THE MODERATING ROLE OF PARTNER SUPPORT AMONG SMOKERS AND ABSTAINERS

Papel moderador do suporte do parceiro em fumantes e ex-fumantes

Papel moderador del apoyo del compañero en fumadores y ex-fumadores

Original Article

Fernanda Afonso[1]
Maria da Graça Pereira[1]

1) *University of Minho* (Universidade do Minho) - Braga - Portugal

ABSTRACT

Objective: To analyze the moderating effect of partner support in the relationship between psychological morbidity and quality of life among smokers and abstainers. **Methods:** This observational cross-sectional study assessed "partner support", "psychological morbidity" (depression, anxiety and stress) and "quality of life" in a convenience sample of 224 smokers and 169 abstainers through questionnaires that were validated and analyzed using regression and simple slopes. **Results:** Partner support (positive and negative) among smokers appeared as a moderator in the relationship between psychological morbidity and physical quality of life. As for mental quality of life, the partner support did not have a moderating effect. The results among abstainers are similar to those found among smokers. When positive partner support is strong, there is an opposite relationship between psychological morbidity and quality of life. However, this relationship is stronger when negative partner support is strong and, in this case, the relationship between psychological morbidity and quality of life is negative. **Conclusion:** Partner support, whether positive or negative, was an important moderator concerning quality of life and psychological morbidity of smokers and abstainers.

Descriptors: Smoking; Caregivers; Role Playing.

RESUMO

Objetivo: *Analisar o efeito moderador do suporte do parceiro na relação entre a morbidade psicológica e a qualidade de vida em fumantes e ex-fumantes.* ***Métodos:*** *Este estudo transversal e observacional avaliou as variáveis "suporte do parceiro", "morbidade psicológica" (depressão, ansiedade e estresse) e "qualidade de vida" em uma amostra de conveniência de 224 fumantes e 169 ex-fumantes, através do preenchimento de questionários validados e analisados por regressão e simple slopes.* ***Resultados:*** *Nos fumantes, o suporte do parceiro (positivo e negativo) mostrou-se moderador da relação entre a qualidade de vida física e a morbidade psicológica. Ao nível da qualidade de vida mental, o suporte do parceiro não teve um efeito moderador. Nos ex-fumantes, os resultados são semelhantes aos encontrados nos fumantes. Nas situações em que o suporte positivo do parceiro é alto, verifica-se uma relação oposta entre a morbidade psicológica e a qualidade de vida. Essa relação é mais forte quando o suporte negativo do parceiro é alto e, nesse caso, a relação entre a morbidade psicológica e a qualidade de vida é negativa.* ***Conclusão:*** *O suporte do parceiro, positivo ou negativo, mostrou ser um moderador importante na qualidade de vida e morbidade psicológica dos fumantes e ex-fumantes.*

Descritores: *Hábito de fumar; Cuidadores; Desempenho de Papéis.*

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RESUMEN

Objetivo: *Analizar el efecto moderador del apoyo del compañero en la relación entre la morbidad psicológica y la calidad de vida de fumadores y ex-fumadores.* **Métodos:** *Este estudio trasversal y observacional evaluó las variables "apoyo del compañero", "morbidad psicológica" (depresión, ansiedad y estrese) y "calidad de vida" en una muestra de conveniencia de 224 fumadores y 169 ex fumadores a través de cuestionarios validados y analizados por regresión y simple slopes.* **Resultados:** *En los fumadores, el apoyo del compañero (positivo y negativo) se mostró moderador de la relación entre la calidad de vida física y la morbidad psicológica. El apoyo del compañero no tuvo efecto moderador al nivel de la calidad de vida mental. En los ex-fumadores los resultados son semejantes a los encontrados en los fumadores. En situaciones en que el apoyo positivo del compañero es elevado se verifica una relación contraria entre la morbidad psicológica y la calidad de vida. Esa relación es más fuerte cuando el apoyo negativo del compañero es elevado y, en ese caso, la relación entre la morbidad psicológica y la calidad de vida es negativa.* **Conclusión:** *El apoyo del compañero, positivo o negativo, mostró ser un moderador importante para la calidad de vida y morbidad psicológica de fumadores y ex-fumadores.*

Descriptores: *Hábito de fumar; Cuidadores; Desempeño de Papel.*

INTRODUCTION

When tobacco use begins at early ages, it can quickly turn into a risk behavior of high dependence[1], contributing to an increased risk of developing diseases such as cancer, particularly of the lung[2]. According to the World Health Organization (WHO), tobacco is the leading cause of death that can be prevented, such as the cardiovascular diseases and lung cancers[3].

Knowledge of the psychological factors associated with tobacco use is important to help smokers live longer and improve their quality of life[4]. Nicotine dependence and the presence of psychological comorbidity (depression, stress and anxiety) may be factors that compromise the success of abstinence from smoking and the smokers' quality of life[5,6]. In order to reach a greater adherence to change in smoking behavior, it is important to perform an intervention that includes, among other things, the support of family, or significant other[7], and the reduction in psychological comorbidity[8].

Tobacco has a negative impact on the individual's quality of life. Therefore, quitting smoking is associated with significant benefits, the earlier one verifies smoking cessation[9]. For example, former smokers enjoy better health and have a better understanding of their condition compared with smokers. The literature also points out that the reduction in daily use of tobacco attenuates the risk of cardiovascular problems, respiratory symptoms and incidence of cancer, especially lung cancer[10]. However, on the physical level, the quality of life worsens as an increase in the number of cigarettes smoked is verified, being this relationship stronger among nicotine-dependents[11,12]. It is important to encourage smokers to quit smoking and to promote the maintenance of tobacco abstinence, reducing the impact of tobacco use on health[13]. Studies have underlined the improvement in quality of life as a motivating tool for smoking cessation[10,14].

The relationship between tobacco consumption and the psychological profile of smokers has been studied over recent years, demonstrating an association between nicotine use and reduction of anxiety, stress and depression[15]. People with symptoms of depression find relief when they smoke because they associate nicotine with an anxiolytic effect[16], tending to smoke more cigarettes and develop more nicotine dependence[16]. In a process of tobacco abstinence, there is a higher probability of developing depressive episodes along with people who have already had a history of depression due to the absence of nicotine[16].

Regarding anxiety, epidemiological and clinical studies have demonstrated a positive association between smoking and anxiety disorders[15,17]. Abstinence may be compromised in individuals with more anxiety, because they may show more frequent and rapid[17] relapses. Smoking is also seeen as a means to cope with stressful situations[18].

The support from family and significant others has been considered an important aspect in several areas, such as in the case of chronic disease[19]. As for the addictive behaviors (tobacco), studies show that different stages of smoking behavior may be strongly influenced by family members[20-22].

The support given to smokers by their partners encourages their autonomy and sense of command for changing smoking behavior, being considered a booster for the cessation of tobacco consumption[23]. There may be two types of support: the negative and the positive one. The first type's function is to urge the smoker to quit, and it cannot be interpreted as a punitive support. The second type refers to the positive reinforcement and compliment to the one who stops smoking[24,25]. It has been found that family interventions are becoming a common practice, with very encouraging results[26]. Once one of the spouses starts treatment, the other who still smokes can be considered a threat, so their role is highly crucial as a source of support[27].

For instance, the partner support was revealed as an important moderator among women with low educational attainment, history of depression and undergoing smoking

cessation process, indicating that the success differed depending on the presence of partner support[28].

Taking into account the impact of tobacco use on the smokers' health, this study aimed to evaluate the moderating effect of partner support in the relationship between psychological morbidity and quality of life of smokers and former smokers.

METHODS

This is a cross-sectional, observational study with a convenience sample recruited in medical appointments (central hospital and private company). In college, the researchers contacted the professors, so that they could inform their students about the study. These three sites were chosen due to prior authorization by them and to the fact that they allow a more heterogeneous sample.

Data collection occurred in 2010, lasted a year and was always performed by the same researcher. The completion of the questionnaires occurred in a single moment, taking 1-3 hours. Participation was voluntary, with the consent of response preceded by information on the scope and purpose of the study.

The inclusion criteria for the sample were: being over 18 years, being daily smoker or a former smoker for at least 3 months.

The following variables were analyzed: partner support, psychological morbidity (depression, anxiety and stress) and quality of life. For that purpose, the following assessment instruments were used: sociodemographic questionnaire, Partner Interaction Questionnaire, Depression Anxiety Stress Scale, and Medical Outcomes Study 36-Item Short Form.

The sociodemographic questionnaire was intended to collect information to characterize the sample subjects regarding: group, marital status, sex, educational attainment, age, beginning of tobacco consumption, attempts to quit smoking, type of treatment, smoker or non-smoker partner.

The Partner Interaction Questionnaire[29,30] consists of a positive and a negative scale that assessed the support received to quit smoking in the last three months. A high score means stronger support, positive or negative, by the partner.

The Depression Anxiety Stress Scale (DASS)[31,32] is constituted by 21 items, organized into three subscales: anxiety, depression and stress. The higher the score, the higher the level of psychological morbidity symptoms.

The Medical Outcomes Study 36-Item Short Form (MOS SF-36)[33,34] consists of eight Likert-type response subscales, which assess physical function, physical performance, bodily pain, general health, vitality, social function, emotional performance and mental health. The values corresponding to physical and mental quality of life were obtained, but not a full-scale value.

With the aim of analyzing the moderating effect of partner support in the relationship between quality of life and psychological morbidity in smokers and former smokers, the regression model was used, with Baron and Kenny's approach[35] and analysis of simple slopes to determine the significance level of the interaction between variables *t*[36].

Without conflicts of interest, the study has been approved by the Ethics Committee of each institution where data collection took place (Opinion no.536807).

RESULTS

This study involved 224 smokers (57%) and 169 former smokers (43%). With regard to the smokers (224), 118 (52.7%) were women, 110 (49.1%) were single and 138 (61.6%) had completed the 12th grade. There were 92 (41.1%) of the smokers belonging to the age range between 21-30 years, and the most common age to start smoking was at 16 years (n = 47.21%). Of the smokers, 49 (60.3%) had made at least one attempt to quit smoking, but without success; 215 (96%) had never attended any treatment or program to quit smoking and 128 (57.1%) had a non-smoker partner.

In the former smokers sample, 116 (68.6%) were men, 123 (72.8%) were married and 66 (39.1%) had completed the 12th grade. In this group, 46 (27,2%) were in the age range between 41-50 years, and the most common age to start smoking was at 15 years (n=27; 16%); 92 (54.4%) had made at least one attempt to quit smoking, 114 (68%) had never attended any treatment or program to quit smoking and 109 (68%) had a non-smoker partner.

Regarding the moderating effect of partner support in the relationship between psychological morbidity and quality of life in smokers, in relation to the mental quality of life, in the smokers group, the values of interaction coefficients between the positive support and psychological morbidity (β=-0.009; p=0.890), and between the negative support and psychological morbidity (β=0.028; p=0.669), were not significant. There was, however, a significant correlation between the quality of life and psychological morbidity (r=-0.428; p≤0.001).

About the physical quality of life, in the smokers group, the standardized values of the correlation coefficients associated with the partner positive or negative support were found to be significant for the psychological morbidity. Furthermore, the values of interaction coefficients between the positive support and the psychological morbidity (β=-0.180; p=0.013), and between the negative support

and psychological morbidity (β=-0.220; p=0.001), were significant.

The relationship between physical quality of life and psychological morbidity was present when the positive support was low (t=1.926; p≤0.05) and high (t=-3.001; p≤0.002), but it was stronger when the partner positive support was greater, being negative the relation between the psychological morbidity and the physical quality of life. Regarding the negative support, the relation between the physical quality of life and the psychological morbidity was verified when the negative support was low (t=2.783; p≤0.005) and high (t=-3.599; p≤0.00), the relationship being stronger when the negative support was high. In this case, the relation between the morbidity and the physical quality of life was negative.

Regarding the moderating effect of partner support in the relationship between psychological morbidity and quality of life in former smokers, in relation to the quality of mental life, in the former smokers group, the standardized values of the correlation coefficients associated with the partner positive and negative support were found significant for the psychological morbidity. In addition, the values of interaction coefficients between the positive support and the psychological morbidity (β=-0.211; p=0.002), and between the negative support and the psychological morbidity (β=-0.210; p=0.006), were significant. The relationship between mental quality of life and psychological morbidity is observed when the partner negative support is high (t=-1.547; p=0.012), and is not seen when that is low (t=4.024; p=0.867). When the partner positive support is high (t=-3.889; p=0.000) and low (t=2.496; p=0.013), the relationship between mental quality of life and psychological morbidity is verified, but in the opposite direction. The relationship is stronger when the positive support given by the partner is high and, in this case, the relation between the psychological morbidity and the quality of life is negative.

On the physical quality of life, in the former smokers group, the standardized values of the correlation coefficients associated with the partner positive and negative support were found significant for the psychological morbidity. Additionally, the values of interaction coefficients between the partner positive support and psychological morbidity (β=-0.162; p=0.031), and between the partner negative support and psychological morbidity (β=-0.210; p=0.006), were significant.

The negative relationship between physical quality of life and psychological morbidity was only verified when the partner positive support was high (t=-2.510; p=0.013), because, when that was low, the relationship stopped being significant (t=1.815; p=0.071).

The relationship between physical quality of life and psychological morbidity was also verified when the partner negative support was low (t=2.060; p=0.040) and high (t=-3.420; p=0.000), but in opposite directions. The relationship was stronger when the negative support was high and, in this case, the relation between the psychological morbidity and the quality of life was negative.

DISCUSSION

This study's objective was to analyze the moderating effect of partner support in the relationship between psychological morbidity and quality of life among smokers and former smokers.

With respect to the smokers, as regards to the mental quality of life, the partner support (positive and negative) did not show to have a moderating effect in this study. However, the negative relationship between psychological morbidity and mental quality of life indicates that the increase in psychological morbidity is associated with a decrease in mental quality of life. These data are similar to the literature, which reports that, as the smoking habit is prolonged in time, there is more likelihood of increasing the emotional stress levels, worsening the quality of life[15,18].

On the physical quality of life, the current study revealed the presence of strong support (positive and negative), being negative the relationship between the physical quality of life and psychological morbidity. The partners support has been suggested as a protective factor, because smokers become more aware of the morbidity symptoms and the decrease in their quality of life, therefore being more motivated for tobacco cessation. According to the stress-coping model[37], the partner support can be seen as a good social resource, which, along with some internal resources, like the motivation to quit smoking, allow the smoker to go through the smoking cessation and subsequently enhance their quality of life.

The findings of this study point to the important role of significant others in addictive behavior. These results can be interpreted in light of the Theory of Planned Behavior (TPB)[38], considering the human behavior influenced, among other aspects, by subjective rules that reflect the perception of pressure/influence felt by individuals to execute or not the behavior (for example: my family thinks I should/should not quit smoking). So, if the smoker consider it important what significant others, particularly the partner, expect, that is, quitting smoking, conditions for the intention of changing smoking behavior may be satisfied.

According to the TPB, the partner support can be considered an important moderator between the intention to quit and tobacco abstinence behavior. Thus, reduced morbidity associated with the perception of better physical quality of life, in the event of a more supportive partner, may lead to greater awareness of the

tobacco effects on health and motivate the smoker to quit. In this sense, the partner support, either positive or negative, can be considered a good resource to foster smoking cessation.

Thus, it is not surprising that, in the presence of low support (negative and positive) given by the partner, the results indicate a positive relationship between quality of life and psychological morbidity. Indeed, when the partner is not supportive, the morbidity is associated with the perception of improved quality of life in smokers, which may explain the lack of interest in quitting smoking. Given that, one can hypothesize that smokers continue to smoke to relieve their symptoms of psychological morbidity related to their addiction to nicotine [15,17], without realizing a malaise associated with their physical and mental quality of life, as observed in our study.

With respect to the former smokers, in the presence of strong partner support (positive and negative), the results of this study point in the same direction as for the smokers. These data can be explained taking into account that the former smokers reported the period in which they were still smokers. Regarding their mental quality of life, the presence of more support (positive and negative) given by the partner is associated with better quality of life and reduced psychological morbidity, as in smokers. The same positive relationship between morbidity and quality of life was observed in smokers, in the presence of low positive support.

Considering the results of the current study, the positive or negative support given by the partner was very relevant. Actually, literature[28] points the positive support as motivator and the negative support as dissuader for quitting smoking, highlighting the greater importance of the positive support in tobacco cessation[24]. However, in this study, both were shown to be protective. This result is in accordance with other study, which also verified the partner negative support associated with the intention to perform glucose monitoring in type-2 diabetic patients[19]. In fact, investigations using the *Partner Interaction Questionnaire*[24] as a tool to evaluate the partner support verified that both types of support are important in the decision to stop smoking.

The fact that the current research used a convenience sample, collected only in the North of Portugal, limited the generalizability of the results. The application of self-report measures was also considered a limitation, as well as the construction of versions of investigation for the study sample.

CONCLUSION

This study demonstrated the partner support as an important moderator in quality of life for smokers and former smokers. The results suggest the partner as an element present in tobacco cessation.

Future investigations are to include more heterogenic samples, aiming to evaluate the partner support by the own partner, as well as to test directly their moderating role in the relationship between intention and behavior of tobacco abstinence.

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Mailing address:

Fernanda Afonso
Gabinete da Profa. Maria da Graça Pereira
Escola de Psicologia, Universidade do Minho, Braga, Portugal.
Campus de Gualtar 4710-057 Braga
Portugal
E-mail: fernandafons@gmail.com