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Smoking and alcohol intake: prevalence among teachers, singers, telemarketers and actors

Tabagismo e ingesta alcoólica: prevalência em professores, cantores, teleoperadores e atores

El tabaco y la ingesta de alcohol: prevalencia en los profesores, cantantes, actores y teleoperadores

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Abstract

Objective: To assess the prevalence and relation of smoking and alcohol intake among teachers, singers, telemarketers, and actors, according to gender and age. **Methods:** 400 individuals were included in the research, of which there were 100 participants of each of the professions, namely: teachers, singers, telemarketers and actors. All responded the Questionnaire for the Identification of Vocal Health Habits in Voice Professionals. Statistic analysis crossed professional categories, gender and age with smoking and alcohol intake ($p<0,05$). **Results:** The research included 233 (58.25%) females and 167 (41.75%) males. The ages ranged from 18 to 50 years. Most of the teachers and telemarketers were female and, on the other hand, most of the singers and actors were male. 19.75% (n=79) were smokers, of which most were from the group of telemarketers (n=26/ 6.5%). With respect to the alcohol consumption, 44.5%

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(n=178) of the individuals responded that they consume alcohol, while the actors group recorded the highest percentage (n=58/ 14,5%). A statistically significant difference was observed in the comparison between smoking and gender in singers (p<0.002) and telemarketers (p<0.02) groups, and alcohol intake and age in telemarketers (p<0.03) group. **Conclusion:** The percentage of voice professionals who smoke and consume alcohol varies according to the category analyzed, i.e., the telemarketers were the group with more smokers, and actors were the group that presented more individuals who consume alcohol. A statistically significant difference was noted in telemarketers (male and younger in greater numbers) and singers (men outnumber) groups in the association of these variables with gender and age.

Keywords: Voice; Tobacco; Alcoholic Beverages

Resumo

Objetivo: analisar a prevalência e associação de tabagismo e ingesta alcoólica em professores, cantores, teleoperadores e atores, segundo sexo e idade. **Métodos:** participaram da pesquisa 400 sujeitos, sendo 100 de cada uma das profissões, a saber: professores, cantores, teleoperadores e atores. Todos responderam o Questionário de Identificação de Hábitos de Saúde Vocal em Profissionais da Voz. As questões referentes a tabagismo e consumo de álcool foram associadas às categorias profissionais, sexo e idade (qui-quadrado p<0,05). **Resultados:** 233 (58,25%) sujeitos eram do sexo feminino e 167 (41,75%) do masculino. A idade variou entre 18 e 50 anos. A maioria dos professores e dos teleoperadores eram do sexo feminino e em contrapartida, a maioria dos cantores e atores, do masculino. 19,75% (n=79) eram tabagistas, e a maioria dos tabagistas pertencia ao grupo de teleoperadores (n=26/ 6,5%). Do total de participantes, 44,5% (n=178) revelaram consumir álcool, a categoria dos atores registrou a maior porcentagem (n=58/14,5%). Observou-se diferença estatisticamente significante na comparação entre tabagismo e sexo nos grupos de cantores (p<0,002) e teleoperadores(p<0,02), e ingesta alcóolica e idade nos teleoperadores (p<0,03). **Conclusão:** o percentual de profissionais da voz que fuma e que ingere bebida alcoólica varia de acordo com a categoria analisada, os teleoperadores são os que mais fumam e os atores os que mais bebem. Na associação dessas variáveis com sexo e idade foi registrada diferença significante no grupo de teleoperadores (masculino e mais jovem em maior número) e cantores (masculino em maior número).

Palavras-chave: Voz; Tabaco; Bebidas Alcoólicas

Resumen

Objetivo: Analizar la prevalencia y la asociación de fumar y el consumo de alcohol en profesores, cantantes, teleoperadores, y actores, por sexo y edad. **Método:** 400 sujetos participaron en el estudio, 100 de cada una de las profesiones. Todos responderan el "Questionário de Identificação de Hábitos de Saúde Vocal em Profissionais da Voz". Las cuestiones referentes al tabaquismo y el consumo de alcohol se asociaron a las categorías profesionales, sexo y edad (qui-cuadrado p <0,05) **Resultados:** 233 (58.25%) sujetos eran mujeres y 167 (41,75%) eran hombres. Las edades oscilaron entre 18 y 50 años. La mayoría de los profesores y los teleoperadores eran de sexo femenino, la mayoría de los cantantes y actores masculinos. 19,75% (n = 79) eran fumadores, la mayoría del grupo de los teleoperadores (n = 26 / 6,5%). En relación a alcohol 44.5% (n = 178) de los sujetos reveló consumir-lo, la categoría de actores que registró el porcentaje más alto (n = 58 / 14,5%) se observó una diferencia estadísticamente significativa en comparación entre el tabaquismo y el sexo en los grupos de cantantes (p <0,002) y teleoperadores (p <0,02). Em la comparacion de la ingesta de alcohol y la edad de los teleoperadores tambien se registro diferencia estadísticamente significativa (p <0,03). **Conclusión:** el porcentaje de profesionales que fuman y beben alcohol varía en función de la categoría analizada, los teleoperadores fuman más, y los actores beben más que los demas. Em la asociación de estas variables con la edad y el sexo se registró diferencia significativa en el grupo de los teleoperadores (masculino y jovenes em mayor número) y cantantes (masculino en mayor número).

Palavras clave: Voz; Tabaco; Bebidas Alcohólicas

Introduction

Studies focused on promoting vocal well-being have been increasingly frequent in Speech-Language Therapy[1]. In this sense, there is a large number of published articles that focus on the impact of voice care in different voice professionals categories[2,3,4]. Data from the Professional Voice Committee of the Brazilian Society of Speech-Language Pathology and Audiology[5] highlight four groups as majority in scientific publications in the professional voice field: teachers, singers, telemarketers, and actors. It is assumed that each of these categories has different demands and characteristics[3], and vocal well-being takes a key role in the performance of the activity of these professionals. According to Sataloff and Spiegel[6], smoking habits and alcohol intake are the main cause of negative impacts on the vocal production of any voice professional.

In 2014, through the Surveillance of Risk Factors for Chronic Diseases through Telephone Interviews (VIGITEL) [7], the Ministry of Health disclosed the prevalence of smoking and alcohol intake in the Brazilian population. The survey was conducted in all Brazilian State capitals and in the Federal District (DF) by means of systematic and stratified draw of phone numbers for each State. Among the 74,005 individuals contacted, 52,929 completed the interview, of which 20,276 were male and 32,653 were female. 11,3% (5,981) of the population studied reported themselves as smokers, of which 14,4% were male and 8,6% were female. Of the total smokers, 3.4% said that they smoke more than 20 cigarettes a day. If we focus on São Paulo, about 14.9% of the 1,999 interviewees said that they were smokers[7].

With respect to alcohol intake[7], the survey asked to these participants about the abusive consumption of alcohol, which was considered as such when they consumed four or more doses on the same situation. About 16.4% of the subjects reported an abusive use of alcohol, the number of men was two and a half times greater than that of women. For both male and female, the abusive use of alcohol was more common among younger people (between the ages of 18 to 34 years)[7,8].

According to the World Health Organization (WHO), the alcohol is one of the few psychotropic drugs that users would admit its consumption. Mortality and restrictions of the functional condition associated with alcohol intake outweigh the mortality and restrictions associated to smoking habits. In the same publication, WHO also states that alcohol intake is related to 3.3 million deaths every year worldwide.

In Brazil, alcohol intake was related to 60 and 63% of liver cirrhosis cases, between 5 and 18% of traffic accidents. Approximately 3% of women and 8% of men fit into the criteria for alcohol dependence and abuse[9].

Several authors in Speech-Language Therapy have studied about voice and smoking and/or alcohol intake[2,10-12]. In a research[10] on the occurrence of vocal symptoms and their possible causes, which was conducted with 190 subject in a shopping mall in São Paulo, it was observed that 16.9% of individuals reported being smokers and 12.6% were former smokers.

There is a discrepancy between the findings in studies with teachers. On the one hand, Fabrício et al.[11], while studying on the voice-related quality of life of 82 teachers of an University, noted that 21% of them smoked and/or consumed alcohol, but on the other hand, Adams et al.[12], while interviewing teachers from the primary school of the public network of Maceió, found that 5.6 percent of the sample (of the total 126 subjects) were smokers and 24.6% reported themselves as secondhand smokers.

With respect to teacher's voice,[13] the authors noted that approximately 10.6% of the subjects were smokers and 9.9% were former smokers, in a sample of 272 teachers from early education, primary and high school of the public network. According to the same study, in relation to alcohol intake[13] 45.5% of the subjects reported that they never drink, while 37.9% reported that they rarely drink and 16.6% reported that they drink sometimes.

It was noted in a comparison between lyric and popular singers[14] that alcohol intake was higher in the popular group (50%) when compared to classical singers (46.7%). In relation to smoking habits, 100% of lyric singers reported that they were not smokers, while 6.7 percent of the popular singers claimed to be smokers.

In research conducted with choristers[15] (n=44), 50% of the sample reported a frequent alcohol intake (at least once a week), while approximately 4.5% were smokers and 22.7% reported being former smokers.

The consumption of distilled or fermented alcoholic beverages by singers from bands[16] was 12.5% in a sample of 24 singers, and such intake was noted moments before the presentation or during the concert.

Through an investigation[17] of habits, voice care and vocal symptoms in professional singers (10 lyric singers and 10 popular singers), it was observed that 20% of the singers, in both groups were smokers, and 20% also reported alcohol intake.

Ferreira et al.[18] assessed the vocal production conditions in telemarketers and correlated the results to the satisfaction level of professionals with their own voices. Authors found prevalence of smoking in 24% of the 100 subjects who participated in the study. It is worth mentioning that alcohol intake was not studied.

It was observed in the analysis of the effect of a vocal welfare program[19] in 30 telemarketers (27 female and three male) that 21.7% of women and 33.3 percent of men reported the consumption of alcoholic beverages. Regarding smoking habits, 21.7% (women) claimed to be smokers.

Goulart and Vilanova[20], in a research to analyze the complaints and vocals symptoms with 48 professional actors aged between 20 and 50 years through interviews, found that 43.8% were smokers and 72.9% used to consume alcoholic beverages.

In order to analyze the impact of preventive actions in the vocal health of voice professionals[21], the researchers organized a sample consisting of 100 subjects, being 44 teachers, 22 actors, 13 telemarketers, 11 newsreaders and 10 singers. According to the results, actors were the professional class that, in greater numbers (81%), reminded all the guidelines concerning vocal health, followed by singers (80%), telemarketers (30.8%) and teachers (26%). The guidelines concerning smoking and alcohol intake were the least remembered by all professionals.

The analysis of these researches encouraged the materialization of this article, in order to question the behavior of teachers, singers, telemarketers and actors with respect to these harmful habits (smoking and alcohol intake), starting from the hypothesis that the use of these substances is common in our society and that many people do not know the possible damage that they can cause to the voice.

Objective

To assess the prevalence and relation of smoking and alcohol intake among teachers, singers, telemarketers, and actors, according to gender and age.

Method

This research was approved by the research ethics committee of the institution. The sample was composed of 400 subjects, namely, 100 teachers, 100 popular singers, 100 telemarketers and 100 actors. Some questionnaires were from a voice clinic database and were answered by subjects who sought the clinic as they were singers or professional actors facing some voice complaint. Teachers and telemarketers responded to the questionnaire in their own workplaces. All participants signed and read a Free and Informed Consent Form.

The Questionnaire for Identification of Vocal Health Habits in Voice Professionals[22] (Annex I) was the instrument used to analyze the vocal health habits in this population.

This instrument is a self-administered questionnaire composed of 17 questions and it discusses several issues related to vocal health. The issues with respect to smoking and alcohol intake were used in this article and correspond to the first and second issue.

The data was statistically addressed, at first descriptively (numbers and percentage) and then the variables, alcohol intake and smoking, gender and age, were tested with respect to their relation (Chi-squared test – $p \leq 0.05$, association between gender and smoking; gender and alcohol intake; age group and smoking; age group and alcohol intake). The average was considered, in particular, to the last variable (age group), to define two groups, as below average (18 to 30) and above it (31 to 50).

Results

The sample (n=400) was composed of 233 (58.25%) female subjects and 167 (41.75%) male subjects. The age ranged from 18 to 50 years (with an average of 29.7, a median of 25.5 and a standard deviation of 8.9).

Table 1 presents data on the characteristics of the sample, and it shows that most of the teachers and telemarketers were female and, on the other hand, most of the singers and actors were male.

Table 1. Sample characterization of teachers, actors, telemarketers and singers, according to gender and age group

Sample characterization	Gender		Total %	18-30 years %	31-50 years %	Total %
	Female %	Male %				
Teachers	77	23	100	36	64	100
Singers	41	59	100	52	48	100
Telemarketers	66	34	100	82	18	100
Actors	49	51	100	66	34	100
Total	58.2	41.8	100	59	41	100

In order to analyze the presence of smoking considering the whole sample (n=400) as a group of voice professionals, 19.7% (79) were smokers, with a higher percentage in males (25.8%), when compared to females (15.4%). In the analysis of the data considering the four categories of voice professionals, of this total (n total=400/n smokers=79), the highest percentage of smokers was found in telemarketers (31.6%), followed by actors (30.3%), singers (20%) and teachers (18%).

It should be noted that among singers, no female subject reported to be a smoker, while 12% (n = 12) of men were smokers, and this difference was regarded as statistically significant (p<0.002).

A statistically significant difference was also recorded among telemarketers regarding the gender variable, since 29.5% of men reported being smokers, while only 18% of women reported such habit (p<0.02). (Table 2).

Table 2. Association between gender and smoking, according to the categories of voice professionals (teachers, singers, telemarketers and actors)

Smoking	Female		Male		Total Yes n (%)	P <0.05*
	No n (%)	Yes n (%)	No n (%)	Yes n (%)		
Teachers	64 (83.1)	13 (16.9)	18 (78.3)	5 (21.7)	18 (18)	0.59
Singers	41 (100)	0 (-)	47 (79.7)	12 (20.3)	12 (12)	0.002*
Telemarketers	54 (81.9)	12 (18.1)	21 (61.8)	13 (38.2)	25 (25)	0.02*
Actors	38 (77.6)	11 (22.4)	38 (74.6)	13 25.4)	24 (24)	0.72
Total	197 (84.6)	36 (15.4)	124 (74.2)	43 (25.8)	79 (19.7)	–

Chi-Squared Test

In the analysis of data relating to smoking by age group, telemarketers and actors presented higher and close percentage, both in the younger group (24.3% and 24.25%, respectively), and in the older group (27.8% and 23.6%, respectively).

The singers group is the category with the lowest percentage of smokers in both age groups analyzed (younger – 15.3%; older – 8.3%). However, no significant difference was recorded considering smoking habits and the age groups analyzed (Table 3).

Table 3. Association between age group and smoking. according to the categories of voice professionals (teachers. singers. telemarketers and actors)

Smoking	Age Group (years)				Total Yes n %	P <0.05*
	18-30		31-50			
	No n (%)	Yes n (%)	No n (%)	Yes n (%)		
Teachers	31 (86.1)	5 (13.9)	51 (79.7)	13 (20.3)	18 (18)	0.42
Singers	44 (84.7)	8 (15.3)	44 (91.7)	4 (8.3)	12 (12)	0.27
Telemarketers	62 (75.7)	20 (24.3)	13 (72.2)	5 (27.8)	25 (25)	0.76
Actors	50 (75.8)	16 (24.2)	26 (76.4)	8 (23.6)	24 (24)	0.93
Total	187 (79.2)	49 (20.8)	134 (81.8)	30 (18.2)	79 (19.7)	–

Chi-Squared Test

As for the survey relating to the alcohol consumption, 44.5% of the group of voice professionals (n total=400) claimed to consume alcohol, and among these, between the different professional categories, 19.6% are teachers, 22.5% are singers, 25.3% are telemarketers, and 32.6% are actors (Table 4).

The actors presented a higher percentage in relation to alcohol intake; when analyzed the gender variable, 48.97% (n=49) of women reported to drink alcohol, while the consumption among men was mentioned as 66.6% (n=51).

Table 4. Association between gender and alcohol intake, according to the categories of voice professionals (teachers, singers, telemarketers and actors)

Alcohol Intake	Female (%)		Male (%)		Total Yes n (%)	P <0.05*
	No n (%)	Yes n (%)	No n (%)	Yes n (%)		
Teachers	50 (65)	27 (35)	15 (65)	8 (35)	35 (17.5)	0.98
Singers	25 (61)	16 (39)	35 (60)	24 (40)	40 (20)	0.86
Telemarketers	38 (57.6)	28 (42.4)	17 (50)	17 (50)	45 (22.5)	0.47
Actors	25 (51)	24 (49)	17 (33)	34 (66)	58 (29)	0.07
Total	138 (59)	95 (41)	84 (50)	83 (50)	178 (44.5)	–

Chi-Squared Test

Table 5 shows that the alcohol intake in the age group between 18 to 30 years is 40% (n=160) in relation to the 400 subjects, and it can be noted that most of the sample doesn't drink (60%, n=240). In the age group between 18-30 years, 36.1% (n=36) of the teachers reported to consume alcohol, while in a higher age range (from 31 to 50 years) the consumption is similar, with 34.7% of the subjects (n=64). Among the singers, this number was recorded as 38.4% (n=52) among the first age group and 41.6% (n=48) among the other age group.

With respect to telemarketers, a 50% rate was recorded for alcohol intake for subjects between

the ages of 18-30 years (n=82) and 22.2% (n=18) for the other age group.

In the actors group, the alcohol intake was higher when compared to other professionals, as it was recored in 58.8% (n=48) of the subjects between 31 and 50 years and 30.3% (n=52) between the other age group.

Table 5. Association between age group and alcohol intake. according to the categories of voice professionals (teachers. singers. telemarketers and actors)

Alcohol Intake	Age Group (years)				Total Yes n (%)	P <0.05*
	18-30 (%)		31-50 (%)			
	No n (%)	Yes n (%)	No n (%)	Yes n (%)		
Teachers	23 (63.8)	13 (36.2)	42 (65.7)	22 (34.3)	35 (17.5)	0.86
Singers	32 (61.6)	20 (38.4)	28 (58.3)	20 (41.7)	40 (20)	0.74
Telemarketers	41 (50)	41 (50)	14 (77.8)	4 (22.2)	45 (22.5)	0.03*
Actors	32 (61.5)	20 (38.5)	28 (58.3)	20 41.7)	40 (20)	0.58
Total	128 (57.7)	94 (42.3)	112 (63)	66 (37)	160 (40)	–

Chi-squared test

Discussion

There is a wide variation as to the alcohol intake and smoking found with respect to the profession. This variability may be due to differences in profile and vocal demands of each profession.

The fact that a greater number of women participated in this research corroborates the findings of authors[23] who claimed that women are usually more accessible to participate and answer to questionnaires and/or interviews. In articles[18,24] that were focused on teachers and telemarketers, the number of women is also greater when compared to men, a fact that can be justified by the greater insertion of women in these professions.

In relation to the age group, the majority of teachers was among 31 to 50 years old, which corroborates the findings of the research focused in such professionals[13]. The rest of the sample was in greater numbers between 18 to 30 years old, a fact that was also observed in studies with singers[14], actors,[20] and operators telemarketers[25].

According to the data obtained by the Ministry of Health in the Brazilian population[7], smokers represent 11.3% of the population, while this number is approximately 14.9% in São Paulo. In this research, the only groups with values close to those recorded by the Ministry of Health were teachers and singers (18% and 12%, respectively).

The prevalence of smoking among teachers was 18% (Tables #2 and #3), which is compatible with the data found in research conducted with the same voice professional[18,26,27]. In a research[13] conducted with teachers from early education, primary and high school of the public network, the number recorded was lower (10.6%). It can be assumed that, as they work with students with a lower age range, teachers avoid smoking, while teachers included in this research worked at different levels of education.

When discussing the findings relating to the singers, it is worth mentioning that, in the database of this research, there was no classical singer, since all singers were popular singers. With respect to the actors, their performance in the theatre, was directed at various audiences, without any specificity.

Smoking was least prevalent (12%) with singers. The results found in this research can be justified by the study of Costa et al.[28], which ranks singers as the professionals with intense vocal demand, there is a high requirement of refinement and the impact is decisive; therefore, factors that would

be compromised if they smoke. Still according to the study of Dassie-Leite et al.[14], the percentage of popular singers who reported being smokers was 6.7% lower than the observed in this research.

In the telemarketers group, the results point to the higher prevalence of smokers in comparison with other professionals. This result corroborates the research conducted by Ferreira et al.[18] and Moreira et al.[19], with these professional classes, with this difference being statistically significant in the comparison between genders.

The percentage obtained in the actors group was also higher (24%), although it is half of the results recorded by Goulart and Vilanova[20] (48%). It can be said that the universe in which the actors group is inserted is more permissive, since it is common when they say that they smoke, drink and use drugs.

As to alcohol intake, whereas all voice professionals analyzed, almost half of them (44.5%) reported themselves as consumers (Tables #4 and #5).

The survey conducted by the Ministry of Health[7] shows that 16.4% of the population interviewed reported an abusive use of alcohol, which is considered with more than four drinks in one occasion. It is worth mentioning that this research only assessed the alcohol intake, regardless of the amount. Research regarding this subject indicates the difficulty in collecting data, since in addition to the number of doses, they should also analyze the type of drink and the frequency.

Some researches[29.30] found similar values in the general population, the first[29] held with industry workers and the second[30] with subjects in the Northeastern of Brazil.

The prevalence of alcohol intake was higher in male subjects (49.7%) (Table 4), and in the younger group (20.8%), which corroborates the data found by the Ministry of Health[7].

In the analysis by voice professional group, teachers recorded the lowest percentage of alcohol intake (35%), with values is similar to those seen in a research with the same professional group[13]. In relation to singers, the findings of this study are lower than those indicated by Dassie-Leite et al.[14] and Aquino and Teles[15], while it is higher than those obtained by Zambão[16] and Ferreira et al.[17]. Vocal habits in singers vary greatly according to the requirements and demands of each style, since popular singers and classical singers present different needs and can present a completely different behavior according to the habits. A lyrical singer cannot have a good performance when consuming alcohol during a presentation, while this practice may be common among popular singers.

Telemarketers showed high values in the alcohol intake pattern (45%), which was greater than the observed by Moreira et al.[19] (25.9%). This difference can be explained by the fact that these studies had very different numbers of subjects, since the sample only had 27 subjects in the study by Moreira et al.[19].

In relation to the actors, the percentage obtained in this research (58%) was lower than that registered in the study of Goulart and Vilanova[20] (72.9%), but it is worth noting the high number of alcohol consumers in this profession in both studies.

It should be noted that some respondents answered the questionnaire in their work environment in this study, which may have influenced their responses. Even though it was explained that their responses would not be disclosed to their companies, some professionals may have been intimidated to respond truthfully.

Conclusion

The percentage of voice professionals who smoke and consume alcohol varies according to the category analyzed, i.e., the telemarketers were the group with more smokers, and actors were the group that presented more individuals who consume alcohol. A statistically significant difference was noted in telemarketers (male and younger in greater numbers) and singers (men outnumber) groups in the association of these variables with gender and age.

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