SUBSTANCE USE, VOICE CHANGES AND QUALITY OF LIFE IN LICIT AND ILLICIT DRUG USERS

Uso de substâncias psicoativas, alterações vocais e qualidade de vida em usuários de drogas lícitas e ilícitas

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ABSTRACT

Purposes: to investigate the quality of life and voice in addition to the main auditory perception changes and acoustic measures *jitter*, *shimmer* and *Glottal Noise Excitation* in users of licit and illicit psychoactive substances that sought a treatment center for chemical dependency. **Methods:** cross-sectional study in which participants responded to questionnaires *Voice-Related Quality of Life* survey and *World Health Organization Quality of Life Instrument-Bref*. We made a voice recording of the vowel / a / and a count from 1 to 20. The vocal recordings were evaluated by GRBAS-I (G – overall degree of dysphonia, R – roughness, B – breathiness, A – asteny, S – strain) scale and acoustic analysis software by VoxMetria. **Results:** 29 protocols and voice recordings, 19 (65.5%) of the sample were male, and the mean age of the sample evaluated was 37.8 years-old. The scores both questionnaires indicate no differences between users of licit or illicit drugs. In perceptual analysis through GRBAS-I they revealed the predominance of mild and moderate changes in grade items of dysphonia, roughness and overall instability for licit and illicit drugs. The jitter and shimmer were altered for men and women, and most of the sample showed the standard deviation of the fundamental frequency as amended. **Conclusion:** changes in quality of life and voice were identified in both users of licit or illicit drugs. Most users showed changes in jitter and shimmer. Illicit drug users were more changes *Glottal Noise Excitation* standard deviation of the fundamental frequency.

KEYWORDS: Voice; Quality of Life; Substance-Related Disorders

INTRODUCTION

The prolonged use of psychoactive substances such as alcohol and tobacco may lead to voice pathologies[1,2], among which Reinke's edema, polyps, nodules, acute laryngitis, and laryngeal carcinoma for exposure to tobacco[3], and edema[4] and benign laryngeal diseases for exposure to alcohol, which increases the risk of laryngeal neoplasias[5-7].

Marijuana smoke causes irritation of the mucosa and hoarseness. Marijuana users have vocal roughness, difficulty in changing pitch, imprecision issues to articulate phonemes, and changes in communication rhythm and fluency[8-10]. Cocaine is extremely irritating for the nasal mucosa and causes vasoconstriction, which changes sensitivity and reduces the control over the voice and, thus, facilitates voice abuse[11,12].

As for quality of life, studies have shown that drug users have lower indices in the physical, psychological, social, and environmental domains when compared to non-users[13-15]. Other studies have identified low quality of life related to voice problems, manly degenerative and inflammatory diseases and spasmodic dysphonias[16,17]. Such pathologies may be related to the abuse of licit and illicit psychoactive substances[2].

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Drug use is very aggressive to the voice mechanism and there are many reports of the use of these substances among some voice professional classes (rock and night club singers, teachers, telemarketing representatives, and salespeople)[18-20]. And, even if it is not the norm, it is extremely important that voice therapists are aware of the possible voice changes caused by psychoactive substance use, particularly among voice professionals. Studies carried out with drug users regarding voice and quality of life are still scarce. Expanding the knowledge in the area of voice and increasing the effectiveness of the speech therapy contribute to planning actions that involve the prevention of vocal changes and promotion of health. The goal of this study was to investigate quality of life and voice through the questionnaires Voice-Related Quality of Life (VRQL) and World Health Organization Quality of Life Instrument-Bref (Whoqol-Bref), besides the main perceptual-auditory changes and acoustic measures of jitter, shimmer, and glottal noise excitation (GNE) among licit and/or illicit psychoactive substance users who sought a chemical dependency treatment center.

METHODS

A cross-sectional study was carried out through data collection with tobacco, marijuana, alcohol, cocaine, solvents, and crack users. The data were collected between May 2010 and May 2011 at the Red Cross of Rio Grande do Sul, Brazil. Socioeconomic characteristics, substance use data, amount, period, and frequency of consumption were investigated using the tool created by the authors, which identified users of licit or illicit drugs, or of both, besides the application of VRQL and Whoqol-Bref. The collection also consisted in recording the voice during a count from 1 to 20 and during the sustained emission of the vowel /a/[10]. Moreover, an acoustic analysis was performed for the measures of jitter, shimmer, and GNE, as well as of the voice recordings using the GRBAS-I scale (G – overall degree of dysphonia, R – roughness, B – breathiness , A – asteny, S – strain, I – instability)[21,22]. This study was approved by the Committee of Ethics and Research of the Federal University of Healthcare Sciences of Porto Alegre (UFCSPA) under protocol 09/532.

Staff Training for the Collection: The collectors took part in a theory-practice training regarding the speech therapy assessment[10]. Joint training sessions for the application of the tools and voice recording were carried out and the interviewers trained among themselves. The results were later discussed to evaluate the technique.

Subjects: The sample (n = 29) included tobacco, marijuana, crack, alcohol, cocaine, and solvent users aged 18 to 60 years, who used one or more psychoactive substances or that had discontinued use within the previous 30 days and who accepted to take part in the study by providing informed consent. There was no difference in the selection of licit or illicit drug users since the study's goal was to comprise users of either type of substance. All patients included in the sample were chosen by the screening services of the Red Cross of Porto Alegre, RS, Brazil, following the inclusion criteria. Individuals who were unable to perform speech therapy evaluations, who refused to record their voices, or who where under the influence of the substance at the moment of the interview were excluded.

Data Collection: The interviewees were invited to take part in the study by reading the Term of Informed Consent. After signing the document, they filled out a standardized protocol with their socioeconomic characteristics and references to the psychoactive substance use. The assessments were carried out in person in a silent environment and followed Behlau's recording script[10]. During the assessment, the subjects were standing and the recorder was placed 10 cm away from the researcher's mouth (so as to avoid noise in the recording) and 5 cm away from the interviewees' mouth to capture the sustained vowel /a/ and the count[10] from 1 to 20.

Speech Therapy Data Assessment: After all data were collected, the voices were converted into a digital system and handed to two speech therapists specializing in voice, blinded for the sample, who assessed the voice recordings using the GRBAS-I scale (G – overall degree of dysphonia, R – roughness, B – breathiness, A – asteny, S – strain, I – instability)[21,22] in order to carry out the perceptual-auditory voice assessment. GRBAS-I is an effective tool in the perceptual identification of voice disorders related to the irregular vibration of vocal folds.

The acoustic analysis was carried out using the software VoXmetria version 2.7, The acoustic measures chosen for analysis were: fundamental frequency (Ff – reflex of the biodynamic characteristics of the vocal folds and their integration with subglottal pressure), jitter (indicates short-term Ff variability, measured between glottal cycles), shimmer (indicates the short-term variability in wavelength and is a measure of phonation stability), and Glottal Noise Excitation (GNE) (the acoustic measure that calculates the noise produced by

vocal fold oscillation). All measures were extracted from the analysis of the vowel /a/[23].

The raw score was used to calculate VRQL. This score ranges from 0 (minimum) and 100 (maximum), where the higher values indicate better voice quality of life both for the particular domains and for the global score (Gasparini et al., 2007)[24]. VRQL has two domains, the physical and the socioemotional, comprising questions on the difficulties that voice issues entail in the individual's life. Whoqol-Bref (short version) is validated in Portuguese and is widely used in studies involving the Brazilian population. This questionnaire has 26 items distributed among four domains (physical, psychological, social relations, and environment)[24]. The physical domain assesses physical pain, fatigue, and routine activities, among other aspects. The psychological domain includes questions on the individual's positive and negative feelings, besides self-esteem. Social relations include questions on social relations, social support, and sexual activity. The environment domain assesses leisure, financial resources, and healthcare. The higher the result's percentage, the higher the quality of life[24].

Data Analysis: Descriptive statistics was employed in the distribution of variables, presented in absolute and relative frequency tables. The quantitative variables are presented as mean±standard deviation (SD) or median and interquartile range, when appropriate. Univariate and bivariate analyses were performed. To analyze the Whoqol-Bref and VRQL scores, T-test or Mann-Whitney test were applied to compare the scores of licit or illicit drug users. The analyses were carried out using the software Statistical Product and Service Solutions (IBM SPSS Statistics) version 19.0 and the values of $p<0.05$ were considered statistically significant.

RESULTS

Twenty-nine protocols and voice recordings from users of licit or illicit drug, or of both, who accepted to take part in this study were analyzed. The sociodemographic characteristics of these users were presented in Table 1. Most subjects consumed alcohol, followed by tobacco. The characteristics of this consumption were presented in Table 2.

Table 1 – User sample characteristics (n = 29)

Characteristics	n (%)
Sex	
Female	10 (34.5%)
Male	19 (65.5%)
Age (years)	37.8 ± 17.7
Marital status	
Married	8 (27.6%)
Divorced	5 (17.2%)
Single/Widowed	16 (55.2%)
Household income	
1 to 5 times the minimum wage	17 (60.7%)
5 to 10 times the minimum wage	10 (35.7%)
10+ times the minimum wage	1 (3.6%)
Profession	
Retired	2 (6.9%)
Self-employed	1 (3.4%)
Unemployed	3 (10.3%)
Housewife/househusband	4 (13.8%)
Student	2 (6.9%)
Healthcare professional	2 (6.9%)
Professionals of other areas	15 (51.7%)
Schooling	
Illiterate	1 (3.4%)
Incomplete elementary	8 (27.6%)
Complete elementary	6 (20.7%)
Incomplete high school	3 (10.3%)
Complete high school	8 (27.6%)
Incomplete higher education	2 (6.9%)
Complete higher education	1 (3.4%)
Medical treatment	15 (55.6%)
Psycotherapy/psychiatry	11 (78.6%)
Self-help	2 (14.3%)
Clinical	1 (7.1%)
Medication	17 (58.6%)
Antipsychotic	2 (11.8%)
Clinical	2 (11.8%)
Anticonvulsive + antipsychotic	3 (17.6%)

The data were presented as n (percentage) and the age variable as mean±standard deviation
* Not all participants answered all questions

Table 2 – Substance intake characteristics of the users who answered the Voice-Related Quality of Life and Voice and World Health Organization Quality of Life Instrument-Bref questionnaires (n = 29)

Characteristic	
Substance*	
Alcohol	25 (82.2%)
Cocaine	9 (31%)
Crack	7 (24.1%)
Marijuana	14 (48.3%)
Solvent	6 (2%)
Tobacco	20 (69.0%)
Associations	
Alcohol + Tobacco	4 (13.8%)
Alcohol + Marijuana + Tobacco	4 (13.8%)
Alcohol + Cocaine + Marijuana + Tobacco	4 (13.8%)
Age of 1st use (years)	17.1 ± 6.2
Amount of use (units)	12.5 (3.3 – 20.0)

*The users could report the use of more than one substance
The data are presented as absolute n and as percentage (%), mean±SD, or median (interquartile range)
Unit stands for: 1 dose of alcohol, 1 gram of cocaine, 1 rock of crack, 1 marijuana cigarette, 1 tobacco cigarette. The amount was calculated from the sum of the amount of each drug.

The Whoqol-Bref and VRQL scores were presented with the score of the total sample and of the sample split into licit drug users and illicit drug users. No statistical difference was found in the sample, although the illicit drug users had higher means regarding quality of life and of voice, i.e., better quality of life, as well as higher scores in the physical and psychological domains of Whoqol-Bref.

The severity of voice disorders assessed in the GRBAS-I scale was presented in Tables 3 and 4 and these results were also grouped into licit drug users and illicit drug users. The data found in the perceptual-auditory analysis using the GRBAS-I scale showed a slight or moderate prevalence of changes in overall degree of dysphonia and in roughness, as well as in instability among licit drug users. For the illicit drug users, slight changes were found in overall degree of dysphonia, strain, and instability. A moderate change prevalence was found in roughness for this group.

Table 3 – Mean score of the Voice-Related Quality of Life (VRQL) and World Health Organization Quality of Life Instrument-Bref questionnaires divided by domain (n = 29)

Scale	Score	Licit	Illicit
VRQL			
Physical domain	81.0 ± 20.4	66.3 ± 24.6	71.1 ± 26.5
Socioemotional domain	89.3 ± 25.4	80.3 ± 16.9	81.6 ± 23.4
Total	73.8 ± 21.9	71.9 ± 20.3	75.3 ± 23.6
Whoqol-Bref			
Physical domain	14.0 ± 3.7	13.9 ± 4.3	14.1 ± 3.3
Psychological domain	13.5 ± 4.2	13.2 ± 4.5	13.8 ± 4.0
Social relations domain	13.3 ± 4.2	13.9 ± 3.3	12.8 ± 4.8
Environment domain	12.9 ± 2.8	13.1 ± 2.1	12.8 ± 3.3
Self-assessment domain	12.2 ± 4.3	12.6 ± 3.6	11.9 ± 4.9
Global	13.4 ± 3.0	13.4 ± 2.9	13.3 ± 3.2

The data were presented as mean± standard deviation
No statistical difference was found between the licit and illicit drug user groups
Student's T-test, $p<0.05$.

Table 4 – Voice parameters (n = 26)

Acuteness level	Parameters n (%)					
Total	**G**	**R**	**B**	**A**	**S**	**I**
0	6 (23.1)	6 (24.0)	23 (88.5)	25 (96.2)	17 (65.4)	10 (38.5)
1	14 (53.8)	11 (44.0)	3 (11.5)	1 (3.8)	6 (23.1)	13 (50.0)
2	6 (23.1)	8 (32.0)	-	-	3 (11.5)	3 (11.5)
3	-	-	-	-	-	-
Licit	**G**	**R**	**B**	**A**	**S**	**I**
0	1 (9.1)	1 (9.1)	9 (81.8)	10 (90.9)	7 (63.6)	1 (9.1)
1	6(54.5)	6(54.5)	2 (18.2)	1 (9.1)	2(18.2)	8 (72.7)
2	4(36.4)	4(36.4)	-	-	2(18.2)	2(18.2)
3	-	-	-	-	-	-
Illicit	**G**	**R**	**B**	**A**	**S**	**I**
0	5 (33.3)	5 (35.7)	14 (93.3)	15 (100)	10 (66.7)	9 (60)
1	8(53.3)	5(35.7)	1 (6.7)	-	4(26.7)	5(33.3)
2	2(13.3)	4(28.6)	-	-	1 (6.7)	1 (6.7)
3	-	-	-	-	-	-

G = overall degree of dysphonia; R = roughness; B = breathiness; A = asthenia; S = strain; I = instability
The data were presented as n (%)

The acoustic analysis data of Ff, jitter, shimmer, and GNE were presented in the total sample (Table 5) and individually for each participant of the research (Table 6). Only time of use was different between licit and illicit drug users (P= 0.045): The median of time was higher for licit drug users (240 months vs. 120 months).

Table 5 – Acoustic analysis – VoXmetria (n = 28)

Voice parameters	Total values	Licit	Illicit
Fundamental frequency (Hz)†			
Male	136.37 ± 65.14	111.6 ± 18.8	150.8 ± 78.3
Female	190.99 ± 23.94	186.7 ± 32.9	196.4 ± 4.0
Jitter (%)‡	0.33 (0.13 – 1.25)	0.65 (0.22 – 3.12)	0.19 (0.11 – 0.59)
Shimmer (%)‡	6.16 (4.3 – 8.11)	7.31 (5.75 – 8.74)	5.04 (3.85 – 8.08)
GNE rate†	0.41 ± 0.17	0.39 ± 0.15	0.42 ± 0.19

The data are presented as (†) mean±SD or (‡) median (p25-p75)
No statistical difference was found between the licit and illicit drug user groups.
Student's T-test or Mann-Whitney test applied when appropriate, p<0.05

Table 6 – Voice parameters and scores of the individuals assessed

Patient sex	Substance	Time of use (years)	Fundamental frequency (Hz)	Jitter (%)	Shimmer (%)	GNE rate	VRQL	Whoqol-Bref
1_M	at	34	100.98	1.23	8.07	0.49	62.5	12.3
2_M	at	16	147.02	0.72	5.7	0.39	42.5	8.9
3_F	acmt	10	200.82	0.41	4.33	0.31	87.5	9.8
4_F	a	12	178.85	0.54	5.51	0.42	82.5	10.0
5_M	ast	10	113.23	0.25	7.9A	0.44	60.0	15.1
6_M	acm	37	113.31	0.21	8.11	0.49	97.5	17.5
7_M	acmst	1.5	129.44	0.1	5.35	0.35	35.0	7.4
8_F	amt	26	192.13	0.11	4.85	0.11	62.5	11.4
9_M	a	23	113.58	10.9	20.24	0.31	87.5	15.4
10_M	ac	24	132.99	0.2	5.23	0.31	60.0	16.6
11_M	at	7	101.81	0.13	4.29	0.29	72.5	15.8
12_F	a	11	243.51	3.62	8.09	0.32	95.0	18.0
13_M	amt	8.25	136.26	0.59	3.51	0.48	37.5	11.8
14_M	cmt	10	137.65	0.17	2.7	0.4	100.0	14.9
15_F	acmt	12	198.38	2.95	7.5	0.35	95.0	7.1
16_F	a	2	157.7	0.21	5.9	0.41	72.5	10.3
17_M	a	4	86.64	3.56	11.6	0.27	95.0	15.8
18_M	acmt	6	132.25	0.16	4.08	0.22	100.0	14.2
19_M	acmt	2	149.88	0.14	2.46	0.38	87.5	15.5
20_F	t	10	177.63	0.57	6.42	0.26	30.0	11.8
21_F	amt	42	194.11	0.11	4.13	0.18	100.0	17.7
22_M	acmt	9	99.26	1.26	7.99	0.4	65.0	12.0
23_F	t	20	175.76	1.78	8.95	0.29	97.5	15.2
24_M	acmt	20	392.79	6.94	33.41	0.66	95.0	15.2
25_M	c	20	106.18	0.57	15.06	0.63	82.5	13.7
26_F	a	50	NA	NA	NA	NA	67.5	10.0
27_M	at	8.25	117.64	0.12	6.72	0.79	70.0	15.2
28_M	am	1	163.32	0.12	10.22	0.73	45.0	13.1
29_M	amt	48	116.83	0.08	3.77	0.72	55.0	15.2

M: male
F: female
a: alcohol, c: cocaine/crack, m: marijuana, s: solvent, t: tobacco
NA: not assessed
Time of use was presented as years
VRQL: Voice-Related Quality of Life

The acoustic measures of jitter and shimmer had changes at the same rate for either gender: Shimmer had changes in 30% of women and 52% of men. Changes in fundamental frequency, i.e., higher frequency, was found in 1% of men. In the sample, 60% of women and 40% of men had an Ff SD higher than 2 (Table 6).

DISCUSSION

Up until now, according to a literature review, this is the first paper that assesses quality of life and of voice among users of licit or illicit drugs, or of both. One of the main findings in this research is that illicit drug users had lower scores in the domains of social relations, environment, and self-assessment compared to licit drug users, which suggests a better quality of life of alcohol and tobacco users. Although the results were not statistically significant, it is worth pointing out that the sample size was a limitation of the study. Nevertheless, lower scores in Whoqol-Bref match the results by Moreira[13], who assessed quality of life among psychoactive substance users and found that the sample had lower quality of life scores irrespective of the drug used. The low quality of life among licit drug users (alcohol and tobacco) found in this study has already been approached in the literature by Frischknecht[25] and Stafford[26]. Frischknecht[25] reported that a decrease in alcohol intake by heavy drinkers, even without full withdrawal, is associated with an increase in quality of life scores. Stafford[26] assessed quality of life and physical difficulties among smokers and detected low scores in both assessments.

In the VRQL assessment, licit drug users had lower scores in all domains, which indicate worse quality of life than illicit drug users, albeit with no statistical differences. According to the literature, the life of psychoactive substance users (licit or illicit drugs) is greatly compromised by issues such as psychological, physical, and social complications[27]. Thus, voice changes may be masked by other problems or these users may be less aware of the impact on their quality of life and of voice. Voice changes may negatively impact quality of life of individuals who use their voices professionally[14], as well as licit or illicit drug use harms quality of life as a whole[13]. The voice issues caused by drug abuse seem to affect only individuals who use their voices professionally, impairing their work performance and harming important domains of their lives.

Regarding the perceptual-auditory changes in voice (assessed through the GRBAS-I scale), both licit and illicit drug users had slight or moderate changes in the overall degree of dysphonia and in roughness. This result matches the findings by Wan[28], who assessed perceptual-auditory changes in alcohol and tobacco users. These perceptual-auditory changes may be related to the presence of organic changes in the patient. However, this study was limited by the lack of a structural assessment of the vocal tract. Instability was also present at a slight degree for both licit and illicit drug users. According to the literature, this instability may be associated to a vibration of the vocal tract structures, common in neurological pathologies[29], and the long-term substance use could be the cause of this type of pathology[30].

No differences were found in the means of Ff, jitter, shimmer, or GNE between the groups, although overall licit drug users had changes in jitter and shimmer, which means a voice with roughness and hoarseness, results that match the literature[31,32].

Frequent alcohol or tobacco use increases the risk of laryngeal pathologies since they are chronic factors that affect the vocal fold mucosa and may impact jitter, shimmer, and fundamental frequency[4]. The increase in jitter may be associated to the loss of motor control of the muscle that maintains vocal fold function, which increases the periodicity of the acoustic signal and its values[33]. Tobacco dries the vocal fold mucosa and may cause several effects on voice quality since it causes an inflammatory reaction, mainly chronic laryngitis, keratosis, and leukoplasia[34]. Alcohol intake also leads to an expansion of blood vessels and edema of the vocal fold mucosa[35]. Changes in jitter may cause slight and involuntary vibrations of the fundamental frequency, which determines the instability of the phonation system[36] observed in this study, mainly among the subjects who used alcohol and/or tobacco.

Shimmer, which changes with the reduction in glottal resistance and the presence of mass lesions in the vocal folds, also had changes among users who consumed alcohol and tobacco, regardless of their association with illicit drugs. This acoustic measure may be related to breathiness and the presence of noise in emission[36]. The increase in shimmer may be linked to an inconsistency in the vocal fold contact[37]. The aggression caused by the heat of the smoke and by the substances present in tobacco, such as nicotine, make the mucosa defend itself by producing keratosis, which ends up increasing its thickness and reducing its elasticity and flexibility[31,32].

Glottal Noise Excitation (GNE) was changed in most users regardless of the substance used. Glottal noise was also changed and was associated to GNE values: The higher the noise, the lower the GNE[3]. The standard deviations of the fundamental frequency were also changed. According to Behlau[35], the SD of frequency should not go beyond

2 Hz since values above that may indicate neurological voice disorders or emotional stress or anxiety because of the task performed.

This study must be taken with care since the sample is highly heterogeneous with the use of multiple substances and very different times of use. The amount consumed and time of use directly impacted the voice assessment results since those in withdrawal for 30 days had lower effect of the substances on their vocal tract. Other variables that may have impacted voice quality, such as reflux, were not assessed. Similarly, this study did not control for age, which could impact vocal changes, or perform otorhinolaryngologic exams to verify the presence of vocal fold pathologies. Furthermore, the participants were not asked whether they had signs or symptoms of voice problems or some voice pathology prior to the assessment. These subjects could have been excluded from the sample.

It must be considered that the sample size is small and that the Voice-Related Quality of Life (VRQL) questionnaire may not be the best option to measure these variables among drug users. Although the data presented and discussed do not allow for a broad generalization, it is important to consider that the speech therapist is able to help in behavior changes regarding drug use by having specific data. Sometimes, the patient does not report drug use but, with the results of these voice and quality of life analysis, the speech therapist can approach the issue in a respectful manner and refer the patient to appropriate treatment when drug abuse is identified.

CONCLUSION

It could be observed that most voices of psychoactive substance users had changes in jitter and shimmer. The changes in GNE and standard deviation of Ff were more related to the voices of illicit drug users. Regarding the perceptual-auditory changes in voice (assessed through the GRBAS-I scale), both licit and illicit drug users had slight or moderate changes in overall degree of dysphonia and in roughness. The changes in quality of life and voice were observed in both groups, although illicit drug users had higher means of quality of life and voice, as well as higher scores in the physical and psychological domains of Whoqol-Bref.

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RESUMO

Objetivos: investigar a qualidade de vida e voz, além das principais alterações perceptivo-auditivas e as medidas acústicas *jitter, shimmer* e *Glottal Noise Excitation* em usuários de substâncias psicoativas lícitas e/ou ilícitas que buscaram um centro de tratamento para dependência química. Métodos: estudo transversal. Os participantes responderam aos questionários de *Mensuração de Qualidade de Vida em Voz* e *World Health Organization Quality of Life Instrument-Bref*. Além disso foi realizado, um registro vocal da vogal /a/ e de uma contagem de números de 1 a 20. Os registros vocais foram avaliados por meio da escala GRBAS-I (G – grau global da disfonia, R – rugosidade, B – soprosidade, A – astenia, S – tensão) e a análise acústica (*jitter, shimme*r, *Glottal noise excitation*) pelo *software* VoxMetria. **Resultados:** avaliaram-se 29 protocolos e registros de voz; na amostra, 19 (65,5%) eram homens; a idade média da amostra foi de 37,8 anos. Os escores de ambos os questionários não apresentaram diferenças entre os usuários de drogas lícitas e os de drogas ilícitas. Na análise perceptiva por meio da GRBAS-I, eles mostraram predominância de alterações discretas e moderadas nos itens grau geral da disfonia, rugosidade e instabilidade para usuárias de drogas ilícitas. A medida acústica *jitte*r e o *shimmer* estavam alterados para homens e mulheres, e o desvio padrão da frequência fundamental também estava alterado. **Conclusão:** alterações de qualidade de vida e voz foram identificadas em ambos os usuários. A maioria dos usuários apresentou alterações nas medidas de *jitter* e *shimmer.* Usuários de drogas ilícitas apresentaram mais alterações de *Glottal Noise Excitation* e desvio padrão da frequência fundamental.

DESCRITORES: Voz; Qualidade de Vida; Transtornos Relacionados ao Uso de Substâncias

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