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The Effect of Education Based on Health Belief Model (HBM) in Mothers about Behavior of Prevention from Febrile Convulsion in Children

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Abstract: Febrile convulsion is the most common convulsions in children under 5 years. Therefore this study carried out to determine the effects of education based on Health Belief Model (HBM) on mothers' behavior preventing from febrile convulsion in their children. This is a pre-post Clinical trial, in which one hundred women referred to health centers of Arak city were participated. The subjects were randomly divided to case and control groups. Data gathering device is a questionnaire developed based on Health Belief Model (HBM).The questionnaire was filled for the members of the groups both before and three months after the educational intervention, then the gathered data was analyzed. Results of the study showed that before educational intervention the mothers' perceived susceptibility and severity from febrile convulsion in their children were less than average and their perceived barriers was more than average. After the educational intervention mothers' perceived barriers to prevent from convulsions decreased and their performance in this area increased ($p< 0.05$). Conclusion: Finding of this research confirmed that education based on HBM improves mothers' behavior preventing from febrile convulsion in their children.

Key word: Health Belief Model · Febrile Convulsion · Children

INTRODUCTION

Febrile convulsions are the most common type of convulsions in childhood, affecting 2 to 5% of all children between three months and five years of age [1]. This problem rarely occurre in children over 5 years [2]. Febrile convulsions have defined by the International League Against Epilepsy (ILAE) as a convulsions occurring in childhood after one month of age, associated with febrile illness not caused by an infection of the central nervous system, without previous neonatal convulsions or a previous unprovoked convulsions and not meeting criteria for other active symptomatic convulsions. About one and a half million febrile convulsions events occur per year in the United States [3].

Febrile convulsions increase the risk of epilepsy in future. In rare cases, a condition called status epilepticus can occur during a febrile convulsions. Status epilepticus is a medical emergency in which a convulsions lasts longer than 30 minutes or convulsions recur without recovery for 30 minutes or longer. This condition is more common in children under the age of one year. Status epilepticus can cause brain damage and may be fatal [4-6]. Ling in the study showed that many mothers dont understanding of prevention methods the disease [5]. Other studies have shown that when parents witness their child's convulsion they are understandably shocked and many think that the child may die [7-8].

As noted febril convulsion in children can be problematic in many cases important for the child and his family to create. The other hand, studies show that maternal do not have a sufficientes knowledge and performance about control febril convulsion in children. In order to acheave this goal research suggests that understanding factors in achieving behavior change

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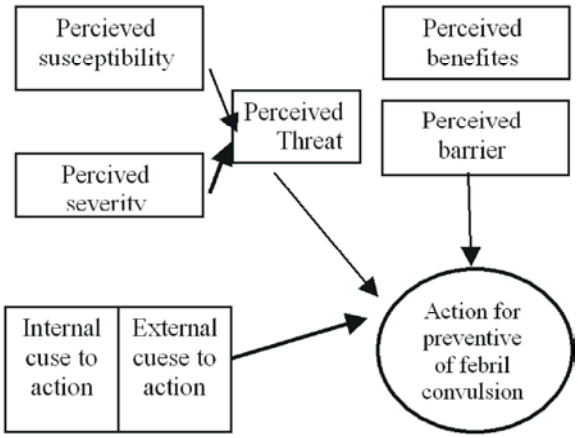

Fig. 1: View of the Health Belief Model

will be easy, so education on the prevention of febril convulsion in the children with identify the behavior parents and factors affected are necessary. To strengthen the purpose of researches indicatef that models help to change the behavior and one of the effective model for educational program is Health Belief Model. This is a comprehensive model for interventional in health care by health professionals.

This model functional on behavior and attitudes of individual and components are developed based on ideas perception people that causes to be a threat health and they tend to be health behavior. Training based on this model with increasing perceived susceptibility of mothers and attitude their regarding the how to develop febrile convulsion in child may be taken. Through the training intensity and severity of complications incidence of febril convulsion in child increased the total of these two factors created perceived threat and with the perceived benefits and barriers beside internal and external cues to action that influence on mother for child care during the fever conducted the mother of towards good behavior (Figure 1).

Health Belief Model aplly in relation to other research in the prevention of osteoporosis, diabetes care, prevention of self-medication of drugs [9-11] but were not found any research on applications of this model in education to prevent febril convulsion in children. Therefore, the present study aimed to determine the effect of education on the Health Belief Model to mothers referred to health centers for prevention of febril convulsion in children admitted to do is step in improving health promotion in child, family and finally in social.

METHODS AND MATERIALS

This is a quasi-experimental study that carried out on 100 women with children under 2 years that referred to 8 health centers in Arak city one of the state in iranian.

In this study, a multi-stage sampling and based on postal areas in Arak first has been selected 8 the region and then randomly sampling selected within each area for a clinic select (Total 8 clinics) then every other one alternately a clinic in the intervention and control group allocated in each clinic will sampling randomly Based on simple household health file is accepted in the centers taken.

Inclusion criteria for this study, mothers were referred to clinics set up for sampling in Arak which were children under 2 years and don't history of febril convulsion in family or children and donot in occupational in medicine or paramedicine. Exclusion criteria included unwillingness to continue mother's or absence in the study more than 2 sessions of 4 sessions interventional.

In this study, the control group have been selected to compare the effect of education on health belief model with traditional training in other centers so that experimental groups affected by educational intervention based on Health Belief Model and control group under routine were training centers.

Data collection method in this study with a questionnaire which was completed organized interview. This tools including demographic characteristics, knowledge questions, Questions susceptibility, severity, perceived benefits and barriers in febril convulsion in children. In total of 20 questions based on 5 scale option Likert were designed. Cuese to action including 2 question and consist of internal and external cues to action for prevent febril convulsion and performance of mothers in preventing febril convulsion with chek list measured.

Score questionnaire in part knowledge of the right to know the answer to points 1 and incorrect answer zero points were paid at the end of each individual score based on 100 points has been calculated. In the susceptibility, severity, perceived benefits and barriers of each question score range between 1-5 was variable so that the answer one points completely disagree, disagree is2, no idea is3, Agree is 4, completely agree is 5 points have received grants. Finally points above each section based on the 100 score is calculated.

In part of the performance chek list to correct behavior mother for prevention of febril convulsion in child points to 1 and the wrong treatment were given point to zero and ultimately score based on 100 points as part of knowledge questions is calculated. Questions of cuse to action in format frequency calculated. Validity questionnaire assesed with content validity and questionnaire designed based on the Health Belief Model and the books and reputable sources and then the owner of the competence review by the expert and their views have been applied in the questionnaire that ultimately after removing some of the difficulties and uncertainties item the validity confirmed. Reliability of these questionnaires assesed through chronbakh alpha test method on 15 mothers that amount 0/80 were obtained.

Before implementing the intervention in both group, first done through pre-test determine the distribution of knowledge and dimmension of Health Belief Model. Then educational experimental group during the 4 sessions that educational content based on content and educational objectives based on pre-test, using with valid the books and pamphlets with the department of health ministry and consulting specialists in pediatrics and contents of the health belief model components is desired. First session includes familiar with fever and convulsions in children and mothers raise knowledge in this field and the second and third sessions based on the Health Belief Model and include training to increase susceptibility, severity, benefits and barriers perceived and internal and external cuse to action and final session of intervention about, performance and correct behavior mother for prevention of febril convulsion. Then 1 and 2 month after education 2 session done following three months after the educational intervention were gathering again information.

It should be mentioned that the study before the execution University Ethics Research Committee of Medical Sciences is confirmed. In the present study for data analysis in addition to descriptive statistical analysis and chi-square test in each group of T-paire test and between two groups of T-test was used.

RESULTS

The description of data collected in this research findings, demographic variables showed that the average age of mothers in the case and control groups was 6 ± 26 and 4 ± 1. 29 years respectively. Average age of children in case and control groups was 6 ± 18 and 8 ± 21 months respectively. Based on T-test between both cases and controls groups in terms of demographic variables no significant difference observed ($p>0.05$).

Table 1 showed that before the educational intervention no significant differences between case and control groups in terms of variables. But after the educational intervention, independent t-test showed that between case and control groups in all variables listed are significant differences ($p<0.05$).

Table1: Comparison of knowledge and HBM construct about prevent convulsions before and 3 months after intervention between cases and controls groups

		Internention				
		Befor intervention		3 month after intervention		
Cnstruct of HBM		Mean	SD	Mean	SD	Paired-t-test
Knowledge	Case	34.4	11.7	68.3	14.18	0.001
	Controll	38	12.4	42.02	11.61	0.60
T-Test		0.460		0.001		
Perceived susceptibility	Case	41.2	14.5	72.8	16.9	0.001
	Controll	37.6	13.8	41.3	13.08	0.513
T-Test		0.361		0.001		
Perceived severity	Case	56.28	18.4	78.59	16.02	0.001
	Controll	51.23	14.3	56.3	17.2	0.472
T-Test		0.141		0.001		
Perceived benefits	Case	59.45	17.43	88.06	14.66	0.001
	Controll	66.21	18.61	68.71	17.40	0.661
T-Test		0.114		0.001		
Perceived barriers	Case	71.46	19.21	37.3	14.95	0.001
	Controll	66.54	16.81	63.41	17.38	0.129
T-Test		0.218		0.001		
Practice	Case	43.8	19.4	78.2	18.34	0.001
	Controll	47.9	21.6	51.9	19.46	0.431
T-Test		0.321		0.001		

Table 2: Disturbiution of frequency internal and external cuese to action on the prevention of febrile convulsions based on the opinions of both groups before intervention

		Groups				
		Controll		Case		
Cues to action		N	%	N	%	Mac-Nimar test
External cues to action	Radio and TV	15	30	12	24	0.241
	Books and manuals	17	34	20	40	0.512
	Physician	18	36	14	28	0.417
	Family and friends	9	18	13	26	0.365
	Other mothers	8	16	11	22	0.912
	Magazines and periodicals	5	10	8	16	0.481
	Nurse	13	26	12	24	0.121
Internal cues to action	Fear of complications caused convulsions in children	15	30	17	34	0.511
	Inner peace due to timely action to prevent convulsions in children	11	22	14	28	0.147
	Increase the confidence of timely action to prevent convulsions in children	12	24	15	30	0.551

Table 3: Disturbiution of frequency internal and external cuese to action on the prevention of febrile convulsions based on the opinions of both groups 3 month after intervention

		Groups				
		Controll		Case		
Cues to action		N	%	N	%	Mac-Nimar test
External cues to action	Radio and TV	11	22	13	26	0.265
	Books and manuals	20	40	31	62	0.003
	Physician	21	42	32	64	0.001
	Family and friends	7	14	8	16	0.467
	Other mothers	9	18	14	28	0.249
	Magazines and periodicals	8	16	18	36	0.004
	Nurse	15	30	25	50	0.002
Internal cues to action	Fear of complications caused convulsions in children	14	28	38	76	0.001
	Inner peace due to timely action to prevent convulsions in children	15	30	44	88	0.001
	Increase the confidence of timely action to prevent convulsions in children	15	30	41	82	0.001

Also Tables 2 and 3 separate the relative frequency distribution of internal and external cues to action in case and control groups before and after the educational intervention.

DISCUSSION

In this study, samples of less than half the score knowledge before the intervention. Therefore low awareness was need assessment for education in this field to direct and face to face training in health centers is justified. Parmer and colleagues in the research showed that only 20% of parents of normal range temperature are aware of your child [7]. Hang *et al*. [12]. in a study showed that also only 40% of parents correctly in knowledge caused by convulsions in children were fever.

Based on the research findings mean perceived susceptibility status of mothers regarding their child's risk of convulsions due to fever before the educational intervention in both cases and controls in the same conditions and was less than average. Meaning that many mothers fever in children with the idea likely to create tension with their children were not in the findings are consonant with other studies [9-10, 13-15].

Before the educational intervention in terms of perceived severity in both groups was more than average. Van stuijvenberg et al. reported 45% of the parents of febrile children frightened and knew the consequences of the worst [16]. Bammer study also showed that fever in the child's creating a lot of stress into parents [17]. Thus education and information about febrile convulsion caused it better for all parents and is preferably be done by health carers.

Regarding the perceived benefits from appropriate and timely action to prevent mother to child develop fever convulsions findings from this study showed that significant difference between case and controll groups after intervention. Sharifi Rad study also showed that between perceived benefits and avoid smoking among adolescents is a positive relationship [14]. Mothers understand the present status of the barriers to proper behavior regarding the prevention of convulsions induced fever in children in case and control groups in educational status before intervention.

In the present study most of the mothers perceived barriers to prevent children from exposure to fever-induced convulsions, including the lack of sufficient awareness, cost and lack of adequate opportunity to see a physician, lack of access to drugs, lack of access to thermometer and skills using it to identify child temperature. Kurugol in a study showed that 27% of the parents expressed that they did not have thermometers at home and 32% knew how the temperature must measure your child [4]. Ofovwe and colleagues in the research study to all mothers and cause panic when febrile their treatment was not directly involved in operating as a barrier to the adoption in order to correct performance was considered [18]. Shamsi et al. in the study also reduced perceived barriers regarding maternal drug use arbitrary action self-medication mothers were less [11].

In the present study before the educational intervention in case and control groups the level of performance were less than average, which can be very dangerous for children health is threatened because most mothers studied (more than 50%) measures to correct the febrile child and try to prevent implications of convulsions did not show. Kurugol in the study reported 36% of the parents, their children without fever that their actions have done for him other than to hospital [4]. Moreover in Parmar study parents performance in dealing with the fever, the child's 90.7% was expressed [7]. Ofovwe and colleagues also reported in Nigeria in treatment of mothers with febrile children to express that 7% of mothers in urban areas during the convulsions your child to pray and read 22% of urban and rural bread traditional and non-effective treatments used their feet and even some baby were on fire [18]. In this study, the mean score of performance mothers in case groups after intervention increased. Which can be a positive impact training in other studies are consonant [9-10, 13, 15].

In the present study the most of external cuse to action was medical advice to encourages for adoption of correct performance. Patricia reported in a study nearly half the participants (46%) drug information to physican in the field of diseases and few experssed to use of television, magazines and friends through their information in the correct use of drugs [19].

CONCLUSION

In the present study after the educational intervention based on Health Belief Model results indicate the positive impact of education on knowledge, susceptibility, severity, perceived benefits and perceived barriers to reducing and ultimately practice increase of mothers in the study to prevent convulsions. So with this effect and improve performance of health belief model functions from preventive behavior in mothers referred to health centers compared to other traditional teaching methods approved. This is proposed that increased health education of children based on this model in other health centers.

REFERENCES

1. Behrman, R., R. Kliegman and S. Jenson, 2004. Nelson textbook of pediatrics. 17th ed. USA: saunders pp: 14-50.
2. Wong, D.L. and M.J. Hochenberry, 2005. Essentials of pediatric Nursing. 7th ed. Louis: Elsevier mosby, pp: 731-733.
3. Ghasemi, F. and M. Valizadeh, 2004. Training needs of mothers of children with convulsions caused by fever, Quarterly Science and Nursing Midwifery Khorram Abad, 1(1): 20.
4. Kurugol, N.Z., S. tutuncuoglu and H. tekgul, 1995. The family attitudes towards febrile convulsion. Indian j pediatr; 62(1): 69-75.
5. Ling, S.G., 2000. parental response and understanding to wards febrile convulsion. Med j Malaysia; 55(4): 419-23.
6. Shojaeezadeh, D.A., 2000. Health education and behavior models. 1thed. Tehran: Assaresobhan; pp: 58-62.
7. Parmar, R.C., D.R. Sahu and S.B. Bavdekar, 2001. Knowledge, attitude and practices of parents of children with febrile convulsion. Journal of postgraduate medicine; 47(1): 19-23.
8. Deng, C.T., H.I. Zulkifli and B.H. Azizi, 1996. Parental reactions to febrile convulsions in Malaysian children. Med. J. Malaysia; 51(4): 492-8.

9. Sayeedi, M., 2003. [The effect of educational based on Health Belief Model on preventive esteoporosis in student]. [MS Thesis]. Isfahan University of Medical Science; pp: 87-90.
10. Sharifirad, G., S. Hazaveyee and S. Mohebi, 2007. The effect of educational program based on Health Belief Model on diabetic foot care. Int J Diab Dev Ctries: 27:18-23. { http://www.ijem.org.ir/browse.php?mag_id=36&slc_lang=fa&sid=1}
11. Shamsi, M., R. Tajik and A. Mohammad Beigi, 2009. Effect of education based on Health Belief Model on self-medication in mothers refering to health centers of Arak. Arak Medical University Journal (AMUJ); 3(12): 44-53.
12. Huang, M.C., C.C. Liu and C.C. Huang, 1998. Effects of an educational program on parents with febrile convulsive children. Pediatr Neurol; 18(2): 150-5.
13. Shamsi, M., G. Sharifirad and D. Kachoyee, 2010. The effect of educational walking program based on Health Belief Model on control suger in woman by type 2 diabetics. Journal of Endocrinology and Metabolism; 11(5): 75-82.
14. Sharifi-rad Gh R., M.M. Hazavei and A. Hasan-zadeh, 2007. The effect of health education based on health belief model on preventive actions of smoking in grade one, middle school students. Rahavard Danesh, Journal of Arak University of Medical Sciences ; 1(10): 79-86.
15. Kamrani, A., 2006. The effect of educational diet on nutrition type2 diabetes based on Health Belief Model. Dissertation Esfahan School of Public Health. Isfahan University of Medical Science, pp: 28-44.
16. Van stuijvenberg, M., GC. Tjiang and E.W. Steyerberg, 1999. Derksen-lubsen G, Moll, HA. Parent's fear regarding fever and febrile convulsions. Acta paediatr; 88(6): 618-22.
17. Baumer, J.H., T.J. David, S.J. valentine, J.E. Robert and B.R. tlughes, 1981. Many parents think their child is dying when having a first febrile convulsion. Dev Med child Neurol; 23(4): 462-4.
18. Ofovwe, G.W., O.M. Ibadin, E.C. Ofovwe and A.A. Okolo, 2002. Home management of felorile convulsion in an African population : a comparison of urban and rural mother's knowledge attitude and practice. Journal of Neurological sciences; 200: 49-52.
19. Patricia, J., R. Neafsey, J. Olga and L. Surheil, 2007. Self medication practice in spanish speaking older adults. Hispanic Health Care International, 5(4): 169-178.