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The Effect of Training and Behavioral Therapy Recommendations on Smoking Cessation (A Report of the First “Smoking Cessation Clinic” in Iran)

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ABSTRACT

Background: Cigarette smoking is considered as the commonest preventable cause of morbidity and mortality.

Materials and Methods: The present study shows that over a 2- year period, a total of 743 smokers have been registered in monthly therapeutic and training courses of Smoking Cessation Clinic. They have received audio-visual training and behavioral therapy. For Nicotine Replacement Therapy (NRT), nicotine dependence of the patients was assessed by Fagrostrom Tolerance Test in the beginning of each course.

Results: The test scores of 170 people (31.2%) were less than 7 (low nicotine dependence), and 376 individuals (68.8%) had scores of 7 or more (high nicotine dependence). At the end of the course, 90% from the first group and 87.5% from the second group had successfully quitted smoking. In the above-mentioned groups, 23.5% from the first group and 48.9% from the second one received not only behavioral therapy but also NRT. However, it is noteworthy that all the smokers with respect to the training provided during the course were prescribed NRT while its usage was up to the patient. This means that half of the second group (51.1%) had succeeded to quit smoking only by means of education and behavioral therapy without any NRT.

Conclusion: The role of this kind of training in implementing smoking cessation program is essential. (*Tanaffos* 2003; 2(6): 39-44)

Key Words: Smoking cessation, Behavioral therapy, Nicotine replacement

INTRODUCTION

Cigarette smoking is considered as the commonest preventable cause of morbidity and mortality. At the present situation, about 5 million people die each year due to cigarette smoking, half of which are in

the developing countries. This figure will rise to 10 million in the year 2020, out of this number 7 million deaths will be in these countries.(1) It seems that the epidemics of cigarette smoking along with its associated deaths is shifting from the developed to developing countries. Cigarette smoking is responsible for 90% of lung cancers, 40% of other

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malignancies, 50% of cardiac diseases and 75% of pulmonary diseases (2).

From the sixties and onwards, the process of quitting smoking was followed up more carefully in the world; furthermore, different therapeutical and behavioral methods were studied. Initially, carrying out therapeutical measures were important e.g. NRT, but in the following years, recommendation on the behavioral therapy gained more significance (3). With the completion of the studies, using both methods at the same time was considered. In the beginning of nineties, WHO recommended and considered the "Minimal Intervention Method" as the standard method for quitting.(5) In this direction carrying out the "Tobacco Control Programmes" has special importance. One of the strategies of this program is to start-off the "Smoking Cessation Clinic".(6) Quitting smoking has several positive and beneficial health effects, in such a way that after 1 month, there will be an increase in the physical power; after 3 months the lung capacities become normal; after 1 year of quitting, the risk for cerebral infarcts will reach to that of non-smokers; and finally 5 years after the abstinence, the risk of acquiring cardiac diseases will decrease.(2)

MATERIALS AND METHODS

The "Smoking Cessation Clinic" started functioning for the first time in the country as a research project of the under secretary for Research Department of the Ministry of Health and Medical Education. The main investigator of this important project is the National Research Institute of TB and Lung Disease(NRITLD), which with the help and participation of "Tehran's Municipality" carried out this project in district 14 of Tehran. According to WHO Recommendation, the method to be used in the "Smoking Cessation Clinic" is the "Minimal

Intervention Method". This method includes training, group therapy, behavioral therapy, pharmacological treatment, physical training, and follow-up.

According to this system, the training and therapeutical courses are of one month duration. Each course has 7 sessions, each session having duration of one and a half-hour, and carried out in groups of 6-12 people. The general physician who has had the proper training and teaching before is responsible for carrying out the training and therapeutical courses. People come to the center as volunteers, and the priority in offering services is according to their registration time. After registration and completing their files, special question forms are filled out. The training and therapeutical courses are carried out according to a special time schedule in 2 different classes for male and female smokers. Every session has got its own specific training topic and various instructions including audio-visual training showing the disadvantages of cigarette (and tobacco), world statistics, worldwide tobacco control programmes, diseases, different methods of quitting, recommendation on behavioral therapy, target day (the day of quitting), use of NRT, observing the initial period of abstinence (quitting), specific orders for decreasing the desire for cigarettes and smoking etc, are given to them. In every session, special informative forms are filled out by volunteers; moreover, later on group discussion discussing the previous orders is carried out, and the necessary advises are also given to them. The above mentioned teachings along with behavioral therapy aiming at decreasing and fighting the desire for smoking, delaying the lightening of the cigarettes, deep breath, drinking water, thought deviation, remembering the cause of quitting, explaining the disadvantages of smoking, quitting rewards etc. are carried out on all of the volunteers in a similar manner. For NRT, the level of nicotine dependency of each person is assessed by the Fagrostrom Tolerance test (2). This

standard test includes 5 questions, each one having 2 answers and another set of 3 questions, each having 3 answers. The scoring for each answer is 0,1,2; the total score is 11 and anybody gaining a score of 7 or more is chosen as the candidate for NRT. According to the high score obtained in the test (showing high dependency i.e. 7 or more) necessary recommendations for the use of the NRT are given to them. The Nicotine chewing gums are used after the target day (3rd session). The usage of nicotine chewing gum in each person, whether to use it or not, is based on his/her own will. Depending upon their desire for cigarettes and smoking, with training given to them earlier in this respect, the number of used chewing gum varies between 0-max 15/d. Between the 4th- 7th sessions, the use of Nicotine (chewing) gums, behavioral therapy, and any existing problem is revised and reviewed, and if necessary, proper guidance and consultation are given.

RESULTS

From Sep 1998 to Sep 2000, 743 volunteers started attending the training and therapeutical courses of the "Smoking Cessation Clinic". Out of this number, 197 people (26.5%) missed more than half of the sessions and didn't finish the course. The remaining 546 individuals were divided into 2 groups according to the results obtained in the Fagrostrom Tolerance Test. The first group with 170 people (31.2%) had score of less than 7 (low nicotine dependency). The second group that included 376 people had score of 7 or more (high nicotine dependency). Meanwhile in the same group i.e. 546 people, 482 (88.1%) of them succeeded in giving up smoking completely by the end of the 1-month training and therapeutical courses of the clinic. Out of this number i.e. (482 individuals), 285 people (59.1%) quitted smoking with the help of training and behavioral therapy only, without getting any NRT. In the rest of the 197 (40.9%) people, the

quitting was made with the help of training, behavioral therapy, and NRT.

Table 1 shows the manner of quitting, on the basis of results obtained in the Fagrostrom Tolerance test. As it's shown, in the 1st group, 153 individuals (90%) and in the 2nd group, 329 people (87.5%) succeeded in quitting smoking ($p=0.4$).

Table 1. Results obtained during the health education and treatment courses of the smoking cessation clinic according to "Fagrostrom Tolerance Test Score:

Situation of quitting smoking	Fagrostrom Tolerance Test of less than 7	Fagrostrom Tolerance Test of 7 or more	Total
Quitted smoking	153 (90%*)	329 (87.5%)	482 (88.1%)
Decreased use (Failure)	17 (10%)	47 (12.5%)	64 (11.9%)
Total	170 (31.2%)	376 (68.8%)	546 (100%)

*Percentage of volunteers who have completed the course

Table 2 shows the method of quitting in successful quitters at the end of the course, according to the Fagrostrom Tolerance Test. In the first group, 36 people (23.5%) and in the second group, 161 individuals (48.9%) received training and behavioral therapy recommendation along with NRT. ($p=0.000$)

Table 2. Result obtained with each method of quitting during the health education and treatment courses of Smoking Cessation Clinic according to Fagrostrom Tolerance Test Score

Method	Fagrostrom Tolerance Test Score < 7	Fagrostrom Tolerance Test Score \geq 7	Total
Behavioral Therapy	117 (76.5%*)	168 (51.1%)	285 (59.1%)
Behavioral Therapy +NRT	36 (23.5%)	161 (48.9%)	197 (40.9%)
Total	153 (31.7%)	329 (68.3%)	482 (100%)

*Percentage of volunteers who have completed the course

Table 3 shows that 261 people neither finished the course nor succeeded quitting smoking. This situation has no connection/relation with the Fagrostrom Tolerance test. ($P=0.79$) In the meantime 49 individuals (74%) from the first group and 148 people (76%) from the second group were absent in more than half of the classes and failed to finish the course.

Table 3. Number of Absentee and Failures in volunteers attending the Smoking Cessation Clinic according to Fagrostrom Tolerance Test Score.

Method	Fagrostrom Tolerance Test of less than 7	Fagrostrom Tolerance Test of 7 or more	Total
More than 4 session of absence (omitted)	49 (74%)	148 (76%)	197 (75.4%)
Decreased use (failure)	17 (26%)	47 (24%)	64 (24.6%)
Total	66 (25.3%)	195 (74.7%)	261 (100%)

DISCUSSION

The “Smoking Cessation Clinic”, as its first practical experience in the country, started its work according to the recommended programme of WHO, in the form of “Minimal Intervention Method”, with the aim of guiding and treating the cigarette smokers. In this direction different methods including training consultation, individual and group behavioral therapy, and NRT could be used. While reviewing different reports, it is seen that best result was obtained when all the 3 methods were used together, and using NRT as a single line therapy comes next in line. Studies made in the United States confirm the above fact and stress the importance of behavioral therapy recommendation and clinical advises in quitting smoking.(3) Also, in the smoking cessation

clinics in China, all the above methods are used together.(5)

In this study, the “Minimal Intervention Method” is coordinated with the social feasibility and cultural conditions of the country.

In this research, it's seen that most of the volunteers (68.8%) had high level of dependency to nicotine (score of 7 or more). According to table 1 it's seen that a significant relation between the level of nicotine dependency and quitting at the end of the course does not exist ($p=0.4$). Since the success rate of quitting smoking in the first group (low nicotine dependency) is slightly higher than the success rate in the 2nd group, so it's concluded that nicotine dependency is not an effective factor in the results of smoking cessation.

According to the results of table 2, the usage of NRT in the second group (high nicotine dependency) is significantly higher. ($p=0.000$) This study is being compatible with the previous ones. Studies made in the United States shows that higher the level of nicotine dependency, greater would be the use of NRT (7,8). Although use of NRT in the 2nd group is usually higher, it's still seen that 51.1% of this group, quitted smoking without using NRT. The methods used in this group of successful quitters were training and behavioral therapy without getting any help from NRT. This study complies with other international investigation made in this field. It is noteworthy that the success rate of quitting smoking with training and behavioral therapy alone without any NRT is about 5-20% (3,9). From the first group 23.5% (test score of less than 7) and 48.9% from the second group (test score of 7 or more) needed not only training but also NRT. In other words, according to the results obtained in this study, it seems that the level of nicotine dependency, which is measured by the Fagrostrom Tolerance Test, is not an essential factor for using NRT. Rather it shows the value of the

behavioral therapy recommendations and group therapy during the process of smoking cessation courses. So taking advantage of general and public training as well as behavioral therapy recommendation for decreasing the desire for cigarettes and fighting the urge for lighting it is very much effective.

Results obtained from table 3 shows that the level of nicotine dependency is not an essential factor in those that didn't finish the course or failed to quit smoking. ($p=0.79$) Since 74% from the first group (low nicotine dependency) and 76% from the second group (high nicotine dependency) didn't finish the courses for different reasons. This means that there is no relation between the attendance in the classes and the score obtained in the Fagrostrom Tolerance Test.

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