Introduction
Smoking is the main cause of illness and death worldwide. It is a serious public health problem and a habit that has consequences for the individual's life (1). Pharmacologic and behavioral processes that cause nicotine dependence are similar to processes that cause dependence on drugs such as cocaine and heroin (2). It is likely that nicotine-acetylcholine receptors are the initial sites of action for nicotine obtained through tobacco. Nicotine normally binds to acetylcholine and causes a conformational change that opens a cation-selective channel for milliseconds (3). Smokers also have several non-pharmacological psychosocial motives to maintain their addictive behavior (4).

According to the World Health Organization (WHO), the estimated prevalence of daily smoking in South America is 13.5%, with males having a higher prevalence (18.6%) than females (9.4%). The WHO also reports that tobacco use is responsible for approximately 399,000 deaths each year in the region (5).

In Brazil, the prevalence of daily smoking is 12.6%, with males having a higher prevalence (16.8%) than females (9.0%). The National Cancer Institute (INCA) in Brazil reports that tobacco use is the leading cause of preventable deaths in the country, responsible for approximately 156,000 deaths each year (6).

Smoking is responsible for more deaths yearly than illegal drug use, human immunodeficiency virus (HIV), alcohol use, motor vehicle injuries, and firearm-related incidents (7). Tobacco use is not limited to lung cancer, heart disease, emphysema, lung cancer, oral cancer, bronchitis, asthma, and congestive heart failure. It also exacerbates pre-existing conditions such as mental illnesses and substance abuse issues (8). Besides, tobacco smoking often results in discolorations of teeth and dental restorations, halitosis, diminished taste and smell acuity.
as well as an increase in the prevalence and severity of periodontal disease. Tobacco use has also been associated with necrotizing ulcerative gingivitis, premalignant lesions, and an increased risk of oral neoplasm. Response to periodontal treatment is adversely affected by tobacco use, and smokers lose more teeth at an earlier age than non-smokers. A significantly higher rate of dental implant failure has been reported in smokers compared to nonsmokers (9).

A common measure to assess the clinical status of smoking patients is the assessment of quality of life (QoL), which is done by administering instruments or questionnaires that characterize the individual and personal perception of the patient in terms of overall health, disabilities and daily activities. QoL also incorporates non-medical aspects such as social, educational, and occupational satisfaction (7).

The aim of the study was to evaluate the QoL of patients undergoing tobacco cessation treatment in a multidisciplinary program of the Institute of Science and Technology, São José dos Campos (UNESP) through the application and analysis of the 36-Item Short Form Survey (SF-36), Fantastic Lifestyle, Self-Reporting (SRQ-20), Medical Outcomes Study (MOS), and the State Trait Anxiety Inventory (STAI s/t). This study is important for several reasons:

- Improved patient outcomes: Understanding the impact of tobacco cessation treatment on QoL can help healthcare providers tailor their approach to treatment, potentially leading to improved patient outcomes.
- Patient-centered care: Focusing on the QoL helps to shift the focus of care from solely treating the disease to caring for the whole person. This approach is known as patient-centered care, which is becoming increasingly important in healthcare.
- Cost-effectiveness: If tobacco cessation treatment is found to improve QoL, it may be more cost-effective in the long run as patients may require fewer healthcare services and resources.
- Public health impact: Tobacco use is a significant public health issue in Brazil and globally, and improving the effectiveness of tobacco cessation programs can have a positive impact on public health outcomes.

Overall, a study on the QoL of patients undergoing tobacco cessation treatment in Brazil can provide important insights into how to improve the effectiveness of tobacco cessation treatment and provide more patient-centered care.

Materials and Methods

Study Design and Setting

The current retrospective study was performed on patients undergoing tobacco cessation treatment in a multidisciplinary program of the UNESP, Brazil, São José dos Campos, from March to December 2015 after obtaining ethical approval from the Research Ethics Committee of the UNESP, São José dos Campos, Brazil.

Study Population and Eligibility Criteria

The study population included patients undergoing tobacco cessation treatment in a multidisciplinary program in Brazil. A total of 71 participants were selected according to the inclusion criteria. The inclusion criteria included: being a participant in the multidisciplinary tobacco cessation training program at the UNESP, being over 18 years old, answering all the proposed questionnaires, and signing the informed consent term (ICT). On the other hand, the exclusion criteria were not being a participant in the multidisciplinary tobacco cessation training program, being under 18 years old, not answering all the proposed questionnaires, and not signing the ICT.

Study Variables and Data Collection

Data such as age at which they started smoking, years of use, number of cigarettes per day, motivation to quit, attempts to quit the habit, current age, gender, Fagerström Test for Cigarette Dependence (FTCD) score, and the patient's alcohol consumption pattern were obtained with the purpose of tracing the smoking profile of the individual and answering how the smoking habit influences the QoL.

Participants underwent a clinical and oral evaluation. They also received educational support. When necessary, supportive medication was prescribed, which included nicotine replacement therapy (NRT), composed of adhesive patches and nicotine sublingual tablets.

The QoL was evaluated through the application of 5 questionnaires, which were standardized and validated for the Brazilian population. The SF-36 and the Fantastic Lifestyle Questionnaire were used for the assessment of the QoL and lifestyle, respectively. Specific aspects of QoL were evaluated using different questionnaires. In other words, SRQ-20 was used for evaluating depression, and STAI s/t was used for measuring levels of state and trait anxiety. Additionally, for the evaluation of social support, the MOS was used.

Brazilian Version of the SF-36

The Short-Form Health Survey SF-36 is one of the most frequently used general health measures. It is a questionnaire that has good construction, consistency, and reliability. It consists of a wide spectrum of profile measurements that includes 36 items and measures 8 aspects of physical and mental health. Initially, it focuses on functioning and the ability to perform daily tasks and later measures how the person feels physically and emotionally and what they think about their health. All
subscale scores range from 0 to 100, with the highest scores indicating better health (10).

**Domains**

**Physical functioning:** It measures the limitation in doing light physical activities (such as bathing or getting dressed) as well as strenuous activities (such as lifting or carrying groceries, climbing stairs, bending, kneeling, or even walking a certain distance).

**Pain:** The pain domain represents not only the intensity and discomfort caused by pain but also how it interferes with normal activities.

**General health:** It measures the concept of holistic health perception, including not only current health but also resistance to disease and healthy appearance.

**Vitality:** This domain measures energy and fatigue levels.

**Social aspect:** It measures the quantity and quality of social activities, as well as the impact of physical and emotional problems on the respondent's social activities.

**Emotional and physical limitations:** This domain measures health impairments in terms of the type and amount of work performed. It includes limitation in performing routine tasks, the need to reduce the amount of work, and the difficulty in performing the tasks.

**Mental health:** This domain includes questions regarding the four most important dimensions of mental health, including anxiety, depression, loss of control in behavioral or emotional terms, and psychological well-being (11).

**Fantastic Lifestyle**
The "Fantastic Lifestyle Questionnaire" was developed by Wilson and Clisika in 1984 in the Department of Family Medicine at McMaster University in Canada, with the purpose of assisting doctors in working with prevention programs so that they can better measure the lifestyle of their patients. It is a self-administered instrument that considers the behavior of individuals in the last month and the results allow to determine the association between lifestyle and health. It has 25 questions or items that are distributed across nine domains: (1) family and friends, (2) physical activity, (3) nutrition, (4) cigarettes and drugs, (5) alcohol, (6) sleep, seat belt, stress, and safe sex, (7) type of behavior, (8) introspection, and (9) work. The sum of all the points allows to arrive at a total score that classifies the individuals into five categories as follows: “excellent” (85 to 100 points), “very good” (70 to 84 points), “good” (55 to 69 points), “regular” (35 to 54 points) and “need to improve” (0 to 34 points) (12).

**Self-Reporting Questionnaire-20**
The SRQ-20, classified as a screening tool for identifying common mental disorders by WHO, is applied with the aim of assessing the mental disturbance of patients. It is a questionnaire with 20 statements, where a score greater than or equal to 8 indicates a depressive state (13).

**State-Trait Anxiety Inventory**
The STAI is considered one of the most frequently used instruments to measure subjective aspects that are directly related to anxiety. STAI is composed of two scales to assess both state anxiety (STAI–state) and trait anxiety (STAI–trait). Each is composed of 20 statements (with a scale of 1 to 4 points). Therefore, the total score of each scale can vary from 20 to 80, with the highest scores indicating a high level of anxiety. The scores indicate low (20–30), moderate (31–49), or high (≥ 50) levels of anxiety (14–16).

**MOS Social Support Survey**
The MOS Social Support Survey aims to measure the level of social support that a person receives in stressful situations, an extremely important factor when it comes to smoking cessation. An instrument that consists of 19 questions with never, rarely, sometimes, almost always, and always options for each one. It is divided into material support, affective support, emotional/informational support, and positive social interaction (17).

All mentioned questionnaires have good construction, consistency, and reliability and all the questionnaires used in the study were adapted, validated, and translated into Portuguese to be used in Brazil.

**Statistical Analysis**
The smoking habit was evaluated using the following variables: starting age, duration of smoking, number of cigarettes smoked per day (stratified into: G1 (1-19), G2 (20-39), and G3 (40-60)), FTCD (stratified into: low (0-4) and high (5-10)), and smoking load. The comparison of QoL between groups (Gs) was performed through analysis of variance. Mann-Whitney test (FTCD and smoking load) and Kruskal-Wallis + Dunn’s tests (CIGs) were used to compare non-parametric data. Unpaired t test (FTCD and smoking load) and ANOVA + Tukey test (CIGs) were used for analyzing parametric data. Both normality (Shapiro, Anderson, Liliefors, Jarque-Bera) and homoscedasticity (Bartlett) conditions were met. The software packages used in the study included SPSS version 20.0, Minitab 16, and Excel Office 2010.

**Results**

**Participants and Smoking Profile**
Of the 71 participants included in the study, 66.2% were women (n = 47) and 33.8% were men (n = 24). The mean age of the participants was 54.5 years old with a maximum age of 81 years and a minimum age of 33 years. For men, the mean age was 55.9 years old, with a maximum age of 81 years and a minimum age of 33 years, and for women, the mean age was 53.7 years old, with a maximum age of 69 years and a minimum age of 33 years.

The overall mean age of starting smoking (for both men
and women) in the study was 16.9 years old, with men starting earlier at an average of 15.8 years old and women starting at an average age of 17.6 years old.

Regarding the duration of use, men also had a higher mean duration (39.2 years) compared with women (35.4 years).

In terms of the number of cigarettes smoked per day, men had an average of 22.9 cigarettes per day and women had an average of 21.9 cigarettes per day. In other words, all of them were considered heavy smokers (more than 20 cigarettes per day).

Additionally, men had a higher smoking load (48.3 pack-years) compared with women (37.9 pack-years).

Regarding the FTCD, which assesses the level of nicotine dependence of the smoker, men had a mean score of 5.5 and women had a mean score of 5.8. The scores obtained on the test permit the classification of nicotine dependence into five levels: very low (0-2 points), low (3-4 points), moderate (5 points), high (6-7 points), and very high (8-10 points). Therefore, the study participants had a moderate to high degree of nicotine dependence.

Regarding the level of motivation to quit smoking, 70.42% of them were prepared for action (n = 50), 28.17% were in contemplation (n = 20), and 1.41% were in action (n = 1).

Questionnaires
The SF-36 questionnaire answered by the patients showed that the duration of smoking had a statistically significant negative correlation with physical functioning (r = -0.236, P = 0.045), showing that the longer the duration of smoking, the lower the physical functioning. There was a statistically significant difference in the vitality (r = -0.354, P = 0.002) and mental health domains (r = -0.398, P = 0.001) between the groups who smoked less and those who smoked more cigarettes per day. In other words, the greater the number of cigarettes smoked per day, the lower the vitality and mental health. Comparing the SF-36 with the FTCD, we could observe a statistically significant negative correlation between the duration of smoking and the vitality (r = -0.284, P = 0.014), social aspect (r = -0.296, P = 0.011), and mental health domains (r = -0.343, P = 0.003), which means that the higher the FTCD score, the lower the vitality, social aspect, and mental health. The smoking load had a statistically significant negative correlation with physical functioning (r = -0.236, P = 0.043) and mental health (r = -0.252, P = 0.030), showing that the higher the smoking load, the lower the physical functioning and mental health (Table 1).

Comparing the Fantastic Lifestyle Questionnaire, we found that there was a statistically significant correlation between the lifestyle and the number of cigarettes smoked per day (r = -0.446, P < 0.001). This value, being negative, means that the higher the number of cigarettes smoked per day, the lower the Fantastic Lifestyle Questionnaire score. Therefore, the higher the number of cigarettes smoked per day, the worse the lifestyle (Table 1).

Considering the STAI s/t questionnaire, there was no statistically significant correlation between anxiety and starting age, duration of smoking, number of cigarettes

Table 1. Correlation Between the Smoking Profile and the Applied Instruments (SF-36 and Fantastic Lifestyle)

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Starting Age</th>
<th>UT</th>
<th>CIG</th>
<th>FTCD</th>
<th>SL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PF</strong></td>
<td>Correlation (r)</td>
<td>0.166</td>
<td>0.118</td>
<td>-0.233</td>
<td>-0.112</td>
<td>-0.132</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.157</td>
<td>0.108</td>
<td>0.045</td>
<td>0.342</td>
<td>0.262</td>
</tr>
<tr>
<td><strong>Pain</strong></td>
<td>Correlation (r)</td>
<td>0.111</td>
<td>0.132</td>
<td>0.054</td>
<td>-0.205</td>
<td>-0.186</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.346</td>
<td>0.263</td>
<td>0.648</td>
<td>0.08</td>
<td>0.112</td>
</tr>
<tr>
<td><strong>GH</strong></td>
<td>Correlation (r)</td>
<td>0.01</td>
<td>0.098</td>
<td>-0.016</td>
<td>-0.111</td>
<td>-0.106</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.931</td>
<td>0.407</td>
<td>0.89</td>
<td>0.348</td>
<td>0.369</td>
</tr>
<tr>
<td><strong>VIT</strong></td>
<td>Correlation (r)</td>
<td>-0.058</td>
<td>0.116</td>
<td>-0.133</td>
<td>-0.354</td>
<td>-0.284</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.622</td>
<td>0.324</td>
<td>0.259</td>
<td>0.002</td>
<td>0.014</td>
</tr>
<tr>
<td><strong>SA</strong></td>
<td>Correlation (r)</td>
<td>0.055</td>
<td>0.002</td>
<td>0.059</td>
<td>-0.227</td>
<td>-0.296</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.642</td>
<td>0.983</td>
<td>0.62</td>
<td>0.052</td>
<td>0.011</td>
</tr>
<tr>
<td><strong>EL</strong></td>
<td>Correlation (r)</td>
<td>0.01</td>
<td>0.005</td>
<td>0.015</td>
<td>-0.089</td>
<td>-0.188</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.931</td>
<td>0.969</td>
<td>0.902</td>
<td>0.451</td>
<td>0.108</td>
</tr>
<tr>
<td><strong>PL</strong></td>
<td>Correlation (r)</td>
<td>0.107</td>
<td>0.101</td>
<td>-0.057</td>
<td>-0.223</td>
<td>-0.06</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.398</td>
<td>0.426</td>
<td>0.655</td>
<td>0.077</td>
<td>0.639</td>
</tr>
<tr>
<td><strong>MH</strong></td>
<td>Correlation (r)</td>
<td>0.009</td>
<td>0.083</td>
<td>-0.053</td>
<td>-0.398</td>
<td>-0.343</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.939</td>
<td>0.484</td>
<td>0.654</td>
<td>&lt;0.001</td>
<td>0.003</td>
</tr>
<tr>
<td><strong>Fantastic</strong></td>
<td>Correlation (r)</td>
<td>0.076</td>
<td>0.126</td>
<td>-0.036</td>
<td>-0.446</td>
<td>-0.327</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>0.518</td>
<td>0.285</td>
<td>0.763</td>
<td>&lt;0.001</td>
<td>0.005</td>
</tr>
</tbody>
</table>

**PF**, physical functioning; **GH**, general health; **VIT**, Vitality; **SA**, social aspect; **EL**, emotional limitations; **PL**, physical limitations; **MH**, MENTAL Health; **UT**, usage time; **CIG**, number of cigarettes smoked per day; **FTCD**, Fagerström Test for Cigarette Dependence; **SL**, smoking load.
smoked per day, FTCD, and smoking load (Table 2).

Analyzing the results of the SRQ-20 questionnaire, we can conclude that there was a statistically significant correlation between depression and the FTCD score ($r = 0.260$, $P = 0.025$). This value, being positive, means that the higher the FTCD score, the more likely the patient is to be depressed (Table 2).

Analyzing the results of the MOS questionnaire, we can conclude that there was a statistically significant correlation between the FTCD score and MOS ($r = -0.243$, $P = 0.037$), which shows an inverse relationship between the patient’s nicotine dependence and social support. This means that the higher the FTCD score, the less the social support (Table 2).

**Discussion**

We examined the effects of smoking on the QoL using the SF-36 questionnaire, Fantastic Lifestyle Questionnaire, SRQ-20, STAI s/t, and MOS questionnaires. All were regarded as research instruments for investigating general health, lifestyle, depression, anxiety, and social support. The evaluation and study of aspects that can measure QoL have become important outcome measures for understanding the impacts of smoking and smoking cessation on the patient (18).

The findings of this study showed that there was a statistically significant negative correlation between the duration of smoking and physical functioning, showing that the longer the duration of smoking, the greater the limitation in doing physical activities. There was a statistically significant difference in the vitality and mental health domains between the patients who smoked less and those who smoked more cigarettes per day. In other words, the number of cigarettes smoked per day affected energy and fatigue levels and psychological well-being.

Considering the FTCD, the number of cigarettes smoked per day had a statistically significant negative correlation with the vitality and mental health domains. It also had a negative impact on the social aspect domain, that is, interference with social activities due to physical and emotional problems. The smoking load had a statistically significant negative correlation with the domains of physical functioning and mental health, showing that the higher the smoking load, the lower the physical functioning and mental health, which means greater limitations in doing physical activities and lower psychological well-being.

Previous studies using the SF-36 have reported that poor health was associated with an increased amount of smoking (19, 20). One study showed that differences between smoking categories were found on some physical and mental subscales of the SF-36. The differences were slightly larger among men (21). Additionally, a previous study has likewise shown a dose–response relationship between the amount of smoking and mortality (22).

Lyons et al (23) found that smokers reported worse health status compared with never-smokers in four of the eight health domains measured on the SF-36. Smokers reported being less physically active, experiencing more body pain, having less vitality and, in general, considered themselves less healthy. There were no differences in limitations due to physical problems, social function, role limitations due to emotional problems, and mental health. This has also been confirmed by others (24, 25). Our study also showed less vitality and poorer mental health when comparing people who smoke less (1-19) and more (40-60) cigarettes per day.

Considering the Fantastic Lifestyle Questionnaire, we can conclude that there was a statistically significant negative correlation between the number of cigarettes smoked per day and the scores of the Fantastic Lifestyle Questionnaire. In other words, the higher the number of cigarettes smoked per day, the worse the lifestyle. Individuals were classified into 5 categories based on the scores they obtained as follows: “excellent” (85 to 100 points), “very good” (70 to 84 points), “good” (55 to 69 points), “regular” (35 to 54 points), and “need to improve” (0 to 34 points). Based on the results, none of the participants had an “excellent” (85 to 100 points) lifestyle. This finding corroborates with that of a study conducted by Kim et al. They found that smokers had worse lifestyle status compared with never-smokers, and those who smoked more cigarettes had worse lifestyle status (26).

**Table 2. Correlation Between the Smoking Profile and the Applied Instruments (STAI s/t, SRQ-20, and MOS)**

<table>
<thead>
<tr>
<th>Correlation (r)</th>
<th>Age</th>
<th>Starting Age</th>
<th>UT</th>
<th>CIG</th>
<th>FT</th>
<th>SL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STATE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation (r)</td>
<td>-0.11</td>
<td>-0.169</td>
<td>0.019</td>
<td>-0.028</td>
<td>-0.026</td>
<td>-0.02</td>
</tr>
<tr>
<td>$P$ value</td>
<td>0.352</td>
<td>0.15</td>
<td>0.873</td>
<td>0.811</td>
<td>0.826</td>
<td>0.867</td>
</tr>
<tr>
<td><strong>TRAIT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation (r)</td>
<td>0.054</td>
<td>-0.053</td>
<td>0.046</td>
<td>0.126</td>
<td>-0.08</td>
<td>0.08</td>
</tr>
<tr>
<td>$P$ value</td>
<td>0.645</td>
<td>0.655</td>
<td>0.695</td>
<td>0.284</td>
<td>0.497</td>
<td>0.496</td>
</tr>
<tr>
<td><strong>SRQ 20</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation (r)</td>
<td>-0.053</td>
<td>-0.061</td>
<td>-0.026</td>
<td>0.216</td>
<td>0.26</td>
<td>0.073</td>
</tr>
<tr>
<td>$P$ value</td>
<td>0.656</td>
<td>0.606</td>
<td>0.826</td>
<td>0.064</td>
<td>0.025</td>
<td>0.535</td>
</tr>
<tr>
<td><strong>MOS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation (r)</td>
<td>0.026</td>
<td>0.084</td>
<td>-0.016</td>
<td>-0.162</td>
<td>-0.243</td>
<td>-0.077</td>
</tr>
<tr>
<td>$P$ value</td>
<td>0.825</td>
<td>0.478</td>
<td>0.896</td>
<td>0.167</td>
<td>0.037</td>
<td>0.516</td>
</tr>
</tbody>
</table>

UT, usage time; CIG, number of cigarettes smoked per day; FTCD: Fagerström Test for Cigarette Dependence; SL, smoking load.
Considering the STAI s/t questionnaire, there was no statistically significant correlation between the anxiety disorders and starting age, duration of smoking, number of cigarettes smoked per day, FTCD score, and smoking load. However, a study by Piper et al showed that smokers with anxiety disorders reported higher levels of nicotine dependence and pre-quit withdrawal symptoms (27).

Several studies have shown an association between smoking and depression (28-31). The results of the SRQ-20 questionnaire showed that there was a statistically significant positive correlation between the FTCD score and depression. This value, being positive, means that the higher the FTCD score, the greater the odds of being depressed. A critical review of 54 relevant studies on smoking and QoL concluded that low QoL and depression are associated with higher odds of smoking initiation and lower odds of successful smoking cessation (32).

Analyzing the results of the MOS questionnaire, we could conclude that there was a statistically significant correlation between the FTCD score and MOS. It means that the higher the score on the FTCD, the less the social support. In other words, the person is less likely to have someone else to have a good time with, get together for relaxation, and do something enjoyable with. In a previous study, social support, network heterogeneity, and smoking behavior in women were analyzed. Women who reported low heterogeneity of their support network or no support from their partners or relatives were approximately 1.2 times more likely to be smokers compared with their counterparts with high heterogeneity or high support (33).

Based on the results, there was a negative relationship between smoking and QoL and the magnitude of this association depended on the duration of smoking, number of cigarettes smoked per day, nicotine dependence, and smoking load. Secondhand smoke also appears to be negatively associated with QoL and smoking cessation can significantly improve QoL (32).

In conclusion, the smoking habit does affect the QoL of the user, and smoking cessation is important because it is associated with lasting and enduring improvements in QoL. The positive effects of smoking cessation on QoL, anxiety, and depression are impressive and should be highlighted for all smokers, especially those who are considering quitting. This association has been identified across nations, comorbid diseases, and diverse socioeconomic and cultural groups (32).

One significant limitation of this study stems from the variability of the QoL measures used in studies on smoking. This variation makes it difficult to make quantitative comparisons across studies.

**Conclusion**

In conclusion, smoking does affect the QoL of the user, especially in the physical functioning, social aspect, vitality, and mental health domains of the SF-36 survey and Fantastic Lifestyle Questionnaire. It also influences depression and the social support of the patient as we could see by the application of the SRQ-20 questionnaire and the Medical Outcome Study questionnaire, respectively.

These findings highlight the importance of effective tobacco cessation interventions not only for improving physical health outcomes but also for enhancing the overall QoL of individuals. It is crucial that healthcare providers and policymakers continue to prioritize tobacco control efforts to reduce the burden of tobacco-related diseases and improve the well-being of our communities.

**Acknowledgements**

We would like to thank all the participants and staff of the Multidisciplinary Program Group of Studies and Treatment for Smokers of the Institute of Science and Technology, São Paulo State University (UNESP), São José dos Campos, Brazil coordinated by Janete Dias Almeida.

**Authors’ Contribution**

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**Formal analysis:** Adriano Bressane.

**Investigation:** Denise Nicodemo, Adriana Ávila Almeida.

**Methodology:** Denise Nicodemo, Adriana Ávila Almeida.

**Supervision:** Denise Nicodemo, Adriana Ávila Almeida, Janete Dias Almeida.

**Visualization:** Gabriela Ribeiro Zucco, Janete Dias Almeida.

**Writing-original draft:** Gabriela Ribeiro Zucco.

**Writing-review & editing:** Gabriela Ribeiro Zucco, Denise Nicodemo, Janete Dias Almeida.

**Competing Interests**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

**Data Availability Statement**

Data used in the current study can be made available by the corresponding author upon reasonable request.

**Ethical Approval**

The survey was approved by the Research Ethics Committee of the Institute of Science and Technology, São Paulo State University (UNESP) (CAAE number 42387315.0.0000.0077), São José dos Campos, Brazil.

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