25.7	t=1.886
	30-39	20	57.1	16	45.7	df=68
	More than 39 years	3	8.6	10	28.6	p=0.064
Time awareness of mothers from disclosure of diagnosis	Mean \pm Standard deviation		31.6 \pm 6.4		34.51 \pm 6.52	
	Less than 6 month	10	28.6	9	25.7	t=0.866 df=68
	6-12	15	42.9	13	37.1	
	More than 12 month	10	28.6	13	37.1	
Mean \pm Standard deviation		10.82 \pm 6.77		9.51 \pm 5.88	p = 0.389	

Before intervention, a small percentage of mothers in both groups had very severe levels of anxiety ($p=0.129$). So the mean score of anxiety in control group was 16.68 ± 10.5 and in experimental group was 13.2 ± 8.34 .

After intervention, most of mothers in experimental group were in normal level of anxiety (82.9%) but only 28.6% of mothers in control group were in normal level of anxiety. Comparison of anxiety between two group was used covariance analysis with control of anxiety score before intervention ($p<0.001$). The mean of anxiety in experimental group was less than control group and it was 4.22 ± 3.68 and 13.2 ± 8.66 respectively.

DISCUSSION

The role of mothers as a resource of control of anxiety in other family members is obvious for everybody. Mothers as main caregivers of children with leukemia have a major role in management of these patients.¹⁷ In Neu M et al study (2014) shows that mothers of children with leukemia will present clinical anxiety signs in care of their children.¹⁸ Different studies have reported moderate to severe anxiety in mothers of children with leukemia.¹⁹⁻²¹

In our study, results showed that 77.1% of mothers in control group and 57.1% in intervention group had moderate to severe level of anxiety while taking care of their children. It seems that this high level of anxiety related to the

mothers' emotional personality and their attachment to children.

In our study, high levels of anxiety were observed in mothers in the control group and in the intervention group at 9.51 ± 5.88 and 10.82 ± 6.77 months after disclosure of cancer in their children, respectively. In Lindahl Norberg and Boman study (2008), parents represented high level of anxiety one years after disclosure of diagnosis and until to 2.5 years later.²² Also in Bashar et al study (2012) has shown that parents were presented high level of anxiety in 7 – 12 month after diagnosis of cancer in their children.²³ This time difference may be due to differences in the level of acceptance and adjustment to the condition of the child's illness in mothers.

Regard to main goal of our study, results showed that before intervention 17.1% of mothers in experimental group and 28.6% of mothers in control group had normal level of anxiety. But after intervention, by using of an educational based care in these mothers, the mean score of anxiety in experimental group was 4.22 ± 3.68 and in control group was 13.2 ± 8.66 and there is a significant statistical difference between two groups ($p<0.001$). Literature review shown that there isn't any study assessing the effect of care education on anxiety of mothers in children with leukemia with approach of lecture and booklet in earlier studies. Our research was conducted as the first study in these field focused on mothers.

In Rahmawati E et al study (2016) results showed that the level of anxiety in parents of children with leukemia decreased after care education based on pocket booklet such that their anxiety was decreased after intervention ratio to before intervention.²⁴ In another study, care education was carried out based on videotaped information in a DVD package, results showed that all parents represent their satisfaction in end of study and there was a significant decrease in the level of anxiety of all parents.²⁵ The findings of these studies are also consistent with the findings of our study.

In mothers of children with leukemia, the most part of anxiety is related to a mistake of interpreting a situation that is considered threatened and endangered. This situation is related to lack of information. The support information based on different educational approach can assist parents in interpreting the problem correctly, so as to prevent any misinterpretation.

A common point of the above mentioned studies which was also found in our study was the lack of care information in parents. That is why the findings of our study are in consonant with the findings of above studies in modulating the anxiety of mothers of children with leukemia.

One of our study restrictions was low sample size. Due to the nature of our educational approach which used in this study, also it seems that this study can be conducted with a large population, in future studies.

TABLE 2: Frequency distribution of mothers' anxiety in two study groups and comparison of means before intervention

Group Level of anxiety	Control		Experimental	
	Fre- quency	%	Fre- quency	%
Normal	6	17/1	10	28/6
Low	2	5/7	5	14/3
Moderate	9	25/7	7	20
Severe	5	14/3	6	17/1
Very severe	13	37/1	7	20
Total	16/68 ± 10/5		13/2 ± 8/34	
Mean + Standard deviation	16/68 ± 10/5		13/2 ± 8/34	
Statistical test results	t=1/537 df=68 p=0/129			

TABLE 3: Frequency distribution of mothers' anxiety in two study groups and comparison of means after intervention

Group Level of anxiety	Control		Experimental	
	Fre- quency	%	Fre- quency	%
Normal	10	28/6	29	82/9
Low	3	8/6	4	11/4
Moderate	9	25/7	1	2/9
Severe	3	8/6	1	2/9
Very severe	10	28/6	0	0
Total	35	100	35	100
mean ± Standard deviation	13/2 ± 8/66		4/22 ± 3/68	
Statistical tests results	f=38/41		p <0/001	

CONCLUSION

According to present study findings, we recommended that for control of anxiety of mothers in children with leukemia was used an educational - based care approach in nursing care plan. This educational approach can include booklet, lecture and question-answer classroom.

Disclaimer: None.

Conflict of interest: None.

Authors' affiliation

Tahani Fatemeh,

Oncology Nurse, Clinical Research Development center of Shahid Sadoughi Hospital, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Imani Asad,

Department of Nursing, Faculty of Nursing and Midwifery, Ilam University of Medical Sciences, Ilam, Iran

Parvizy Soroor,

Full Professor, Department of Pediatric Nursing, School of Nursing and Midwifery, Iran University of Medical Sciences (IUMS) Vice-Director for Research, Center for Educational Research in Medical Sciences (CERMS), Nursing Care Research Center (NCRC) Nursing and Midwifery School

REFERENCES

1. Modanloo S, Rohani C, Farahani Shirin Abadi A. Assessment of family function among parents of children with cancer. Iranian Journal of Nursing Research 2015;10:56-65.

2. Cooper SL, Brown PA. Treatment of pediatric acute lymphoblastic leukemia. *Pediatr Clin North Am* 2015;62:61-73.
3. Smith J, Cheater F, Bekker H. Parents' experiences of living with a child with a long-term condition: a rapid structured review of the literature. *Health Expect* 2015;18:452-74.
4. Phipps S, Long A, Willard VW, Okado Y, Hudson M, Huang Q, et al. Parents of Children With Cancer: At-Risk or Resilient?. *J Pediatr Psychol* 2015;40:914-25.
5. Cornelio SJ, Nayak BS, George A. Experiences of mothers on parenting children with leukemia. *Indian J Palliat Care* 2016;22:168-72.
6. Boztepe H, Cinar S, Ay A, Kerimoglu Yildiz G, Kilic C. Predictors of caregiver burden in mothers of children with leukemia and cerebral palsy. *J Psychosoc Oncol* 2019;37:69-78.
7. Lauer AL. Treatment of Anxiety and Depression in Adolescents and Young Adults With Cancer. *J Pediatr Oncol Nurs* 2015;32:278-83.
8. Wiener L, Weaver MS, Bell CJ, Sansom-Daly UM. Threading the cloak: palliative care education for care providers of adolescents and young adults with cancer. *Clin Oncol Adolesc Young Adults* 2015;5:1-18.
9. Sanaie N, Nejati S, Zolfaghari M, Alhani F, KazemNejad A. The effect of family-centered empowerment in self efficacy and self esteem in patients undergoing coronary bypass graft surgery. *Journal of Research Development in Nursing & Midwifery* 2013;10:44-53.
10. Antony MM, Bieling PJ, Cox BJ, Enns MW, Swinson RP. Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological assessment* 1998;10:176.
11. Chan RC, Xu T, Huang J, Wang Y, Zhao Q, Shum DH, et al. Extending the utility of the Depression Anxiety Stress scale by examining its psychometric properties in Chinese settings. *Psychiatry Res* 2012;200:879-83.
12. Severino GA, Haynes WD. Development of an Italian version of the Depression Anxiety Stress Scales. *Psychol Health Med* 2010;15:607-21.
13. Bados A, Solanas A, Andrés R. Psychometric properties of the Spanish version of depression, anxiety and stress scales (DASS). *Psicothema* 2005;17:679-83.
14. Ng F, Trauer T, Dodd S, Callaly T, Campbell S, Berk M. The validity of the 21-item version of the Depression Anxiety Stress Scales as a routine clinical outcome measure. *Acta Neuropsychiatr* 2007;19:304-10.
15. Sahebi A, Asghari MJ, Salari RS. Validation of Depression Anxiety and Stress Scale (DASS-21) for an Iranian Population. *Scientific Journal Management System* 2005;1:36-54.
16. Tran TD, Tran T, Fisher J. Validation of the depression anxiety stress scales (DASS) 21 as a screening instrument for depression and anxiety in a rural community-based cohort of northern Vietnamese women. *BMC Psychiatry* 2013;13-24.
17. Jamali A, Ghaljaei F, Keikhaei A, Jalalodini A. Effect of Peer Education on the Resilience of Mothers of Children with Leukemia: A Clinical Trial. *Medical-Surgical Nursing Journal* 2019;8(2). e92686. doi: 10.5812/msnj.92686.
18. Neu M, Matthews E, King NA, Cook PF, Laudenslager ML. Anxiety, depression, stress, and cortisol levels in mothers of children undergoing maintenance therapy for childhood acute lymphoblastic leukemia. *J Pediatr Oncol Nurs* 2014;31:104-13.
19. Rahmani A, Azadi A, Pakpour V, Faghani S, Afsari EA. Anxiety and depression: A cross-sectional survey among parents of children with cancer. *Indian J Palliat Care* 2018;24:82-5
20. Fotiadou M, Barlow JH, Powell LA, Langton H. Optimism and psychological well-being among parents of children with cancer: an exploratory study. *Psychooncology*. 2008;17:401-9.
21. Jafary Manesh H, Ranjbaran M, Vakilian K, Zand K, Tajik R. Survey of levels of anxiety and depression in parents of children with chronic illness. *Iranian Journal of Psychiatric Nursing*. 2014;1:45-53.
22. Lindahl Norberg A, Boman KK. Parent distress in childhood cancer: A comparative evaluation of posttraumatic stress symptoms, depression and anxiety. *Acta Oncol*. 2008;47:267-74.
23. Basher M, Karim M, Sultana N, Hossain K, Kamal M. Parent stress in childhood cancer. *Bangladesh Medical Journal*. 2012;41:8-13.
24. Rahmawati E, Gamayanti I, Setyarini S. Pocket Book of Anxiety. For Parents of Children with Acute Lymphoblastic Leukemia. *International Journal of Research In Medical Sciences* 2016;4:1438-45.
25. Di Giuseppe G, Pole JD, Abla O, Punnett A. Impact of Videotaped Information on the Experience of Parents of Children with Acute Lymphoblastic Leukemia. *J Cancer Educ* 2019:1-6.