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# EFFECT OF SMOKING CESSATION COUNSELING ON SMOKERS FOR QUITTING SMOKING

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**ABSTRCT**

**Background:** Smoking is the leading cause of preventable morbidity and early deaths worldwide. Despite the fact that most people know this fact even still they smoke permanently. One of the best strategies to eliminate smoking related health hazards is smoking cessation counseling that help people to stop using tobacco.

**Objectives:** The objective of the study is to assess the impact of smoking cessation counseling interventions on chronic smokers for quitting smoking.

**Study Design:** A Prospective Study.

**Duration and Place of the Study:** This study was conducted at Department of Pulmonology, Lady Reading Hospital (LRH), Peshawar, between 12th, March 2020 to 11th, March 2021.

**Material and Methods:** A total of 86 chronic smokers were enrolled and followed for 6 months to determine smoking cessation rates, quit attempts and gains in pulmonary function testing among COPD patients. Participants were included in the study based on the following criteria; Age ≥ 18 years, Smoking history ≥ 1 cigarette per day for at least one year, COPD patients according to the GOLD classification or asymptomatic smokers. Participants were excluded if they met any of the following criteria; Age < 18 years, Smoking history less than 1 pack per year, Presence of other pulmonary diseases such as bronchiectasis, active pulmonary tuberculosis, fibrosis, or interstitial lung disease (ILD), Presence of other associated pulmonary disease excluding the inclusion criteria.

**Results:** A total of 86 participants were enrolled, with a mean age of 57.8 ± 12.1. The study had a male predominance; there were 66 males, representing 76.7%, while there were 20 females, representing 23.3%. The smoking history of participants varied, with 21 participants (24.4%) having less than 10 pack year history,25 participants (29.1%) for 10-20 pack years, 17 participants (19.8%) for 20-30 pack years, 11 participants (12.8%) for 30-40 pack years, and 12 participants (13.9%) for over pack 40 years history

**Conclusion:** Smoking cessation counseling is a proven and cost-effective intervention for chronic smokers with reasonable quit rates and substantial health benefits.

**Keywords:** Smoking Cessation, Chronic Smokers, Counseling Intervention.

## Introduction

The harmful effects of tobacco smoking in the form of cardiovascular events, respiratory diseases and oncological entities have for years been a major public health global challenge (World Health Organization 2013) [1]. Although the risks are well recognized, prevalence of smoking remains high with particular

challenges in this population group most notably with chronic smokers who have higher rates and struggles when attempting to quit due to addiction [2, 3]. Smoking is the leading cause of preventable death and kills over 8 million people each year, a public health crisis that demands effective interventions to reduce smoking rates [4, 5].A promising method to help long-term smoking people is "smoking cessation counseling" [6]. This approach uses intensive coaching and education, including behavioral therapy, motivational interviewing (helping people find their own reasons for quitting), information on the dangers of smoking compared to a healthy lifestyle [7]. Based on theModel of nicotine addiction, smoking cessation counseling deals with both psychological and physical dependence while assisting individuals to reduce or stop their tobacco use [8].Other research has shown that smoking counseling substantially enhances the rate of quitting [9]. Nevertheless, the probability for successful smoking cessation depends on many factors: The intensity and duration of counseling, grade or level of addiction being one variable; another is readiness to quit [10]. The purpose of this study is to investigate the effect of smoking cessation counseling on chronic smokers through defining quit rates and examining predictors for quitting [11].The present study recruited 86 smoking quitters as participants in an organizational counseling program for smoking cessation with individualized counseling sessions, behavioral therapy and an educational component. Throughout the 6-month follow-up period, participants smoking behavior was closely tracked to measure if this intervention worked. The main outcome was the quit rates of participants, successful cessation for > 1 year. Additional aims were to evaluate changes in quantity of cigarettes smoked per day, and identify predictors for successful cessation and effects on lung functions tests on smoking cessation This knowledge is crucial for developing more effective public health strategies to address smoking related diseases, and ultimately reduce the global burden of disease. It further seeks to offer a useful perspective regarding counseling interventions and identify critical factors that could serve as effect modifiers favoring their success, with the long-term objective of improving the health outcomes in chronic tobacco smokers.

**Material and Methods**

A total of 86 chronic smokers were enrolled and followed for 1 year to determine smoking cessation rates, quit attempts and gains in pulmonary function testing among COPD patients. Participants were included in the study based on the following criteria; Age ≥ 18 years, Smoking history ≥ 1 cigarette per day for at least one year, COPD diagnosis according to the GOLD classification or asymptomatic smokers.Participants were excluded if they met any of the following criteria; Age < 18 years, Smoking history less than 1 pack per year, Presence of other pulmonary diseases such as bronchiectasis, active pulmonary tuberculosis, fibrosis, or interstitial lung disease (ILD), Presence of other associated pulmonary diseases excluding the inclusion cratiria. Participants were categorized older than 70 years and those younger than 30 years. Participants were categorized based on their smoking history into those with a history greater than 40 years and those with a history less than 10 years. Observations were made on other addictions among participants, including marijuana (chars), narghiles (hookah), opium, and alcohol. Classification of participants with COPD according to the GOLD criteria; Mild, Moderate and Severe. A dedicated smoking cessation room was provided in which all participants received smoking counseling. The program included; Individual NRT counseling sessions, Behavioral therapy, Educational materials on smoking and health risk. The studies include participants followed 3 times; every two months, four and six months. Follow-up evaluation included questions about smoking status and having tried to quit, as well as pulmonary function testing. Improvements in pulmonary function tests were also followed up among COPD patients.

**Outcome Measures**

The primary endpoint was the rate of smoking cessation, which was self-reported abstinence from smoking for at least 1 year. Secondary outcomes were; Percentage of participants who tried to quit but did not achieve long- term abstinence, Percentage lost-to-follow-up, Effect on pulmonary function among COPD patients.

**Data Analysis**

Quantitative analysis of data included the percentage that quit smoking, attempted to cessation but failed and lost in follow up. Pulmonary Function enhancement in COPD patients according to severity of COPD classified by GOLD system

**Statistical Analysis**

The data were analyzed using SPSS version 18.0 software Using the aforementioned data, multivariate analysis was conducted to determine factors relevant with incipient smoking cessation such as demographics (age and gender), smoking history variables [number of cigarettes per day, years of cigarette use before enrolment in treatment program; family status], addiction-associated features These data were also then used to

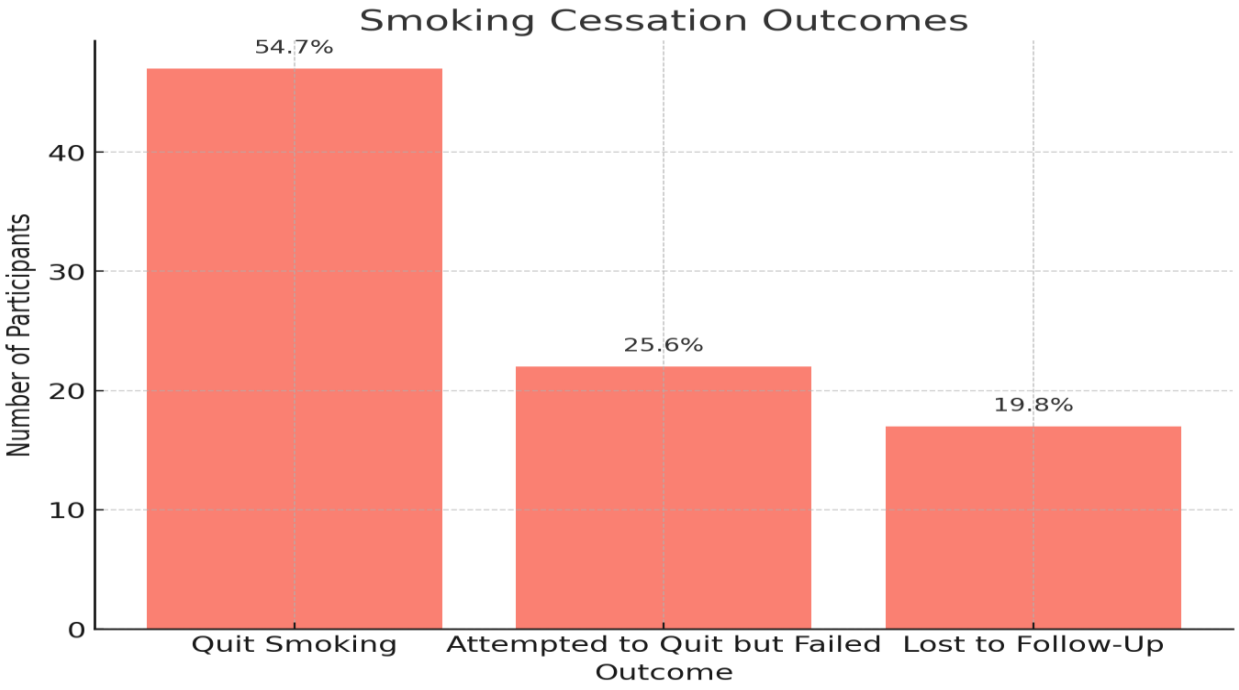
assess the impact of smoking cessation counseling program and its significant factors on success in quitting.

**Ethical Considerations**

The patients willingly volunteered to participate and written informed consent was given by all of the staff, who were approved for this study (Leady Reading Institutional Review Board) provided assistance with recruitment. The Helsinki Declaration was adhered to while doing the study.

**Results**

A total of 86 participants were enrolled, with a mean age of 57.8 ± 12.1. The study had a male predominance; there were 66 males, representing 76.7%, while there were 20 females, representing 23.3%. The age groups were categorized as follows: 13 participants (15.1%) were under 30 years, 10 participants (11.6%) were between 30-40 years, 14 participants (16.3%) were between 40-50 years, 19 participants (22.1%) were between 50-60 years, 21 participants (24.4%) were between 60-70 years, and 9 participants (10.5%) were over 70 years. The smoking history of participants varied, with 21 participants (24.4%) having smoked for less than 10 pack years, 25 participants (29.1%) for 10-20 pack years, 17 participants (19.8%) for 20-30 pack years, 11 participants (12.8%) for pack 30-40 years, and 12 participants (13.9%) for over pack 40 years. In addition to smoking, 12 participants 13.9% reported smoking marijuana (chars), 10 participants 11.6% used narghiles (hookah), 8 participants 9.3% used opium, and 14 participants 16.3% consumed alcohol. According to the GOLD criteria classification 20 participants 23.3% had mild COPD, 35 participants 40.7% had moderate COPD, and 31 participants 36.5% had severe COPD. Concerning tobacco cessation outcomes, 47 participants 54.7% quit smoking successfully, 22 participants 25.6% tried quitting but failed, and 17 participants 19.8% were lost to follow-up. The outcomes of pulmonary function among patients with COPD included a reduction in pulmonary function among 15 participants 17.4% with mild COPD, 18 participants 20.9% with moderate COPD, and 10 participants 11.6% with severe COPD. On the other hand, the respective number of patients with COPD with no improvement in pulmonary function was 5 participants 5.8% with mild COPD, 17 participants, 19.8% with moderate COPD, and 21 participants 24.4% with severe COPD.The factors associated with successful smoking cessation included a higher level of motivation with 35 participants 74.5% of the successful quitters reporting a higher level of motivation compared to 10 unsuccessful quitters 45.5%, and 5 lost to follow-up 29.4%. Another essential factor was attending more than six sessions; 30 participants 63.8% of the successful quitters attended more than six sessions, compared to 8 unsuccessful quitters 36.4%, and 4 lost to follow-up 23.5%. The use of nicotine replacement therapy was a common factor among the successful quitters, with 28 participants 59.6%, of the successful quitters using it compared to 7 unsuccessful quitters 31.8%, and 3 lost to follow-up, 17.6%. These findings show that structured smoking cessation counseling could be beneficial for chronic smokers, especially when the smoker is highly motivated, receives regular counseling, and uses nicotine replacement therapy.



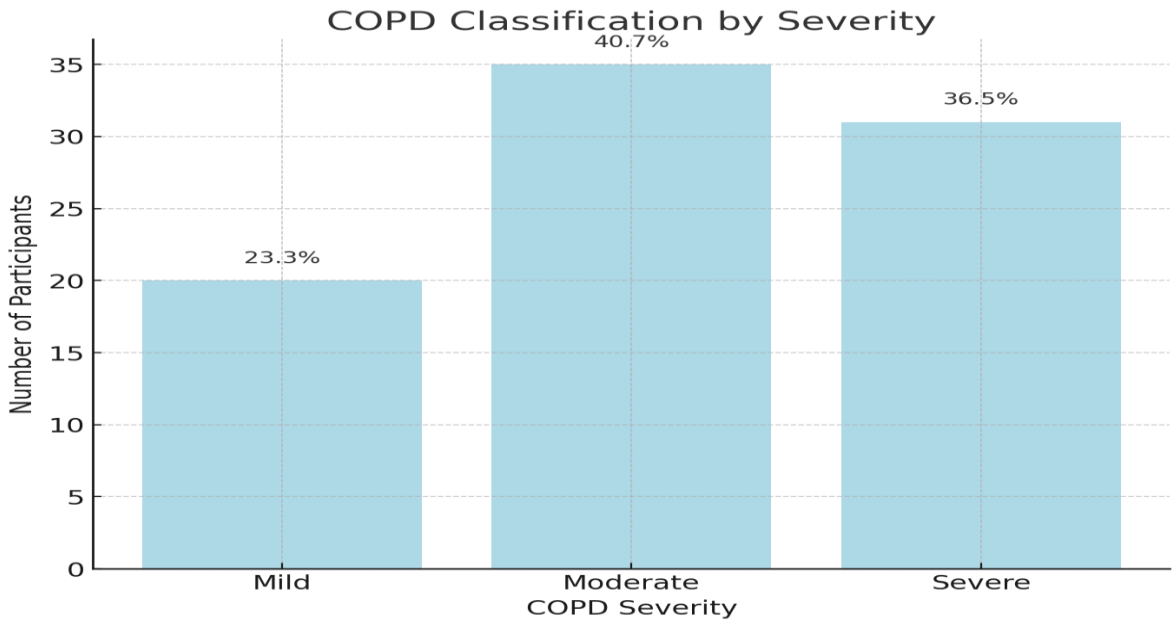



**Table 01: Participant Demographics**

| Demographic Variable | Number of Participants | Percentage (%) |
|---|---|---|
| < 30 years | 13.0 | 15.1% |
| 30-40 years | 10.0 | 11.6% |
| 40-50 years | 14.0 | 16.3% |
| 50-60 years | 19.0 | 22.1% |
| 60-70 years | 21.0 | 24.4% |
| > 70 years | 9.0 | 10.5% |

**Table 02: COPD Classification**

| COPD Severity | Number of Participants | Percentage (%) |
|---|---|---|
| Mild | 20 | 23.3% |
| Moderate | 35 | 40.7% |
| Severe | 31 | 36.5% |

**Table 03: Smoking Cessation Outcomes**

| Outcome | Number of Participants | Percentage (%) |
|---|---|---|
| Quit Smoking | 47 | 54.7% |
| Attempted to Quit but Failed | 22 | 25.6% |
| Lost to Follow-Up | 17 | 19.8% |

**Table 04 :Pulmonary Function Improvement in COPD Patients**

| COPD Severity | Improved Pulmonary Function N(%) | No Improvement N(%) | Total Participants N(%) |
|---|---|---|---|
| Mild | 15 (17.4%) | 5 (5.8%) | 20 (23.3%) |
| Moderate | 18 (20.9%) | 17 (19.8%) | 35 (40.7%) |
| Severe | 10 (11.6%) | 21 (24.4%) | 31 (36.5%) |

**Table 05: Factors Associated with Smoking Cessation Success**

| Factor | Successful Quitters (N=47) | Unsuccessful Quitters (N=22) | Lost to Follow-Up (N=17) |
|---|---|---|---|
| Motivation Level (High) | 35 | 10 | 5 |
| Counseling Sessions Attended > 6 | 30 | 8 | 4 |
| Use of Nicotine Replacement Therapy | 28 | 7 | 3 |

**Discussion**

Our data suggest that the cessation clinic has a major impact on hard-core smokers, as there was an overall abstinence rate of 54.7%. This is in accordance with research where advice was found to be an effective intervention. For example Stead et al., (2013) conducted a meta-analysis found that individualized counseling was more likely to contribute a1.39 times increase in the odds of quitting smoking relative to minimal interventions or self-help materials [12]. Our quit rate was towards the upper end of published success rates varying between 30% and 60%, depending upon intensity, duration (Fiore et al., 2008) [13] .The study also found several predictors of smoking cessation. The finding revealed that high motivation levels as indicated by >6 counseling sessions and nicotine replacement therapy were predictive of quitting. Our findings support those of Cahill et al. (2013) found that motivation and intensity of counseling are essential for successful stopping smoking [14]. Nicotine replacement therapy is an example of something where a positive effect has been repeatedly demonstrated (twice the odds of quitting) but with some negative trials included in pooled analyses (Silagy et al., 2004) [15].Our analysis revealed that 25.6% of participants attempted to quit but did not succeed, emphasizing the difficulty of smoking cessation even with structured support. This percentage is comparable to findings from the National Health Interview Survey (NHIS), where approximately 30% of smokers who attempt to quit each year remain abstinent for at least three months (Centers for Disease Control and Prevention, 2011) [16]. The rate of attrition in the present study (19.8%) is comparable to dropout rates consistently reported across pharmacological trials for smoking cessation which range between 15% and 25% (Tindle et al., 2006) [17].Among those with COPD, particularly those classified as having mild or moderate severity, the improvements in pulmonary function were striking. In our study, 17.4% and 20.9% of mild and moderate COPD respectively were more likely than expected had improved pulmonary function, results similar those obtained by Tashkin et al., (2011), that anti-smoking could bring about a much greater return in respiratory function and reduce the speed of annual decline [18].Prevalence and pattern of other drug addictions among study population were as follows; marijuana (Chars) 13.9%, narghiles (hookah) 11.6%, opium 9.3% & alochol used by 16.3%. As highlighted by these co-addictions can confound the poor smoking cessation efforts. as noted by Patnode et al. (2015), finding that the presence of polysubstance use undermines smoking cessation interventions [19].

**Conclusion:**

Smoking cessation counseling is a proven and cost-effective intervention for chronic smokers with reasonable quit rates and substantial health benefits. The utilization of supplemental therapies, regular counseling attendance, and participant motivation are all critical components of these programs' effectiveness. Future studies should concentrate on lowering dropout rates and treating co-addictions in order to increase the efficacy of smoking cessation programs. Those are important steps in alleviating the public health toll taken by smoking and helping those chronic smokers to have a higher quality of life.

**Disclaimer:** Nil
**Conflict of Interest:** Nil
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**Authors Contribution**

**Concept & Design of Study:** Muhammad Umar,Shar Ali
**Drafting:** Zafar Iqbal, Akhther Ali Khan, Anila Basit
**Data Analysis:** Zafar Iqbal, Akhther Ali Khan, Qasim Nawaz
**Critical Review:** Zafar Iqbal, Akhther Ali Khan,
**Final Approval of version:** Muhammad Umar. ,Shar Ali

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