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Health Education Program and Tuberculosis Preventive Behaviors

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Abstract

***Background*:** This study aimed to investigate the effect of the educational program on knowledge attitude and preventive behaviors towards tuberculosis in the Ramin village of Iran.

***Materials and Methods*:** In this study 90 eligible participants were randomly divided into two groups of intervention group who took port in educational workshop (N=45) and control group (N=45) who received no education. Data were collected at baseline and 3-month follow up. Data was analyzed within statistical SPSS program.

***Results*:** Initially, two groups were the same in terms of demographic data ($p>0.05$). However, the intervention group improved significantly in terms of knowledge, attitude and behavior scores compared to control group ($p<0.0001$).

***Conclusion*:** The educational program could improve preventive behaviors among individuals who living in the Ramin village of Iran.

Introduction

Tuberculosis is one of the public health problems in the world. The prevalence rate of the infection in Iran on the year of 2007 had been reported 13.2 in every thousands of the population, that the most prevalent was in Zabol (11.2) and then in Golestan 42.3 in a thousand [1].

Researchers have shown in the tuberculosis eradication national programs that included of preventive, screening and the treatment programs, health education has very important role [2-5]. Also the results of the researches conducted in Iran [6-8] have shown that knowledge and practices of the participants on the prevention of tuberculosis was not adequately good, and almost all of the researches emphasized on the education of preventive behaviors throughout the educational interventions [9-11].

Considering this fact that according present evident that to prevent the infection the only way is education of the tuberculosis preventive behavior and on the other side according to the management department of the ministry of medical education on the Chabahar distinction is 2.5 times of the national rate and the reason of this high rate is the lack of education of the tuberculosis preventive behavior. Therefore the researcher designed the study based on the population needs to promote the knowledge and attitude and tuberculosis preventive practices of the population on the referrals of the health centers of the Ramin village of the Chabahar city.

Materials and Methods

This is a clinical trial study in which 90 eligible participants were randomly selected from all families who had health records in family health center of Ramin village affiliated to the city of Chahbahar. These participants were randomly divided into two groups of intervention (N=45) who received the educational program beyond the usual programs and control (N=45) who received just usual program. Data were collected at the time of randomization (baseline) and 3- month follow up. To be eligible for entering to the study, participants had to be aged ≥15 years, not suffering from tuberculosis infection and living in the village. Sample size was calculated according to previous study [11].

The study was approved by the ethics committee of Tarbiat Modares University and ethical principles were adhered to throughout the study. Participants provided informed consent, confirmed in writing, after the purpose and procedures of the study were explained and questions were answered. They were advised of their right to withdraw at any point without any impact on their care being provided. Except for intervention, all parameters were the same in each group.

Measures: A basic demographic questionnaire as well as a research based self administered questionnaire which included questions regarding knowledge, attitude and tuberculosis preventive behaviors were completed by all participants in two time points.

The questionnaires were designed based on existed literature regarding tuberculosis prevention in terms of knowledge, attitude and tuberculosis preventive behaviors. The validity of the questionnaire was approved

through content validity through which all of all ten different specialists' comments were inserted into the questionnaire. The Content Validity Rate (CVR) was calculated as 0.7 that was acceptable. To confirm reliability of the scale, the questionnaire was completed by 12 individuals who were similar to study sample in two time points with 10 days interval. Alpha chronbach co-efficient showed the acceptable rate of 0.8.

Study Intervention

The intervention was a group–based educational program in which a health education specialist administered the program. The program involved a one-day workshop in which three two-hour group sessions were informed and the health education instructor delivered the education regarding knowledge, attitude and behavior improvement of the participants.

Outcome variables

Outcome variables were knowledge, attitude and behavior improvement of the participants which were measured by the questionnaire.

Statistical analysis

All data analyses were conducted according to the pre-established analysis plan. Proportions were compared by using the chi–square (the Fisher's exact test where necessary). Mean scores were analyzed through the independent t test.

Results

In this study we followed participants up to 3 months post intervention. Totally, 90 participants including 45 participants in control group and 45 ones in intervention group were assessed at 3-month follow up. As shown in table 1 the two groups did not differ on demographic characteristics at baseline (all *p*-values>0.05). Table 2 shows the results from t-test at baseline and 3-month follow up. As shown here, there were significant differences in all studied variables within each group over time ($p<0.05$). Differences in outcomes between the two groups were also examined through this analysis. The two groups were different in all studied variables ($p<0.05$). Regardless of group difference, time differences were significant in all items ($p<0.05$).

Discussion

In this study despite of equality of two studied group (case & control) in aspect of demographic characteristics and the investigated variables, after three months the case group which were educated had better knowledge, attitude and preventive behaviors and this differentiate was obvious, so it can be related to the conducted educational intervention. The last conducted studies [6, 9-11] supported the findings of the present study. Another studies in Iran [7, 8] and the other side of the world [2-4] emphasized this fact that education can improve the knowledge in the base of the prevention of tuberculosis.

The result of this study showed the stability of the knowledge, attitude and tuberculosis preventive behaviors education after three months so despite of this that the majority of the participants to this study were illiterate or low educational level (primary school) the educational intervention as question response method not only lecturing could give them a deep perception of tuberculosis and for this reason their knowledge stabled even after three months.

Table 1. Demographic characteristics of study participants of two groups

Variables		Intervention group N(%)	Control group N(%)	*p-Value*
Sex	Men	17(37.7)	34(53.3)	0.13
	Women	28(62.3)	21(46.7)	
Age (yr)	15-20	5(11.1)	4(8.9)	0.67
	21-25	16(35.6)	14(31.1)	
	26-30	11(24.4)	9(20)	
	31-35	6(13.3)	3(6.7)	
	36-40	7(15.6)	15(33.3)	
Education status	Illiterate	19(42.2)	15(33.3)	0.36
	Primary	19(42.2)	23(51.1)	
	High school	7(15.6)	5(11.1)	
	Diploma	0	2(4.4)	
Marital status	Married	32(73.3)	39(86.7)	0.11
	Single	12 (26.7)	6(13.3)	
Occupation status	Worker	16(35.6)	12(26.7)	0.64
	Housewife	20(44.4)	26(57.8)	
	Non occupied	7(15.6)	5(11.1)	
	Others	2(4.4)	2(4.4)	

Table 2. Knowledge, attitudes, and behavior scores of two study groups at two time points

Variable (range of score)	Base line Intervention group (Mean±SD)	Base line Control group (Mean±SD)	*p*-Value	3-Month Follow up Intervention group (Mean±SD)	3-Month Follow up Control group (Mean±SD)	*p*-Value
Knowledge (22-66)	36.68±11.54	39.57±13.38	0.276	51.26±13.3	37.06±12.06	0.00015
Attitudes (9-27)	15.53±5.89	15.15±5.92	0.763	22.11±4.89	14.88±5.84	0.00021
Behavior (5-10)	4.77±1.91	5.33±1.79	0.160	7.44±4.09	4.75±2.12	0.0003

Also the positive attitude of the participant continued after three month fallow up that this can be for the group and individual consultations with respect to their culture and their believes about tuberculosis and the effort in the change of their falls believes about it by face to face consultation and discussions with the hometown educator who have the same kind and culture, that finally could keep a deep change and the stability of the intervention. Previous studies emphasized on the considering the culture and believes of the population in order to continuity of educations.

The present study clarified that before the intervention the level of knowledge, attitude and practice of the participants in the two groups were low. Another study in tuberculosis on the year of 2000 clarified 67% of the participants had inadequate knowledge about tuberculosis [12] so the low level rate of the participants information's in the present study associate this idea that no affective action was done in these year to improve the knowledge of the population or if done, it might be ineffective. Considering the importance of tuberculosis preventive behaviors that requirement of that is a high level of information and positive attitude toward it the necessity of the educational intervention in this area is clear. In this study the assessment of the health behaviors before and after the intervention and also three months fallow up showed that the case group which were under education were better that the control group notably that showed applied role playing method that was one of the applied method in this study was effective and could improve the success of the study in continuation of the behavior even three months after intervention.

One of the strengthen of this study could be including control group and another one before and also fallow up assessments that the results could be the evident of the effectiveness of the program. About the limitation probably applied self reporting method might be not enough reliable and suggest the investigator consider this in the future. In total the results showed that the intervention had been affective in the promotion of knowledge, attitude and tuberculosis preventive behaviors.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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