

ORIGINAL RESEARCH

Effect of hypnotherapy on smoking cessation among secondary school students

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Received: August 9, 2014
DOI: 10.5430/jnep.v5n2p67

Accepted: November 9, 2014
URL: <http://dx.doi.org/10.5430/jnep.v5n2p67>

Online Published: November 27, 2014

Abstract

Background: Hypnotherapy is widely promoted as a method for aiding smoking cessation. It is proposed to act on underlying impulses to weaken the desire to smoke or strengthen the will to stop. The aim of this study was to examine the effectiveness of hypnotherapy on smoking cessation among secondary school students.

Method: A random sample of 59 male smokers was selected from two governmental secondary schools. Design: A quasi-experimental design was used. Tools: Data were collected using; A- an Interview Questionnaire included; I- smoking assessment tool to determine the smoking rate among males students. II-Characteristics of studied students regarding smoking pattern. III- Smoking Cessation Questionnaire. B- Wisconsin smoking withdrawal scale. The hypnotherapy was implemented after assessing the rate of male smokers, the researchers trained the students in practicing self hypnosis, and asked them to practice it at home and to document the frequency of daily smoked packs for nine weeks.

Results: The present study findings indicated that the rate of male smokers among secondary school students in Beni-Suef city was 52.4%, about two third of studied students (65.4%) stopped smoking after nine weeks of practicing hypnosis and the percentage of smoked packs of cigarettes/ day decreased after implementing the program.

Conclusion: The present study findings showed that hypnotherapy has a therapeutic effectiveness in achieving a high rate of smoking cessation among secondary school students. There was a highly significant difference in total score of smoking withdrawal index before and after intervention. Recommendation: Community and school education programs should include sessions on quitting smoking, implementing school-based interventions in combination with antitobacco mass media campaigns.

Key Words: Secondary school students, Hypnotherapy, Smoking cessation

1 Introduction

The aim of hypnotherapy in smoking cessation is to decrease the desire to smoke or strengthen the will to stop smoking. The patient is guided by the hypnotherapist to respond to suggestions for changes in the smoking experience. Treatment success can be influenced by the therapeutic relationship or the hypnotisability of the patient.^[1] Worldwide, Smoking epidemic is a major public health problem, more

than half of those who addicted to it losses their life, it resulting in high rates of morbidity and mortality. Smoking prevalence is a public health problem in Egypt. Egypt's ranking as one of the countries that bears the highest burden of tobacco use worldwide combined with lack of data on many tobacco-related elements, as well as emergence of new groups of tobacco users and new forms of tobacco use.^[2] Smoking prevalence among adult males aged 15

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years and over in Egypt was 39.7%. Smoking harms nearly every organ of the body, causing many diseases and affecting the health of smokers in general.^[3] Quitting smoking has immediate as well as long-term benefits.^[4]

Cigarette smoking cause serious health problems among youth. Compared with adults, adolescents appear to display evidence of nicotine addiction at much lower levels of consumption, making quit attempts potentially more difficult for them. Nicotine, is a highly addictive drug, causes many to continue smoking well into adulthood, often with deadly consequences. Many young smokers have strong expectations of discontinuing use in the near future, but relatively few are able to do so. Most of these young people never considered the long-term health consequences associated with tobacco use when they started smoking.^[4] In fact, nearly 9 out of 10 smokers start smoking by age 18, and 99% start by age 26. Today, one out of four high school seniors and one out of three young adults under age 26 are smokers. On any given day, more than 2.500 youth and young adults who have been occasional smokers will become regular smokers. And at least a third of these replacement smokers will die early from smoking.^[5]

Many teens and young adults plan to quit using tobacco after a few years but find out too late how powerfully addictive nicotine can be. Like heroin and cocaine, nicotine acts on the brain and creates feelings of pleasure or satisfaction. Many teens feel dependent on tobacco after using it for only a short time because young brains are still developing. Smokers who quit before age 30 will undo much of the health damage caused by tobacco use. Despite the demonstrated efficacy of pharmacological smoking cessation treatments, many smokers are unwilling to use them; however, they are inclined to try alternative methods. Hypnotherapy has been recognized as a therapeutic tool by professional medical groups in a number of countries for many years, and can be powerful for changing patterns of behavior.^[6]

Hypnosis has a higher success ratio in smoking cessation than any of the other physical means available on the market today (such as the gums, pills and patches) and it requires as little as one or two sessions of approximately 30-40 minutes. The reason for this is that hypnosis dealing with the strong subconscious mind, where all the physical means are just dealing with the conscious mind and the subconscious mind does not understand the difference between an imagined memory and a real memory. Hypnosis is a relaxing, naturally occurring state of mind which happens to us every day. Each time we read a captivating novel, float off in a daydream or see an engrossing movie we are in a natural state of hypnosis. Hypnosis deals directly with the subconscious mind, which is the part of mind that carries out habituated patterns of behavior, including smoking. It's the subconscious that directs the body to feel the urge for a cigarette. Subconscious mind knows exactly when it's time to light up another cigarette and it reminds us right on cue.

So the key to actually quitting smoking is to convince our subconscious mind that it's time to make a change.^[7] It is proposed to act on underlying impulses to weaken the desire to smoke or strengthen the will to stop.^[8]

Nurses have a significant role in planning, implementing, and evaluating effective smoking cessation treatments and providing health education for youth and adult smokers about serious effects on human health. It is reasonable to expect that more smokers will quit successfully if nurses deliver evidence-based smoking cessation interventions. Nurses can provide effective advice for people stopping smoking. Nurses as a member of professional medical groups can use hypnotherapy as a therapeutic tool that is powerful for changing patterns of behavior. Trained nurses on hypnosis can employ hypnotic strategies that invite smokers to imaginatively associate cigarettes with unpleasant sensations such as bus fumes and dry mouth or negative outcomes such as cancer. They also use suggestions to encourage smokers to believe that they will lose the desire to smoke and cope well during withdrawal.^[9]

The nursing profession has a long history of viewing and caring for individuals in a holistic manner. RNs recognize cultural, psychosocial, and spiritual needs that can impact upon health care practices, choices and preferences for treatment or non-intervention. Inherent in the nurse's role is the ability to assess, intervene and evaluate preventive, supportive, and restorative functions of a patient's physical, emotional, mental and spiritual domains.^[9]

1.1 Significance of the study

The magnitude of the smoking problem in adolescents is large enough to be considered a warning of an impending epidemic. Behavior modification of adolescents should be carried out on a large scale. Multi-centered studies with a homogenous population would be appropriate to measure the effectiveness of intervention strategies.^[11] Moreover smoking is a pediatric epidemic around the world as well as in Egypt. Nearly all smoking begins in childhood and adolescence.^[12] Therefore preventing smoking among young people is critical to ending the epidemic of tobacco use. If young people don't start using tobacco by age 26, they almost certainly will never start.^[4,13] Youth smoking cessation programs are necessary to target those adolescents who are considering quitting smoking. These approaches to reducing youth tobacco use require a strong, comprehensive tobacco prevention and control program and the dedication of policymakers and community members.^[14]

1.2 Aim of the study

The aim of this study was to examine the effectiveness of hypnotherapy on smoking cessation among secondary school students in Beni-Suef city.

1.3 Research hypothesis

This study was conducted to test the following hypothesis: Hypnotherapy has a therapeutic effect in achieving a high rate of smoking cessation among secondary school students.

2 Methodology

2.1 Research design

A quasi-experimental design with pre-post assessment was used in this study.

2.2 The research setting

Two secondary schools were selected randomly from two educational zones available in Beni-Suef City.

2.3 Study subjects

Subjects in this study were all students who follow the criteria (59 male students).

2.4 Inclusion criteria

- Accepted to participate in the study.
- Smoking at least 5 cigarettes per day.
- Not using other cessation methods.
- Willing to quit smoking.
- Not have a history of psychotic disorders.
- Not use stimulating medications.
- Male students of the 3rd grade.
- Aging from 18-20 years.

2.5 Tools of data collection

A- Questionnaire was used for data collection, it included two parts:

1)- Smoking Assessment Questionnaire to assess the smoking rate among secondary school students adopted from The American School of Hypnosis.^[6] included questions about name, age, phone number, are you smoker, how many cigarettes/ day, are you want to quit, if yes, are you prefer to try quitting by non-pharmacological methods, are you using any cessation methods, are you having any history of psychotic disorders, are you using stimulating medications.

2)- An interview questionnaire form adopted from The American School of Hypnosis,^[6] to collect data about characteristics of studying students regarding pattern of smoking included questions about; duration of smoking in years, number of smoked packed/day, smoking household members, reasons for quitting smoking, and number of trails to quit smoking, longest duration of quitting smoking.

3)- Smoking Cessation Questionnaire & follow-up sheet to determine the number of packs smoked daily based on the

tool of McKINIEY Health Center,^[15] which included questions such as “Things willing to change for quitting”, “Supporting sources for support to quit smoking, Factors helping to quit smoking”, etc.

B- Wisconsin smoking withdrawal scale^[15] which included 28- item sorted by seven subscales about anger, anxiety, concentration, craving, hunger, sadness and sleep. The response was on a 5-point Likert scale ranging from “strongly disagree = 0” to “strongly agree = 4”. For all items except items number^[1, 2, 4, 10, 17, 22, 24] these items are reverse scored.

2.6 Field work

Official permission was obtained first from the security department, then the Ministry of Education, and from the directors of educational zones. Based on their approvals, permission was taken from the directors of selected schools to collect the data. The researcher started by explaining the purpose of the study briefly to students. Participants were informed about their right to withdraw from the study at any time without giving any reason. Data were considered confidential and not be used outside this study without the patient’s approval. The researcher phone number and all possible communicating methods (as e-mail) were identified to the participants to return at any time for any explanation.

2.7 Validity and reliability

Tool validity test was done through five panels of expertise (they are Faculty members of community health nursing and pediatric nursing departments).

The internal consistency of the instrument has been tested using Cronbach’s alpha coefficient. Cronbach’s alpha for the whole questionnaire was 0.86. Cronbach’s alpha coefficients were also calculated of each of the subscales.

2.8 Pilot study

A pilot study was carried out on 10% of the sample size to test the content of the questionnaire as well as to estimate the time needed for data collection and the necessary modifications was done. Those who shared in the pilot study were excluded from the study sample.

2.9 Ethical considerations

Oral consent was taken from students included in the study, they were informed that the data collected will be used for the research only, and confident manner is assured.

2.10 Procedure

- Data collection was carried out over a period of 12 weeks.
- Official permission was obtained first from the Security Department, then the Ministry of Education, and from the directors of educational zones. Based on

their approvals, permission was taken from the directors of the selected schools to collect the data.

- The researcher started by explaining the purpose of the study briefly to the students.
- The researchers started recruiting the sample by using survey to determine the rate of male smokers.
- Eligible students were met, and were invited to participate after explaining to them the purpose of the study and its procedure. Those who gave their consent to participate were interviewed using the questionnaire form, including the smoking withdrawal scale.
- The researchers trained the students in practicing self hypnosis, and asked them to practice it at home and to document the frequency of daily smoked packs for nine weeks.

2.11 Technique of hypnosis

The researchers followed the recommendations of Barnes *et al.*^[17] and Abbot *et al.*^[18] when designing the study; however, no standardized protocol existed for hypnotic interventions in smoking cessation. There are some elements that are common to most interventions, such as those named by Spiegel *et al.* (e.g., that a body is entitled to protection from smoke), but there are many degrees of freedom in the implementation of hypnotic procedures that may affect the outcomes of hypnotic intervention.^[19] Spiegel's method acknowledges that there are some unarguable pleasures to smoking. Instead, he encourages hypnotized smokers to concentrate on three ideas: 1) smoking is a poison for your body; 2) you need your body to live; and 3) to the extent that you want to live, you owe your body respect and protection. The researcher taught the students self-hypnosis and encouraged them to repeat these ideas every one to two hours and any time they experience an urge to smoke.

The students asked to follow this technique steps and then they practiced at least once /day every day for nine weeks and they met every week to ensure that they practicing self hypnosis correctly.

- (1) First, find a quiet area in your home where you won't be distracted. Unplug your phone, turn off your computer and minimize as much noise as possible.
- (2) Sit in a comfortable area and close your eyes. Start to focus on your breathing, and visualize all of your muscles relaxing as you breathe in and out while taking a deep breath.
- (3) Once you're suitably relaxed, it's time to say a few smoke-free affirmations out loud such as: "My health is worth more than a cigarette"; "I am powerful enough to stop smoking for good"; "I know that being smoke free will make be happier and healthier"; and "I am stronger than nicotine... etc."
- (4) Repeat these affirmations over and over again. Do this for approximately five to ten minutes at a time.

- (5) think of yourself in the following way ... I am a non-smoker ... I have stopped smoking ... and I will never smoke again ... and as a nonsmoker I have the ability to be around other people who smoke ... I have the ability to enjoy life as a nonsmoker ... everything I do ... from this moment on ... is better as a nonsmokerYou feel so much better ... As a non-smoker ... healthier ... breathe easier ... enjoy life more ...more confidence.....etc.....

2.12 Limitations

The total number of male smoker students who fulfilled the eligibility criteria was 59 and they dropped to 52 during the follow-up period, the other 7 decided to not continue and the researcher respected their decisions.

2.13 Statistical analysis

The collected data were organized, tabulated and statistically analyzed using Statistical Package of Social Studies (SPSS) version 19. Variables were categorical and were presented as number and percentages. Differences between categories before and after intervention and at different periods of follow up were statistically analyzed using Wilcoxon signed ranks test. Total smoking index score was calculated by summation of the score of the 27 smoking index questions. The total scores before and after intervention was presented as range, mean and standard deviation. The difference between total smoking index score before and after intervention was performed using paired t test. The level of significance was adopted at $p < .05$.

3 Results

The rate of male smokers among secondary school students in Beni-Suef city was 52.4% and 47.6% was nonsmokers (see Figure 1).

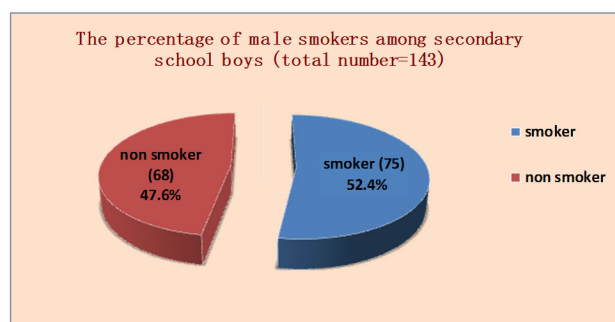


Figure 1: Rate of male smokers among secondary school students (n = 143)

One third (32.7%) of studied students started smoking since one year while 23.0% started from four years and more, and 28.8% smoked 2-3 packs/day, half of them were living

with a family member who smoke, and they reported that they wanted to stop smoking to preserve health and money (57.7%, 50.0% respectively) while 63.5% wanted to be free from smoking, and 26.9% of them never tried to stop smok-

ing while the rest tried once or more, more than half of them (55.8%) stopped smoking for less than one week and only (1.9%) quitted for a period of one to three years (see Table 1).

Table 1: Characteristics of studied students regarding smoking pattern (n = 52)

Variables	n	%
Duration of smoking in years:		
One year	17	32.7
Two years	12	23.1
Three years	11	21.2
Four and more	12	23.0
Number of smoked packed/day:		
From 5 cigarettes \leq 1/2 pack	7	13.5
>1/2-1 pack	10	19.2
1-1 1/2 pack	11	21.2
2-3 pack	15	28.8
3+ pack	9	17.3
Smoking household members:		
No one	13	25.0
One member	12	23.1
Two members	14	26.9
Three or more	13	25.0
Reasons for quitting smoking:*		
Preserve health	30	57.7
Preserve money	26	50.0
Satisfy family	12	23.1
Save time	17	32.7
Avoid bad breath	10	19.2
To be smoke free	33	63.5
For social acceptability	9	17.3
Number of trails to quit smoking:		
Never	14	26.9
Once	19	36.5
Twice	9	17.3
Three times	6	11.5
Four and five times	4	7.8
Longest duration of quitting smoking:		
<1 week	29	55.8
2-3 weeks	16	30.8
1-6 months	5	9.6
7-11 months	1	1.9
1-3 years	1	1.9

*More than one reason was reported

More than half of the studied students ready to change many things in order to stop smoking such as personal habits, lifestyle, and exercise routinely (57.7%, 50.0%, and 63.5% respectively). They reported that the family followed by friends (53.8%, 25.0% respectively) considered to be support system, and strong willpower and desire are factors were helping them to stop smoking (71.0%, 61.5% respectively), but they mentioned many fears as failure, mood changes, poor self esteem, or loss of control (53.8%, 38.5%,

32.5%, 30.8% respectively). Most of them were dealing with stressors through prayers (71.2%) while only 3.8% were using hypnosis as a method of relieving stress (see Table 2).

There was a highly significant difference in total score of smoking index before and after intervention, it was ranged from 69-93 before intervention compared with 12-41 after intervention with mean of 82.96+6.26 93before intervention compared with 25.08+5.30 after intervention (see Table 3).

Table 2: Distribution of studied students by factors associated with quitting smoking

Variables	n	%
Things willing to change for quitting:*		
Any thing	18	34.6
Personal habits	30	57.7
Life style	26	50.0
Diet	13	25.0
Exercise routine	33	63.5
Sources for support to quit smoking:		
Family	28	53.8
Friends	13	25.0
Every body	8	15.4
Others	2	3.8
None	1	1.9
Factors helping to quit smoking:*		
Strong willpower	40	77.0
Desire to be smoke free	32	61.5
Presence of effective support	18	34.6
Changing attitude	16	30.8
Support by quitting friend/relative	13	25.0
Stressor relievers	12	23.1
Fears associated with efforts to quit smoking:*		
Failure	28	53.8
Mood changes	20	38.5
Poor self esteem	17	32.7
Loss of control	16	30.8
Becoming tense/nervous	10	19.2
Weight gain	7	13.5
Major stressors that lead to smoking:*		
Money	30	57.7
Family	18	34.6
One's health	15	28.8
School	11	21.2
Time	7	13.5
Relationships	7	13.5
Family health	7	13.5
None	3	5.8
Methods dealing with stressors:*		
Prayers	37	71.2
Hobbies	15	28.8
Reading	12	23.1
Relaxation	8	15.4
Exercise	8	15.4
Sleep	7	13.5
Eating	7	13.5
Listening to music	6	11.5
Keep self busy	4	7.7
Hypnosis	2	3.8
None	5	9.6

*More than one reason was reported

Table 3: Comparison of total score of smoking index before and after intervention

Smoking index total score	Range	Mean \pm SD	T	P
Before intervention	69 - 93	82.96 \pm 6.26	42.957	.001*
After intervention	12 - 41	25.08 \pm 5.30		

*Significant

There were statistically significant differences between number of smoked packs/ day and time of measurement at different periods of follow up at the weeks 2nd, 3rd, 8th, and 9th week. The results clarified that the rate of quit-

ting among studied students were 65.4%, and the number of smoked packs/day decreased with time of practicing hypnosis (see Table 4).

Table 4: Number of smoked packs at different periods of follow up

Time of measurement	Number of smoked packs												Z	p
	Totally quitting		5 cigarettes ≤ ½ pack		>½-1 pack		>1-1½ pack		<2-3 pack		>3 pack			
	N	%	N	%	n	%	N	%	n	%	n	%		
1 st week	0	0.0	8	15.4	10	19.2	11	21.2	14	26.9	9	17.3	---	----
2 nd week	0	0.0	18	34.6	13	25.0	7	13.5	11	21.2	3	5.8	4.725	.001
3 rd week	1	1.9	19	36.5	13	25.0	8	15.4	8	15.4	3	5.8	4.384	.001
4 th week	6	11.5	18	34.6	13	25.0	11	21.2	4	7.7	0	0.0	2.853	.004
5 th week	12	23.1	14	26.9	13	25.0	11	21.2	1	1.9	1	1.9	0.475	.635
6 th week	19	36.5	15	28.8	13	25.0	4	7.7	1	1.9	0	0.0	1.080	.280
7 th week	21	40.4	20	38.5	9	17.3	2	3.8	0	0.0	0	0.0	1.309	.190
8 th week	28	53.8	13	25.0	10	19.2	1	1.9	0	0.0	0	0.0	2.914	.004
9 th week	34	65.4	9	17.3	8	15.4	1	1.9	0	0.0	0	0.0	4.150	.001

There was an improvement in the withdrawal symptoms after the program. Statistically significant differences were found regarding all items of smoking withdrawal index (anger, anxiety, concentration, craving, hunger, sadness, and sleep) before and after intervention except one sub item of

anxiety item (worry about my problems), two fifth (42.3%) of studied students were worry about their problems before intervention compared with quarter (25.0%) of them after intervention (see Table 5).

Table 5: Distribution of studied students by smoking withdrawal index before and after intervention

Variables	Before intervention						After intervention						Z	P
	Strongly disagree/Disagree		Neutral		Agree/strongly agree		Strongly disagree/disagree		Neutral		Agree/strongly agree			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Anger														
Irritable and easy angered	0	0.0	1	1.9	51	98.1	42	92.3	4	7.7	0	0.0	6.505	.001
Bothered by negative mode	0	0.0	3	5.8	49	94.2	49	94.2	3	5.8	0	0.0	6.334	.001
Frustrated	1	1.9	3	5.8	48	92.3	50	96.2	2	3.8	0	0.0	6.397	.001
Anxiety														
Tense or anxious	0	0.0	1	1.9	51	98.1	45	86.5	7	13.5	0	0.0	6.452	.001
Impatient	0	0.0	3	5.8	49	94.2	41	78.8	10	19.1	1	1.9	6.275	.001
Worry about my problems	14	26.9	16	30.8	22	42.3	18	34.6	21	40.4	13	25.0	1.510	.131*
Calm	1	1.9	2	3.8	49	94.2	52	100	0	0.0	0	0.0	6.424	.001
Concentration														
Concentration is excellent	0	0.0	4	7.7	48	92.3	51	98.1	1	1.9	0	0.0	6.450	.001
Hard to pay attention	1	1.9	2	3.8	49	94.2	46	88.5	6	11.5	0	0.0	6.318	.001
Difficult to think	1	1.9	1	1.9	50	96.2	46	88.5	5	9.6	1	1.9	6.313	.001
Craving														
Feeling urge to smoke	0	0.0	0	0.0	52	100	50	96.2	1	1.9	1	1.9	6.524	.001
Bothered by desire to smoke	0	0.0	0	0.0	52	100	52	100	0	0.0	0	0.0	6.408	.001
Think about smoking	0	0.0	1	1.9	51	98.1	52	100	0	0.0	0	0.0	6.464	.001
Troubled getting smoking out of mind	1	1.9	3	5.8	48	92.3	50	96.2	2	3.8	0	0.0	6.354	.001
Hunger														
Food is not appealing to me	42	80.8	3	5.8	7	13.4	3	5.8	7	13.4	42	80.8	5.589	.001
Nibble on snacks or sweets	16	30.8	7	13.4	29	55.8	33	63.4	3	5.8	16	30.8	2.424	.015
Eating a lot	43	82.8	7	13.4	2	3.8	5	9.6	9	17.3	38	73.1	6.167	.001
Feel hungry	48	92.4	2	3.8	3	5.8	6	11.5	7	13.5	39	75.0	5.950	.001
Think about food	43	82.8	6	11.4	3	5.8	2	3.8	7	13.4	43	82.8	6.163	.001
Sadness														
Upbeat and optimistic	7	13.4	8	15.4	37	71.2	52	100	0	0.0	0	0.0	6.126	.001
Sad or depressed	7	13.4	4	7.7	41	78.9	41	78.8	11	21.2	0	0.0	5.934	.001
Hopeless or discouraged	8	15.4	7	13.4	37	71.2	39	75.0	13	25.0	0	0.0	5.754	.001
Happy	1	1.9	2	3.8	49	94.2	52	100	0	0.0	0	0.0	6.474	.001
Sleep														
Restful sleep	3	5.8	3	5.8	46	88.4	51	98.1	1	1.9	0	0.0	6.232	.001
Insomnia	11	21.1	6	11.5	35	67.4	47	90.4	4	7.7	1	1.9	5.538	.001
Satisfied with my sleep	4	7.7	5	9.5	43	82.8	52	100	0	0.0	0	0.0	6.215	.001
Getting enough sleep	3	5.8	9	17.3	40	76.9	52	100	0	0.0	0	0.0	6.277	.001
Troubled sleep	0	0.0	3	5.8	49	94.2	52	100	0	0.0	0	0.0	6.389	.001

*Not Significant

About two thirds of studied students (65.4%) stopped smoking after nine weeks of practicing hypnosis and the percentage of smoked packs of cigarettes/day decreased after implementing the program. The results revealed that smoking >3 packs/day and <2-3 packs/day declined to zero after the

program while the percentage of smoking >1-1.5 packs/day was 21.2% before compared to 1.9% after implementing the program, and smoking 5- ≤ 1/2 packs/day decreased from 17.3% to 13.5% after practicing hypnosis for nine weeks (see Figure 2).



Figure 2: Distribution of studied students in relation to smoked packs before and after intervention

4 Discussion

Clinical and research data may not be sufficient to build diagnostic and cessation treatment, so it is necessary to examine the development of withdrawal symptoms among adolescent smokers.^[20] Therefore the current study was carried out to examine the effectiveness of hypnotherapy on smoking cessation among secondary school students in Beni-Suef city. The study findings indicated that the rate of male smokers among secondary school students in Beni-Suef city was 52.4% and 47.6% was non smokers, these results supported the fact that smoking is a serious problem in Beni-Suef city. This rate was higher than the Prevalence of Mohamed,^[21] who found that cigarette smoking among adult males in Egypt according National Household Survey in all 27 Governorates was 30% for sample over 5000 individuals, and also the WHO,^[22] reported that the overall prevalence of daily tobacco smoking in Egypt was 34.6% among males. While the prevalence was lower (12.9%) among third-year medical students (male only) for cigarettes in Egypt,^[22] and the prevalence of cigarette smoking among male youth aged 13-15 years decreased to reach 5.8% in Egypt.^[2] The current study results has shown a higher smoking rate than the national level, this might be due to the homogeneity of studied students, and no enough health awareness about the drawbacks of smoking.

Regarding number of packs smoked/day, the study results indicated that more than quarter of studied students were

smoking <2-3 packs/day, about one fifth of them were smoking > 1- 1½ pack /day and less than two fifth were smoking three and more packs/day. While average of cigarettes smoked/day for smokers in Egypt 2005 according to age was 11.2 cigarettes/day for the age <17years and 14.9 cigarettes/day for age 18-24.^[20] While in Malaysia the Percentage of the youth smokers who smoked more than 10 cigarettes per day among male students was 41.98%.^[11]

Regarding smoking pattern, one third of studied students started smoking since one year while less than quarter started from four years and more, and two quarters of them were living with smoked members, and the most reported reasons for quitting were; to preserve health and money, to be free from smoking, and more than quarter of them never tried to stop smoking in the past while the rest tried once or more, more than half of them stopped smoking for less than one week and very small number quitted for a period of one to three years. These results in accordance with study of many authors who reported that most youth smokers in Canada mentioned that they would like to quit and have tried to quit in the past.^[24,25] The immediate precursor of quitting smoking would be an individual's intention to quit; intentions are indications of how hard people are willing to try, of how much effort they are planning to exert, in order to perform a behavior.^[26] Empirical research has previously identified that the factors affect with cessation are; having friends who smoke.^[27] or intending to quit.^[28] It has also

been suggested that cessation intentions are negatively associated with frequency of smoking.^[29] and physical inactivity. Smoking behaviour and beliefs, physical activity and weight, and social influences are associated with intentions to quit smoking.

The studied students ready to change many things in order to stop smoking such as personal habits, lifestyle, and exercise routinely. They mentioned that the family followed by friends considered the support system, and strong willpower and desire are factors were helping them to stop smoking, but they mentioned many fears as failure, mood changes, poor self esteem, or loss of control. Most of them were dealing with stressors through prayers while only 3.8% were using hypnosis as a method of relieving stress. On the same line U.S. Department of Health and Human Services,^[30] highlighted that adolescents and young adults are very susceptible to social influences. If they see tobacco use as a normal behavior because their friends or family members use tobacco, young people are more likely to try tobacco themselves, several factors relating to the students' environments were also associated with current smoking among high school students in Wisconsin, including parental smoking, friend smoking and household smoking rules. Similarly Robinson *et al.*^[31] added that Peer influence is paramount during these life stages, and young people with greater numbers of peers who smoke are more likely to begin to smoke themselves, and Metzger *et al.*^[32] stated that those who have fewer pro-social bonds to conventional institutions, such as school or places of worship, are also more likely to use tobacco.

These relationships are not surprising, as youth typically engage in behaviors they see friends or family engage in on a daily basis—perceiving such behaviors as acceptable. Peer selection or peer influence is still one of the strongest determinants of adolescent smoking so having close friends who smoke is very important to youth smoking cessation.^[33]

The current study findings illustrated that, about two third of studied students stopped smoking after nine weeks of practicing hypnosis and the percentage of smoked packs of cigarettes/day decreased after practicing hypnosis for nine weeks. These results supported by Rockville,^[34] who stated that effective programs are available and have demonstrated success in reducing youth smoking, through adequate dissemination and sustainability of these successful approaches, also school-based policies and programs are effective in reducing the initiation, prevalence, and intensity of smoking among youth and young adults. Moreover Barnes *et al.*^[17] added that hypnotherapy result in higher quit rates compared to no intervention or brief advice.

The present study results also revealed that there is an improvement in all withdrawal symptoms (anger, anxiety, concentration, craving, hunger, sadness, and sleep) after the program, and the results showed statistically significant dif-

ferences regarding all items of smoking withdrawal index before and after intervention except one sub item of anxiety (worry about my problems), but the percentage of studied students who were worry about their problems before intervention decreased after intervention. In this respect Dickson-Spillmann *et al.*^[35] stated that the hypnosis group members showed a lower withdrawal symptoms score than before intervention as assessed at the two-week follow-up. On the same line Bailey *et al.*^[20] revealed that forty-seven adolescent smokers completed nicotine withdrawal symptoms measures during 10 weeks of cessation treatment. There was a reduction in teen smokers' cravings to smoke and levels of anxiety over the course of treatment; but none of the other symptoms were significantly different over time. While other studies found that ratings of the severity of craving and anxiety decreased over time, but there were no significant changes in the other symptoms over time. Others have reported a decrease in craving and/or withdrawal symptoms over time in smoking cessation trials targeting adolescent smokers.^[36] This lack of change over time could be due to the fact that the other nicotine withdrawal symptoms were low, even during the initial weeks of treatment, or the studied adolescents might not interested with intervention program, or not followed all instructions from the hypnotherapist.

The current results clarified that the number of smoked packs/day decreased with time of practicing hypnosis. Similar success rates also occurred in group single-session hypnosis, using self-hypnosis resulted in 22% of 226 smokers remaining smoke-free.^[37] Also Klager^[38] added that hypnosis, which incorporates relaxation, imagery and positive suggestion, has been reported to have a success rate as high at 90%. A clinical hypnosis study at the College of Medicine at Texas A&M University had an 81% success rate in the three-session hypnosis group, with a 48% success rate at 12 months post-treatment.^[39] This supported by Szudy and Vardigan,^[1] they found that, imagery and self-hypnosis have been as effective as other behavioral and psychological approaches. The techniques were even more effective in smokers who found them pleasant. Hypnosis is not the can't-miss solution many advertisements claim it to be, but it does have a decent track record.

On the same line a consecutive series of 226 smokers referred for the smoking cessation program were treated with a single-session habit restructuring intervention involving self-hypnosis. They were then followed up for 2 years. Total abstinence from smoking after the intervention was the criterion for successful outcome, fifty-two percent of the study group stopped smoking 1 week after the intervention; 23% maintained their abstinence for 2 years. While a review of 9 trials did not find efficacy for smoking cessation.^[18]

The abstinence rates resulting from our trial are comparable, despite figuring at the lower end, to other studies of a single session of group hypnosis (18.5%-25% abstinence).^[37]

Thousands of people have found hypnosis to be an effective way to stop smoking, hypnosis has a high success rate. Literally, 95% of people stop in one session.^[1]

These differences might be explained by our studied students had strong quit intentions, experiencing social support, had contact with the researcher at follow up period; they were meeting once at least every week and contact by phone every day to ensure following instructions of practicing hypnosis, or receiving suggestions in a relaxed state and also they were very interested to the hypnosis.

5 Conclusion

The study findings indicated that the smoking rate among secondary school students in Beni-Suef city was 52.4%; hypnotherapy has a therapeutic effect in achieving a high rate of smoking cessation among secondary school students, about two third of studied students (65.4%) stopped smoking after nine weeks of practicing hypnosis and the percentage of smoked packs of cigarettes/day decreased after implementing the program. The family followed by friends

considered the support system, also strong willpower and desire are factors were helping students to stop smoking.

Recommendations

- Community and school education programs should include sessions on quitting smoking.
- Implementing school-based interventions in combination with antitobacco mass media campaigns.
- Modifies the adolescents' environment to support tobacco free social norms.
- A health systems approach that focuses on promoting and integrating clinical best practices (behavioral and pharmacological) which help tobacco-dependent consumers increase their chance of quitting successfully.
- Creates a negative image of smoking through promoting efforts to stop tobacco use and warning labels with pictures.

Conflicts of Interest Disclosure

The author declares that there is no conflict of interest statement.

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