Voice and work conditions of soccer coaches and physical trainers

Voz e condições de trabalho de técnicos e preparadores físicos de futebol

Voz y condiciones de trabajo de técnicos y preparadores físicos de fútbol

Regina Zanella Penteado[*]
Nolle Bernardi da Silva[**]

Abstract

Introduction: The voice is a work tool for soccer coaches and physical trainers and there is a lack of studies about the work, health and vocal well-being conditions of these professionals. **Purpose:** to investigate aspects related to work conditions and vocal health of soccer coaches and physical trainers. **Material and method:** Qualitative study. The subjects are 13 physical trainers (T) and 13 coaches (C) from the teams in the first round of the Paulista Soccer Championship 2012/A-series. An on-site observation was conducted (environment, vocal usage, behavior and care; eating habits and others) as well as an interview with content analysis (importance/role of voice in work; vocal needs of the occupation; vocal usage, complaints/difficulties/problems; voice care). **Results:** The voice is extremely important to the work of both professional categories, with roles and needs regarding communication efficiency and vocal psychodynamics, in the relationship with the players. Unfavorable aspects of environment and work conditions involve noise competition and voice usage in high intensity as well as yelling. Work conditions associated to the presence of inadequate habits, lack of knowledge and of information about vocal care are risk conditions for vocal health. **Conclusions:** There is a need for further studies about the relationship between work, care, health and vocal well-being of soccer coaches and physical trainers that provide subsidies for actions in Health Promotion of both categories.

Keywords: voice; speech, language and hearing sciences; occupational health; soccer; health promotion; physical education and training.

[*]*Speech-Language Pathologist and Audiologist; Professor of Speech-Language Pathology and Audiology, Journalism, and Radio, Television and Internet, at the Universidade Metodista de Piracicaba (UNIMEP) - Brazil.*
[**]*Speech-Language Pathologist and Audiologist graduated at the Universidade Metodista de Piracicaba (UNIMEP) - Brazil.*
Author Contribution: *RZP – paper conception, methods, formal analysis, paper outline, critical revision; NBS – methods, data curator, formal analysis, paper outline*
Correspondence Address: *Regina Zanella Penteado - Av. 41 nº 209 ap. 62 Ed. Thétis – C. J. – Rio Claro (SP), Brasil. Cep 13501-190. E-mail: rzpenteado@unimep.br.*
Received: *30/03/2014;* **Accepted:** *06/08/2014*

Resumo

Introdução: *A voz é instrumento de trabalho dos técnicos e preparadores físicos de futebol e faltam pesquisas acerca das condições de trabalho, saúde e bem estar vocal destes profissionais.* ***Objetivo:*** *investigar aspectos das condições de trabalho e saúde vocal de preparadores físicos e técnicos de futebol.* ***Material e método:*** *Pesquisa de campo qualitativa. São sujeitos 13 preparadores físicos (P) e 13 técnicos (T) dos times da primeira fase do Campeonato Paulista de Futebol de 2012/série A. Foi feita observação in loco (ambiente, usos, comportamentos e cuidados vocais, alimentação e outros) e entrevista com análise de conteúdo (importância/função da voz no trabalho; necessidades vocais na profissão; usos da voz, queixas/dificuldades/problemas; cuidados com a voz).* ***Resultados:*** *A voz tem importância fundamental no trabalho de ambas as categorias, com funções e necessidades referentes à eficiência comunicativa e à psicodinâmica vocal, na relação com jogadores. Aspectos desfavoráveis do ambiente e das condições de trabalho propendem à competição sonora e ao uso da voz em intensidade elevada e grito. As condições de trabalho, aliadas à presença de hábitos inadequados, desconhecimento e falta de informações acerca dos cuidados com a voz, configuram condições de risco à saúde vocal.* ***Conclusões:*** *Há necessidade de mais estudos acerca das relações entre trabalho, cuidados, saúde e bem-estar vocal de preparadores físicos e técnicos de futebol que subsidiem ações de promoção da saúde para ambas as categorias.*

Palavras-chave: *voz; fonoaudiologia; saúde do trabalhador; futebol; promoção da saúde; educação física e treinamento.*

Resumen

Introducción: *La voz es un instrumento de trabajo de los técnicos y preparadores físicos de fútbol y faltan estudios sobre las condiciones de trabajo, cuidados y salud vocal de estos profesionales.* ***Objetivo:*** *investigar los aspectos de las condiciones de trabajo y salud vocal de preparadores físicos y técnicos de fútbol.* ***Material y método:*** *Investigación de campo cualitativa. Son sujetos 13 preparadores físicos (P) y 13 técnicos (T) de los equipos de la primera etapa del Campeonato Paulista de Fútbol de 2012/serie A. Se hizo observación in loco (ambiente, usos, comportamientos y cuidados vocales, alimentación y otros) y entrevista con análisis de contenido (importancia/función de la voz en el trabajo; necesidades vocales en la profesión; usos de la voz, quejas/dificultades/problemas; cuidados con la voz).* ***Resultados:*** *La voz tiene importancia fundamental en el trabajo de ambas categorías, con las funciones y las necesidades en cuanto a la eficiencia comunicativa y a la psicodinámica vocal, en la relación con los jugadores. Aspectos desfavorables del ambiente y de las condiciones de trabajo propenden a la competición sonora y al uso de la voz en alta intensidad y grito. Las condiciones de trabajo, combinadas con la presencia de hábitos inadecuados, desconocimiento y falta de información sobre los cuidados con la voz, configuran las condiciones de riesgo de la salud vocal.* ***Conclusiones:*** *Hay necesidad de más estudios sobre las relaciones entre trabajo, cuidados, salud y bienestar vocal de preparadores físicos y técnicos de fútbol que subsidien acciones de promoción de la salud para ambas categorías.*

Palabras clave: *voz; fonoaudiología; salud laboral; fútbol; promoción de la salud; educación y entrenamiento físico*

Introduction

Soccer physical trainers and coaches use their voices professionally as it is an important work tool; therefore, they need preparation regarding vocal use and care[1-3].

The issues regarding vocal use and vocal health of soccer physical trainers and coaches should, thus, be a part of the concerns about the health of these workers[4]; as it already is for certain professional categories that have, in work-related voice disorders, one of the most prevalent health ailments[4-5].

Therefore, it is understood that discussions about voice/vocal health should happen in a context that understand the work conditions of both categories; and the study of the relationships between voice and work is of interdisciplinary interest, involving fields such as Speech-Language Pathology and Audiology, Physical Education, Sports Medicine, Collective Health, among others.

Studies show that, in general, soccer physical trainers and coaches go through problematic situations regarding vocal health. They do not have adequate guidance about this subject, they have deleterious habits, lack of knowledge and care regarding their voices, intense vocal use demands in their jobs, face vocal risk conditions at work, have complaints, signs and symptoms (vocal fatigue, hoarseness and voice disorders, dysphonia and laryngeal lesions such as edema, polyps and hemorrhages, among others) [2-3, 6-11].

There are few studies concerning soccer physical trainers and coaches, and the work of health professionals with this category is still a field with much to be explored [2-3; 6-12].

There are no studies offering the necessary subsidies for an in-depth understanding about the demands, work conditions and health-illness processes faced by workers in categories related to soccer. There is a lack of studies that guide health promotion actions for soccer physical trainers and coaches.

One study involving 12 soccer coaches in the elite clubs of the Australian League showed that the voice is a crucial tool for these professionals' communication[7]. Acoustic measures show that voice use occurs in high intensity and that there are several aspects of the physical and organizational work environment that may have a negative impact on voice and vocal health. The study evidenced the coaches' lack of preparation to deal with vocal risk factors at work, as well as the presence of vocal symptoms such as fatigue and hoarseness. The conclusion is that there is a need for further understanding and preparation of coaches for vocal health promotion[7].

Another international study with soccer coaches[9] identified risk factors, such as intense and prolonged vocal use in environments under adverse acoustic conditions, without employment of phonatory techniques. It pointed out the need for researches about vocal behaviors of soccer coaches.

In Brazil, studies show that coaches have no vocal health notions, negative habits, abuse their voices and have complaints, signs and symptoms of hoarseness, dry throat and phlegm after the games[8].

There is a lack of studies oriented towards the understanding of work conditions, needs, vocal demands, conditions of vocal use, care and health-illness process of soccer physical trainers and coaches.

The purpose of this study is to investigate the aspects of work conditions and vocal health of soccer physical trainers and coaches.

Material and method

Field study, descriptive, qualitative approach, approved by CEP/UNIMEP 99/11(13/12/2011).

The subjects of this study were 13 physical trainers (P) and 13 coaches (C) of the teams classified for the first round of the A-series Paulista Soccer Championship 2012.

The initial contacts with the subjects took place through the teams' press representatives. Sometimes there was difficulty in hearing back from the representatives. In others, the process was easier with a representative from one team offered to enable contacts with other teams.

The initial authorization for the study was obtained with the coaches or responsible parties for the teams. Then, the visitations to practice and game facilities were scheduled, so that data could be collected. There were also difficulties in this process, when there was no access to some teams who were simultaneously playing other championships in other states or who were concentrated.

Thus, several difficulties concerning initial contacts, schedules and access to the teams led to the fact that seven, out of the twenty teams participating in the 2012 A-Series Paulista Soccer Championship, failed to be included in the study.

Data collection happened between the months of January and April 2012. The researcher went to the each team's city and practice facilities or stadiums where the subjects were working, in the following situations: thirteen practices, two games, and one practice game. At these places, a meeting with the coach and physical trainer was held in order to present the study and explain the Informed Free Consent Term and document signature. Once participation was conceded, data collection began, involving on-site observation and an interview.

Most observations began at 9 a.m. and lasted approximately two hours with each team, in a total of 26 hours. An observation outline was designed especially for this study, including the following aspects: environment (weather, wind, dust, acoustics and noise); vocal use conditions; vocal behaviors; vocal care; feeding; self-protection strategies (hydration, whistling, whistles and clapping, grouping athletes for instructions and voice amplification with hands in a cave, microphones and amplifiers) and voice overuse (high intensity voice adjustment, yelling, calling scattered athletes on the field, explaining physical activity while executing it, repetitions and sound competition) and others. The observation of the real work situation was also based on the premises of the Ergonomic Work Analysis, so the researcher looked for informal traces of the activity, errors, unforeseen circumstances, hesitations and conflicts; in the contexts were the operational modes are developed. The vocal strategies employed during the activity and the spontaneous vocalizations that went with it were also analyzed. The results from the observation were organized in categories: work environment; work activity/situation and operational modes; vocal uses, behaviors, habits and care.

The open-ended interview involved the following aspects: a) the voice's importance and function at work; b) vocal needs in the profession; c) vocal uses, complaints/difficulties/problems; d) vocal care. The interview was recorded on a digital SONY-ICD-PX312 recorder and transcribed for content analysis. Categories and theme axes emerged from the interviews, based on which the interviews' results are organized and shown.

The discussion is conducted so as to integrate the results, in the relationships between work conditions and vocal health.

Results

Work environment

The observation showed that all activities were held in open environments, namely soccer fields covered by grass and no ceiling.

There was no dust or smoke and the weather conditions varied, involving heat, sun, wind and rain.

During practices, there was no environmental noise, but during games noise was intense due to the fan crowd and use of fireworks, which leads to sound competition.

The intrinsic characteristics of the role and work of each of the studied categories mean that there are differences between them, involving aspects of the situation, context, and work environments – especially considering practices and games. It should be seen that physical trainers work more intensely during practices and less during the games. Inversely, the coaches' job is more intense during games and discrete in practices.

During practice sessions, wardrobes for both categories were team uniforms: shorts, t-shirts, hats and sneakers. On a rainy day, one coach wore a sweatshirt and, on game days, coaches wear suits

Work situation/activity and operational modes

The physical trainer begins practices, with strategies and exercises for players' body warm--up, while walking and moving with them. The physical trainer performs physical activities while using his voice.

Then, the coach calls the players for a meeting in the center of the field, while all are standing in a circle around him. The coach then gives instructions and directions for the practice/game. The coach does not perform physical activity while using his voice.

Then, the practice/game develops. In general, subjects in both categories remain standing on the sideline with erect spines and head up, since they need to look and project their voices towards the distant/scattered players on the field. The coach

guides players and comments strategies and plays throughout the development, while the physical trainer pays attention to these guidelines.

During breaks, the coach talks to the physical trainer and the players, usually in strong voice loudness.

At the end of the practice/game, the physical trainer cools down the players, through guidelines and performance of specific exercises.

Both coaches and physical trainers face anxiety and stress situations inherent to the dynamics of practices, games and competitions, and these are more intense in championship seasons.

Vocal use, behaviors, habits and care

The physical trainers use their voices for communication, information, guidance, command, support, motivation and getting the attention of players (often far away on the field); as well as for giving instructions, demonstrations, explanations, rhythmic marks and exercise counting (which usually happens while the body is in movement and performing physical exercises). There are many repetitions of words, expressions and phrases. The most common voice behaviors of physical trainers are yelling and speaking in strong loudness.

Coaches use their voices for communication, guidance, instructions, information, command and directing of the team; as well as for motivation, getting attention, asking and reprimanding players. They usually use their voices in strong loudness.

There is no use of amplifying equipment.

Subjects in both categories group players in order to give instructions in a circle and use resources and strategies such as using whistles, hands shaped like cave, arm and hand gestures and also clapping as resources to call attention and being heard.

Throughout practices and games, subjects of both categories use their voices to express intense emotions, such as frustration and anger. Cursing also occurs.

No specific vocal care measures were observed. Subjects do not warm up or cool down their voices.

Concerning vocal habits, some take cold water (9 PT; 6 C), coffee (3 PT; 4 C) and sugar cane juice (1 PT) before and after practice.

Interviews

The interviews' content analysis identified the following categories: a) importance of voice; b) roles of the voice (theme axes: communication and guidance, support and motivation; leadership and command); c) vocal needs (theme axes: strong loudness and vocal projection; vocal quality; vocal flexibility; vocal resistance; d) vocal care; and e) vocal complaints.

a) <u>Importance of voice:</u>

(C1; C2; C10; C11) *The voice is paramount.* **(C11)** *paramount in the coach's job with his players and in human relationship (...) I'm nobody without my voice.* **(C5)** *The voice is very important.* **(C12)** *It (the voice) is something astounding in my profession.* **(C13)** *In my job, the voice represents a lot and can be the difference between one person's success and another person's failure.*

(P1/ P3) *The voice is my main work instrument.* **(P4; P7; P8; P9; P10; P11)** *For the physical trainer, the voice is of paramount importance.* **(P10)** *It is essential.*

b) <u>Roles of the voice</u>

Theme axis b1: Communication and Guidance
(C7; C9; C11; C12; C13) *It is a fundamental communication factor.* **(TC; C9; C12)** *The voice is communication; it is your way of interacting with people (...) the athletes, the technical team, the press, the fans, the meetings and the daily talks.* **(C1; C2; C8; C10)**: *so that they can understand you well.* **(C5; C6)** *So you can give guidance.* **(P3; P5; P12)** *You need to be clear in the transmission of the needs of the physical workout (...) information and instructions* **(P9; P13)**: *Talking in classes and courses.*

Theme axis b2: Support and Motivation
(C11; C12; P6; P8; P10): *What we do most is giving support, guidance, and motivation.* **(P11)**: *The voice is important during that moment when the athlete is tired or needs to give a bit more.* **(P12)**: *A stronger, louder voice motivates athletes*

on those difficult moments of fatigue, to motivate them to seek something more.

Theme axis b3: Leadership and Command

(C12): *A great leader is he who communicates.* **(C1; C2; C3; C8; C11; C13)**: *The voice represents your command and we live out of command and hierarchy (...) there needs to be an imposing voice that shows that that is where the command is.* **(C5; C6; C12)**: *Be demanding (...) being a little more firm, harsher, then a scream may help.*

(P1; P2; P3; P5; P6; P7; P8; P10; P11; P13): *The main need is having command of the group (...) there has to be a commanding voice, a firm voice (...) athletes like firm trainers, and the voice is part of this firmness.*

c) <u>Vocal Needs</u>

Theme axis c1: strong loudness and vocal projection

(C1; C9; C11; P1; P3; P4; P10; P13) *At games, in open and noisy environments (...) you can't be heard (...) you need to take up your tone of voice; have a Strong voice (...) you have to yell (...) the voice is greatly spent, and worn out as well (...) many times in vain: the athlete doesn't listen, doesn't understand. You end up spending your voice unnecessarily.* **(C4; C5; C6; C7)**: *The need of a voice to reach a certain distance (...) if not, we are going to have communication problems.*

Theme axis c2: Vocal Quality

(C5) *If you don't have a good voice (...) you end up having big problems in doing your job.* **(C8)** *Imagine going to a game without your voice, or hoarse (...) I'll harm my team.*

Theme axis c3: Vocal Flexibility

(C9) *Sometimes you have to use a stronger voice and others not so much (...) you have to know how to use it in the best possible way.* **(C13; P10; P12)**: *Knowing the right time to speak louder or softer (...) knowing the right time and moment of elevating the tone or keeping it low* **(C13)**: *changing it according to the need.*

Theme axis c4: Vocal Resistance

(C10) *You need to be expressing yourself all the time, soccer coaches, unfortunately, speak too much.*

d) <u>Vocal Care</u>

(C2;C8; C10; C11; P8; P9; P10; P13) I *always try to hydrate.* **(P9)** *Always drinking water at a normal temperature (...) I avoid softdrinks.*

(C7) *When I have the flu I take down the intensity, I don't speak as much.(C10) I try to keep quiet on game days.*

(C2; C5) *We drink a lot of coffee on game days.*

(C3; C8; P13) *I gargle with propolis, honey, salt, vinegar.* **(C4)** *I use a lot of ginger candy* (P4) *I use spray.* **(C5; C7; C8; C11; C12; P7)** *On game days I try and use a cough drop.* **(P4; P7; P8; P12; P13)** *Cough drops, when I feel a little problem, hoarseness, a little itchiness.* **(P8)** *I really like "halls" candy, I don't know if it helps.*

(C2; C4; P3; P12) *I don't do anything to care for my voice.* **(C8)** *I never worried about this.* **(C2; C9)** *I don't care for it* **(C11)** *Absolutely lousy voice caregiver.* **(C2)** *No preparation.* **(C1)**: *There is very little clarification in this aspect.* **(C11)**: *We use the voice a lot, but we don't know how to use it, we don't know how to take care of it!*

e) <u>Vocal Complaints</u>

(C10) *Dry throat (...) I would be voiceless at the end of every game.* **(C8)** *I arrive hoarse at the press conference.* **(C2)** *Hoarseness, after a few games* **(C11)** *at the end of the day I am tired of speaking.* **(C13)** *The following day I wake up with a different voice!* **(P7)** *After a week my voice is already hoarse.* **(C8)** *I have allergies* **(C6)** *I have rhinitis, I am asthmatic (...) Depending on the situation and the ware comes the hoarseness, aphonia.*

(P12) *Ware, because of long time use during a championship that lasts 5, 6 months.* **(P5; P6; P8)** *When we perform very intense practices.* **(P9)** *especially during pre-season, the physical trainer has more demands* **(P12)** *I start having hoarseness, sore throat, and even lose my voice.*

Dicussion

Concerning the environment, open fields and the distance between the professional and the scattered players on the field are factors that make communication more difficult and that demand elevation of voice intensity during phonation. In addition, there is the fact that, on game days, intense noise at the stadium favors sound competition and vocal behaviors of using voice in elevated intensity and yelling[7-9;14-15]. The work environment proves, therefore, unfavorable to vocal health. This condition must be recognized by the professional and teams so that they will invest their efforts towards attention to vocal health, seeking support from Speech-Language Pathologists for the workers' vocal preparation and resistance, as well as protection strategies (such as the use of amplifiers whenever possible – usually during practices).

As far as the work situation/activity and the operational modes, the following issues deserve attention: elevated head position, instructions and simultaneous conduction/demonstration of exercises and experiencing constant anxiety and stressful situations. The elevated head position favors the elevation of the larynx and tense phonation adjustments that are not desirable and not compatible with a comfortable voice production[6,11,12,14,15]. Rhythmic marking practices with clapping and those involving physical exercises and activities while speaking cause phonatory overload[14,15].

The voice of soccer physical trainers and coaches must be understood in the perspective of the discussions of several aspects concerning the importance, the uses, the use demands, needs, behaviors, habits and cares related to the voice.

Regarding its importance and uses, the voice presents itself as important and necessary for the development of both categories' subject's work activity. The voice is a relevant and extremely important work tool[4,6] in establishing a good communicative and interactive relationship with the players.

Both categories have elevated vocal use demand and the voice is a resource for interaction, communication and dialogue processes, through which the actions of guidance, support, motivation and the players' expected understanding about the practices, exercises and strategies take place[7,13].

The attitudes are transmitted by the voice and vocal psychodynamics. The subjects in both categories need to transmit credibility, security, leadership, control, mastery, command, respect, power and authority[16] to the players; and the voice is an important component in this process.

The commanding voice is needed by both categories, and it is characterized by: a vocal emission in Strong loudness, low pitch and precise enunciation, accompanied by neutral or rigid facial expression and presence of vocal strain and tension of the neck muscles[16].

Both categories face situations involving emotions and feelings of anxiety, unhappiness, impatience, and tensions generated from the relationships with the players, especially in actions of calling attention, warning and reprehension, worsened by the stress of competitions[17-25]. The emotions and states of anxiety and stress are ergonomic factors of vocal risk, since they produce physiological changes in the body, speech and voice, and generate vocal complaints and symptoms and are harmful to voice-related quality of life[20-23].

In this perspective, it must be considered that vocal behaviors such as speaking in Strong loudness and yelling, in the present study, are part of a pertinent and necessary vocal psychodynamics in the context of the relationships and work dynamics of the involved subjects. Literature considers these abusive, negative and deleterious behaviors since they lead to a vocal abuse situation that leads to overload and may result in signs and symptoms such as vocal ware and strain, swelling, edema and inflammation of the larynx[6,11,12,14,15].

The demands expressed by both categories, of making themselves heard at a distance, in open and noisy environments, impose needs of vocal quality, flexibility and resistance, with conditions for good vocal projection and medium to elevated intensity. The worker then needs to have good vocal conditions, practices and vocal health care. Furthermore, precise sound enunciation, employment of diffuse resonance with vocal projection on the mask and discrete frequency elevation are strategies that may aid in producing a more audible speech with less strain[15]. Specific Speech-Language Pathology techniques (such as digital manipulation of the larynx, respiratory support and diaphragm support) could reduce laryngeal tensions during phonation in specific situations that require voice production in strong intensity and/or yelling[15].

If performed, vocal warm-up could contribute to the increase in flexibility of the vocal folds, for more comfort and easiness during speech and better vocal quality. This activity increases the potential of phonation activities, avoids muscle strain and overload and prevents lesions and vocal weariness. Vocal cool-down has the purpose of returning the individual to his daily life phonatory and respiratory spoken voice adjustment, avoiding abuse caused by prolonged professional voice use. Vocal warm-up and cool-down practices preserve vocal health, prevent problems and improve vocal production and quality and are therefore extremely important for vocal health and paramount to all those who use it as their work tool[15,18].

Vocal protection strategies could be developed with this population, remembering that some already occur, such as grouping athletes, giving instructions in a circle and using whistles, gestures, clapping (not while speaking) and hands in cave shape in front of the mouth – strategies that may be considered positive and as vocal self-protection[6,11,12]. The use of amplification resources could also be a complementary vocal self-protection strategy[6,10-12].

The study showed some contrasts. On one side, the subjects recognize the importance and attribute positive value to the voice and refer elevated vocal use demands as well as the relevant roles that the voice plays in their work activity. On the other, they lack knowledge and have no preparation in regard to vocal health care and exercises and techniques that will protect their voices and ease phonation.

Concerning vocal habits and care, physical trainers and coaches showed a generic concern regarding hydration – possibly transposing a practice that is advised to all those who perform physical activities and exercises. Discourse analysis showed that the subjects have no clear knowledge about the importance of hydration to voice production and health. Hydration is important and should be held by all and intensified during practice and game days, as it provides better flexibility and vibration of the vocal folds. Seven to eight glasses of water a day are the recommended intake[14,15].

Drinking cold fluids requires precaution during professional voice use. In spite of the sensitivity to cold being individual, it is known that very cold food and drinks cause a temperature shock to the larynx and a discharge of mucus and edema of the vocal folds[14,15].

Caffeine is a neurostimulating substance that may cause or worsen otorhinolaryngological conditions such as: tremor associated to vocal twitches, accelerated speech, tinnitus, Ménière's disease, gastroesophageal reflux, dry vocal tract, laryngeal irritations, dysphonia and voice quality disorders[14,26,27]. Therefore, there is an understanding in literature that caffeine intake is harmful to voice production[14,26,27].

Both categories lack or have insufficient vocal care and need guidance and preparation for the promotion of health and vocal well-being, according to studies with physical educators6 and with soccer coaches[7,8].

Concerning vocal health and well-being, the complaints expressed on the interviews involve hoarseness, strain, discomfort, tiredness and voice loss, dryness, phlegm and difficulties in voice projection. These complaints correspond to those found in studies with Physical Education instructors and teachers[2,3] and with soccer coaches[7,8].

It is understood that both categories would benefit from actions in Speech-Language Pathology and Audiology that encompass professional voice use training and subsidies for vocal health promotion[28,29].

However, other interdisciplinary studies that will relate vocal issues to work-related health risk factors are needed[30].

Conclusions

This study showed aspects of the reality of work conditions, voice use and vocal health and well-being of Soccer Physical Trainers and Coaches.

Work conditions proved unfavorable for voice production and there was presence of inadequate habits, lack of knowledge and information about vocal care, as well as abusive, negative and deleterious and harmful vocal behaviors.

The study showed that the voice plays a relevant role in both categories' work activities, with elevated use demand, especially concerning efficiency in the communication process with the players. Voice usage, for these workers, is closely related to vocal psychodynamics and to the functions linked to communication/guidance, support/motivation and leadership/command of the players.

The professionals in both categories had specific needs regarding vocal use with projection and strong loudness. Both categories need to count on good vocal health conditions, vocal resistance and vocal flexibility and plasticity skills, in addition to mastering the employment of specific vocal self-protection techniques and strategies.

Soccer physical trainers and coaches need Speech-Language Pathology accessory and health promotion actions that are in tune with the reality of these workers' conditions, demands and needs, and based on a wide concept of health.

There is a need for more studies about the relationships between work, care, health and vocal well-being of soccer physical trainers and coaches that will subsidize health promotion actions for both categories.

References

1.Gilman M, Merati AL, Klein AM, Edie R, Hapner ER, Johns MM. Performer's attitudes toward seeking health care for voice issues: understanding the barriers. J Voice. 2009;23(2):225-8.
2.Rumbach, AF. Vocal problems of group fitness instructors: prevalence of self-reported sensory and auditory-perceptual voice symptoms and the need for preventative education and training. J Voice. 2013;27(4):11-21.
3.Rumbach, AF. Voice problems of group fitness instructors: diagnosis, treatment, perceived and experienced attitudes and expectations of the industry. J Voice. 2013;27(6):786-9.
4.Alves LA, Robazzi MLCC, Marziale MHP, Felippe ACN, Romano CC. Alterações da saúde e a voz do professor, uma questão de saúde do trabalhador. Rev. Latino-Am. Enferm. 2009;17(4):566-72.
5.Ferreira LP, Bernardi APA. Distúrbio de voz relacionado ao trabalho: resgate histórico. Distúrb Comun. 2011;23(2):233-6.
6.Trout T, Mccoll D. Vocal health for Physical Educators. JOPERD. 2007;78(8):12-5.
7.Buckley K, O`Halloran P, Oates J. Voice and vocal health in elite sports coaching: considerations for elite football coaching staff. British J Sports Medicin. 2011;45(4):337-8.
8.Junior M. Uso da voz em técnicos de futebol. Comunicar. 2013;13(57):20-3.
9.O'Neill J, McMenamin R. Voice use in professional soccer management. Logoped Phoniatr Vocol. 2013 [Epub ahead of print].
10.Vianello L, Pereira DA, Alves DS, Santos EG, Pimenta EV, Teixeira N, Magalhães R. Preparação de atletas: Uso da voz no trabalho de técnicos e instrutores esportivos. XV Congresso Brasileiro de Fonoaudiologia. VII Congresso Internacional de Fonoaudiologia; Gramado. Rev. Soc. Bras. Fonoaudiol. Suplemento Especial. 2007.
11.Vianello L, Gobbi FHA, Lopes BF, Fidelis CA, Santos NE, Maia LA, Pires L, Motta M. O uso da voz em instrutores e técnicos de modalidades esportivas: prevalência de adoecimento e análise do trabalho. Anais do 7° Seminário de Pesquisa e Iniciação Científica da Universidade FUMEC. Acesso em 03/02/2010. 2009. Disponível em: http://www.fumec.br/pesquisa/docs/anais2009.pdf
12.Vianello L, Gobbi FHA, Lopes BF, Fidelis CA, Santos NE, Pires LCA, Maia LA, Bittencourt MM. Adoecimento Vocal: prevalência e análise do trabalho de instrutores e técnicos de modalidades esportivas de um clube da cidade de Belo Horizonte. XVII Congresso Brasileiro de Fonoaudiologia. Anais. Revista da Sociedade Brasileira de Fonoaudiologia. Suplemento Especial. Acesso em 03/02/2010.2009. Disponível em: http://www.sbfa.org.br/portal/anais2009/resumos/r1505-1.pdf.
13.Benninger MS. The professional voice. J Laryngol Otol. 2011;125(2):111-6.
14.Behlau M, Pontes P. Higiene Vocal. Cuidando da Voz. 4a ed. Rio de Janeiro: Revinter; 2009.
15.Pinho SMR. Manual de higiene vocal para profissionais da voz. 4a ed. Carapicuíba: Pró-Fono, 2007.
16.Pedroza PS, Prado APA, Macedo KMF. A voz de comando na turma de educação física nas series iniciais de uma escola municipal infantil do município de Jataí (GO). In: Anais IV Congresso Centro-Oeste de Ciências do Esporte. UNICEUB, Brasília (DF), 22 a 25/09/2010. Acesso em: 26/03/2014. Disponível em: http://www.rbceonline.org.br/congressos/index.php/4concoce/4concoce/paper/viewFile/2561/12 00.
17.Pizolato RA, Mialhe FL, Cortellazzi KL, Ambrosano GMB, Rehder MICB, Pereira AC. Avaliação dos fatores de risco para distúrbios de voz em professores e análise acústica vocal como instrumento de avaliação epidemiológica. Rev CEFAC. 2013;15(4):957-66.
18.Gish A, Kunduk M, Sims L, Mcwhorter AJ. Vocal warm-up practices and perceptions in vocalists: a pilot survey. J Voice. 2012;26(1):1-10.
19.Belyk M, Brown S. The acoustic correlates of valence depend on emotion family. J Voice. 2014; February 1 [Epub ahead of print].
20.Almeida AAF, Behlau M, Leite JR. Correlação entre ansiedade e performance comunicativa. Rev Soc Bras Fonoaudiol. 2011;16(4):384-9.
21.Rantala RM, Hakala SJ, Holmqvist S, Sala E. Connections between voice ergonomic risk factors and voice symptoms, voice handicap, and respiratory tract diseases. J Voice. 2012;26(6):813-20.
22.Holmqvist S, Santtila P, Lindström E, Sala E, Hide SS. The association between possible stress markers and vocal symptoms. J Voice. 2013;27(6):787e1.e10.
23.Giddens CL; Barron KW; Byrd-Craven J; Clark KF; Winter AS. Vocal indices of stress: a review. J Voice. 2013;27(3):390.
24.Mathieson L, Hirani SP, Epstein R, Baken RJ, Wood G, Rubin JS. Laryngeal manual therapy: a preliminary study to examine its treatment effects in the management of muscle tension dysphonia. J Voice. 2009;23(3):353-66.

25.Friedman S, Barbosa RA. Emoção: efeitos sobre a voz e a fala na situação em público. Distúrb Comun. 2007;19(3):325-36.
26.Erickson-Levendoski E, Sivasankar M. Investigating the effects of caffeine on phonation. J Voice. 2011;25(5): 215-9.
27.Trinidade A, Robinson T, Phillips JS. The role of caffeine in otorhinolaryngology: guilty as charged? Eur Arch Otorhinolaryngol. 2013 Aug 11. [Epub ahead of print].
28.Hazlett DE, Duffy OM, Moorhead SA. Review of the impact of voice training on the vocal quality of professional voice users: implications for vocal health and recommendations for further research. J Voice. 2011;25(2):181-91.
29.Vilkman E. Ocupational safety and health aspects of voice and speech professions. Folia Phoniatr Logop. 2004;56(4):220-53.
30.Willians NR. Occupational groups at risk of voice disorders: a review of the literature. Occupational Med. 2003;53(7):456-60.