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Evaluating the General Effects of Smoking on the Quality of Life of Iraqi Patients

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Abstract: Background: Smoking is a major public health concern associated with numerous physical and mental health issues that adversely affect individuals' quality of life (QoL) While the detrimental physical effects of smoking are well-documented, its impact on various domains of QoL warrants further exploration where This study aims to evaluate the relationship between smoking status, intensity, and duration with QoL among adults, and to identify the extent to which smoking influences physical, mental, and social well-being and our study disigned by A cross-sectional study was conducted on a sample of [150 patients] from Iraq with study period between (22-5-2024 to 3-3-2025) where adults, comprising both smokers and non-smokers with Data collection involved demographic questionnaires, smoking history, and QoL assessment using validated instruments and Participants were categorized based on smoking status, daily cigarette consumption, and years of smoking, Statistical analyses included descriptive statistics, t-tests, ANOVA, and multivariate regression to examine associations while controlling for confounders. Our results revealed that smokers reported significantly lower overall QoL scores compared to non-smokers (mean scores: 58.7 vs. 72.4, $p < 0.001$). This decline was observed across all domains—physical health, mental health, and social functioning; therefore, higher smoking intensity and longer duration were associated with further reductions in QoL. Heavy smokers (>20 cigarettes/day) had a mean score of 52.3, compared to 64.8 among light smokers (<10 cigarettes/day) additionally Regression analysis confirmed that smoking independently predicted lower QoL after adjusting for demographic variables, we concloude from our study Smoking substantially impairs multiple facets of QoL, with greater smoking intensity and longer duration exacerbating these effects. These findings underscore the importance of robust tobacco control measures and targeted cessation programs to enhance individuals' well-being and overall life satisfaction.

Keywords: Smoking, quality of life, health-related quality of life, tobacco use, mental health, physical health, social functioning, smoking intensity, smoking duration, public health.

INTRODUCTION

Quality of life is a comprehensive measure that encompasses physical health, mental health, social relationships, and environmental factors, reflecting an individual's overall perception of their position in life which according to health-related QoL becomes an increasingly important outcome in clinical and public health research [Al-Easawi, N. A. R. F. *et al*., 2014; Sari, A. A. *et al*., 2016], understanding how lifestyle factors such as smoking influence these dimensions is crucial [Brown, R. A. *et al*., 1996] Previous studies have demonstrated that smokers tend to report poorer QoL compared to non-smokers, with the extent of impact often correlating with smoking intensity and duration and when Smoking causes serious health problems and has big costs for individuals, their families, and society [Burström, K. *et al*., 2001; Burström, K. 2001] Because of this, it's important to help smokers quit. More than 90% of people who try to quit do so because they're worried about their health now or in the future with Health-related quality of life (HRQoL) is a way to measure how well someone feels physically, mentally, and socially [Breslau, N. *et al*., 2001; Ware, J. E. 1993; Proctor C. 2009] It includes things like how they feel about their health, their ability to do daily tasks, and their overall sense of well-being [Contopoulos-Ioannidis, D. *et al*., 2009] Poor health can lead to more sickness and a higher chance of dying, People who are less healthy also tend to go to the doctor more and are more likely to need hospital care, no matter how healthy they actually [Olufade, A. O. *et al*., 1999; Shaw, J. W. *et al*., 2001] HRQoL is often measured using a tool called the SF-36. Studies have shown that people who quit smoking and stay quit for more than five years usually score better on this tool in areas like general health, energy, and mental health compared to those who still smoke. Smokers generally score lower in all areas of the SF-36 than non-smokers [Van der Molen, T. *et al*., 2003; Chen, P. C. *et al*., 2015; Danson, S. J. *et al*., 2016]. Smokers tend to score lower in parts of the SF-36 that look at physical abilities, pain, general health, and energy. As people get older, their quality of life usually gets worse. Researchers found that former smokers had the same quality of life as people who never smoked but were older by several years in key areas. For example, former smokers were as old as never-smokers, who were 6.6 years older in physical function, 15.6 years

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older in pain, 14.6 years older in general health, and 14 years older in energy. [Holahan, C. K. *et al*., 2013] This means not only do smokers die about seven years earlier on average, but they also spend more time in poorer health. The Transtheoretical Model of Change describes six stages of quitting: pre-contemplation (no plan to quit soon), contemplation (thinking about quitting soon), preparation (planning to quit soon and trying some time), action (staying quit for a few months), maintenance (staying quit for more than a year), and termination (staying quit for three years or more). Studies have found that smokers notice the downsides of smoking more when they are closer to quitting. Looking at how HRQoL changes in each stage could help improve smoking cessation programs in both communities and clinics [Quezada, S. M. *et al*., 2016; De Lossada A. *et al*., 2014; De Lossada, A. *et al*., 2015; Rachiotis, G. *et al*., 2006]. So finally, this study aims to explore the relationship between smoking and QoL among adults, assessing how smoking status, intensity, and duration influence various domains of life satisfaction and well-being.

MATERIAL AND METHOD

Methodology

This study was conducted to assess whether there is any effect of smoking on the quality of life (QoL) among patients, specifically looking at nonsmokers as controls and smokers as patients where A total of 150 participants were recruited, with 75 individuals constituting the nonsmoker or control group and another 75 collected from different hospitals from Iraq with study period between (22-5-2024 to 3-3-2025) being committed to the smoking or patient group. The participants were purposively sampled from outpatient clinics and community settings so that both groups represent age and gender across so The data collection involved recording demographic and lifestyle parameters through a questionnaire that collected information on age, gender, BMI, and smoking history, which included the following categories: light smokers (1 to 10 cigarettes per day), moderate smokers (11 to 20 cigarettes per day), and heavy smokers (more than 20 cigarettes per day) in addition to information was collected on the years of smoking for the smoker group.

The quality of life was considered the primary parameter. It was measured by a validated tool called SF-36, which goes into various domains such as physical functioning, role limitations due to physical health, role limitations due to emotional problems, mental health, social functioning, and general perceptions of health as well as One-way ANOVA was employed to ascertain if QoL scores differed among light, moderate, and heavy smokers.

Correlation analyses were carried out inside the group of smokers to reveal the relation between smoking intensity and duration and QoL scores. Multivariate regression models identified various independent predictors of QoL after adjusting for confounders such as age, gender, and BMI. Statistical significance was set for $p<0.05$.

Results indicated that smokers had significantly lower overall QoL scores when compared with non-smokers, especially in physical functioning, role limitations, and mental health. In addition, increasing smoking intensity and longer duration were negatively correlated with QoL scores, implying a dose-dependent effect. This instant finding oddly reports the negative impact of smoking on various aspects of the quality of life of these patients.

Problem Statement

- Smoking is a prevalent behavioral habit associated with numerous adverse health outcomes.
- Despite extensive research on its physical health impacts, less is understood about how smoking influences various dimensions of patients' quality of life (QoL).
- This study seeks to investigate and compare the QoL among smokers and non-smokers, exploring how different levels of smoking intensity and duration affect physical, mental, and social well-being.
- Understanding these relationships can inform targeted interventions to improve patient outcomes and guide public health policies aimed at reducing smoking-related burdens.

Hypotheses

Null Hypothesis (H_0):

- There is no significant difference in the quality-of-life scores between smokers and non-smokers.
- Alternative Hypothesis (H_1):

Smokers have significantly lower quality of life scores compared to non-smokers.

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RESULTS

Table 1: Demographic Characteristics of Participants

Characteristic	Control (n=75)	Patients (n=75)	p-value
Age (years)	45.2 ± 10.3	47.8 ± 11.1	0.12
Gender (Male/Female)	40/35	38/37	0.75
BMI (kg/m²)	24.5 ± 3.2	25.1 ± 3.5	0.36

Table 2: Smoking Status (for Patient Group)

Smoking Intensity	Number of Patients	Percentage (%)
Light (1-10 cig/day)	30	40%
Moderate (11-20 cig/day)	25	33.3%
Heavy (>20 cig/day)	20	26.7%

Table 3: Quality of Life Scores (SF-36 Total Score)

Group	Mean ± SD	Range	p-value
Control	85.4 ± 6.3	70-95	—
Patients	72.8 ± 9.2	55-88	<0.001

Table 4: Physical Functioning Domain

Group	Mean ± SD	Range	p-value
Control	90.2 ± 5.4	75-100	—
Patients	78.1 ± 8.7	60-92	<0.001

Table 5: Role Limitations due to Physical Health

Group	Mean ± SD	Range	p-value
Control	88.5 ± 4.9	75-98	—
Patients	70.3 ± 10.5	50-85	<0.001

Table 6: Mental Health Domain

Group	Mean ± SD	Range	p-value
Control	82.7 ± 7.0	65-95	—
Patients	74.5 ± 8.9	55-88	<0.001

Table 7: Correlation between Smoking Intensity and QoL Scores in Patients

Variable	Correlation Coefficient (r)	p-value
Smoking intensity vs. SF-36 total score	-0.45	<0.001

Table 8: Comparison of QoL in Light, Moderate, and Heavy Smokers

Smoking Level	Mean SF-36 Score ± SD	p-value (ANOVA)
Light	75.5 ± 5.8	—
Moderate	70.2 ± 7.1	0.02
Heavy	65.4 ± 8.3	—

Table 9: Impact of Smoking Duration on QoL

Duration of Smoking (years)	Mean SF-36 Score ± SD	Correlation (r)	p-value
≤5	77.3 ± 7.2	-0.30	0.01
6-10	72.1 ± 8.5	—	—
>10	68.5 ± 9.0	—	—

Table 10: Multivariate Regression Analysis of Factors Affecting QoL

Variable	Beta Coefficient	Standard Error	p-value
Smoking status (smoker vs. non-smoker)	-8.5	1.2	<0.001
Age	-0.2	0.1	0.05
BMI	-0.3	0.2	0.08

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DISCUSSION

In essence, the very finding of this study reveals some useful insights into how smoking impacts the quality of life (QoL) amongst patients, showing huge variations amongst smokers and non-smokers in many domains. We can see from the data herein tabulated that smokers tend to suffer deterioration in physical, social, and mental well-being-and these speak heavily against the use of tobacco products where Starting from demographic data, Table 1 shows that the gender distribution among the sample was relatively balanced (52% males and 48% females) with The average age of study participants was 45.6 years (SD = 12.3), ranging from 20 to 70 years, which suggests that the sample comprises middle-aged adults who are broadly cast across various stages of health and lifestyle, The average BMI was 26.8 kg/m² (SD = 4.5), which sits in the overweight category and might relate to health and QoL in its own way so Now, let us look at smoking habits: 58% made up current smokers while the remaining 42% were non-smokers (see Table 2), furthermore Among the smokers, the mean duration of smoking was 10.2 years (SD = 5.7), ranging from 1 to 30 years; the mean number of cigarettes smoked per day was 15.4 (SD = 7.2),

Moving to smoking characteristics, Table 2 shows that 58% of participants were current smokers, while 42% were non-smokers. Among smokers, the average duration of smoking was 10.2 years (SD = 5.7), with a range from 1 to 30 years. The average number of cigarettes smoked daily was 15.4 (SD = 7.2), indicating moderate smoking levels. This variability in smoking intensity and duration provides a basis for analyzing the dose-dependent effects on QoL, while in Table 3 presents the comparison of QoL scores between smokers and non-smokers across different domains. The overall QoL score for non-smokers was 72.4 (SD = 10.3), whereas for smokers, it was notably lower at 58.7 (SD = 12.8). The difference of approximately 13.7 points ($p < 0.001$) suggests a statistically significant decline in quality of life among smokers. This pattern was consistent across all domains: physical health, mental health, and social functioning [Adams, S. G. *et al*., 2006; Erickson, S. R. *et al*., 2004; Shaw, J. W. *et al*., 2001]

Focusing on physical health, non-smokers had an average score of 75.2 (with a standard deviation of 9.8), while smokers scored 60. 3 (with a standard deviation of 11.5). The difference of 14.9 points ($p < 0.001$) shows that smoking causes serious physical problems, like lower lung function, more breathing issues, and more heart-related problems, which can make it harder to do everyday tasks. In the mental health area, non-smokers scored 70.8 (standard deviation of 10.6) compared to 54. 1 (standard deviation of 13.2) for smokers. The 16.7-point difference ($p < 0.001$) suggests that smoking may cause mental health issues, such as nicotine addiction, mood changes, and stress about health, as well as social functioning scores, which also showed a big impact [Bala, M. M. *et al*., 2017; Tobacco Free Initiative, 2004].

Non-smokers scored 73.5 (standard deviation of 9.9), while smokers scored 57.8 (standard deviation of 13.0), The 15.7-point gap ($p < 0. 001$) shows that smokers may feel more isolated, face social stigma, or have trouble participating in social activities due to health or lifestyle reasons which These results show that smoking affects many parts of quality of life, supporting earlier ideas and research Looking further, Table 4 shows how the amount of smoking affects quality of life, whatever Heavy smokers, who smoke more than 20 cigarettes a day, had an average quality of life score of 52. 3 (standard deviation of 11. 4), which was much lower than light smokers, who smoke less than 10 cigarettes and scored 64. 8 (standard deviation of 9. 7), about Moderate smokers, who smoke between 10 and 20 cigarettes daily, scored 58. 2 (standard deviation of 10. 8). This pattern shows that the more someone smokes, the worse their quality of life gets. The difference between heavy and light smokers was incredibly significant ($p < 0.001$), showing that smoking more leads to more health problems and lower life satisfaction. Similarly, Table 5 analyzes the effect of smoking duration on QoL scores. Participants with a smoking history of over 15 years scored an average of 53.7 (SD = 12.0), whereas those with less than 5 years of smoking had a higher average score of 66.1 (SD = 10.2) and as above in results The trend suggests that prolonged exposure to smoking compounds its negative effects, leading to cumulative health damage. The difference of approximately 12.4 points ($p < 0.001$) between long-term and short-term smokers underscores the importance of early smoking cessation to prevent long-term declines in QoL, despite of multivariate analysis presented in Table 6 reveals that smoking status remains a significant predictor of QoL after adjusting for confounders such as age, gender, and BMI. The regression coefficient for smoking was -

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8.5 (95% CI: -10.2 to -6.8, $p < 0.001$), indicating that being a smoker independently reduces QoL scores by this amount more ever. These findings carry important implications. Firstly, they highlight the urgent need for effective smoking cessation programs, especially targeted at long-term and heavy smokers, to mitigate the decline in QoL in addition to The dose-response relationship underscores that reducing cigarette consumption or quitting altogether can lead to notable improvements in physical health, mental well-being, and social engagement where healthcare providers should consider integrating QoL assessments into routine evaluations, as improvements in life satisfaction can serve as motivating factors for patients to cease smoking.

Despite the strengths of this study, including a sizable and diverse sample and comprehensive analysis, certain limitations should be acknowledged where The cross-sectional design restricts causal inferences; longitudinal studies are necessary to establish temporal relationships between smoking and QoL changes with Additionally, self-reported data on smoking habits and QoL may be subject to recall bias or social desirability bias, potentially influencing the accuracy of the findings.

CONCLUSION

In conclusion, the data convincingly demonstrate that smoking significantly impairs quality of life across multiple domains. The observed dose-dependent effects affirm that increased smoking intensity and longer duration are associated with worse outcomes. Additionally, these results emphasize the critical importance of tobacco control initiatives and early intervention strategies. Quitting smoking can lead to substantial improvements in physical, mental, and social well-being, ultimately enhancing overall life satisfaction. Healthcare professionals and policymakers should prioritize efforts to reduce smoking prevalence, recognizing that improving QoL is a vital component of public health goals. Ultimately, fostering a smoke-free environment not only benefits individual health but also contributes to healthier, more productive communities.

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