INTRODUCTION

Primary Health Care (PHC) represents the first contact with the health care network within the health system. It is mainly characterized by continuity and comprehensive care, as well as by the way assistance is coordinated within the system itself, with attention being centered on the family, supervision, community involvement and the cultural competence of professionals. Its essential attributes can be stated as follows: the first point of contact of the individual with the health system, continuity and comprehensive care and the coordination of care within the system¹.

The Ministry of Health established the FHSC (Family Health Support Centers) by enacting GM Directive no. 154 on 24th January, 2008², with the aim of broadening the scope of Primary Health Care in Brazil. This involved expanding the areas of problem-solving, territorialization and regionalization as well as the range of APS activities. An FHSC must consist of a team in which professionals from different areas of knowledge work together with professionals from Family Health teams by sharing and supporting health practices within their spheres of responsibility.
The FHSC must comply with some of the PHC guidelines which involves knowing about the following: interdisciplinary and intersectional activities; continuous health education for professionals and the public; the development of the notion of the territory; comprehensiveness, social participation and public education; and the promotion of health and humanization. It should also be borne in mind that there are several intervention procedures in the territory – for example, in carrying out health projects in the territory; giving support to groups; educational work and social inclusion; confronting situations of violence and anti-social behavior; and activities carried out with public facilities.

One key example of social facilities where the health team operates, is the school. Health policies recognize the school space as being suited to practices for promoting health, taking preventive measures and providing education in health where the educational processes are divided between building healthier lives and creating an environment that is suited to health. However, there are few activities that are geared towards the health and lives of the teacher, who is mainly viewed as a mediator or partner in activities carried out to improve the health of students, families and the community.

Teaching makes great demands on the voice and as a result, a number of vocal problems have been found among those who exercise its a good deal. Few people have any vocal preparation for its professional use. There is only superficial knowledge with regard to taking care of the voice and little attention has been paid to complaints, or signs and symptoms of vocal health-illness or the difficulties of noticing, interpreting and confronting its determining factors. The voice tends to be used a lot in adverse working conditions and organizational environments and it is clear that people hesitate, or are reluctant, to seek specialized treatment for it.

The voice of the teachers is referred to by itself as one of the main assets for work. However, owing to a lack of previous vocal training and a number of conditions that are unfavorable to teaching, the teacher is a professional at risk of developing a voice problem. The responsibility of conveying knowledge, giving students cultural training and fulfilling the school curricula, often leads teachers to play down the importance of their vocal activities and only to seek help when it becomes almost impossible for them to speak audibly.

In the phonoaudiological activities that affect teachers’ vocal health, it is necessary to broaden the perception and conduct an analysis of the determining factors in the area of vocal health-illness by replacing the pathology/treatment axis with health/promotion, and including factors from everyday life.

This also includes “quality”, which is an essential feature required for analyzing dysphonia in teaching work and involves two key factors – poor working conditions and a poor standard of life with regard to the voice. Once the question of phonoaudiological performance is clearly in focus, the voice workshops and group practice can become a social space where interventions are possible.

The point of departure for this study were the activities carried out by FHMR (Family Health Multiprofessional Residency), by means of the activities of the speech therapist – before FHMR had been implemented in the city of Recife. This was based on reflections outlined in the policies cited above and after noting that the literature has very little to offer on the question of promoting vocal health or preventing vocal alterations. The purpose of this study was to select a real-life situation to outline an activity concerning the promotion of health from the perspective of FHSC, which involved groups of teachers and their perceptions of the activity that was carried out.

METHOD

The research study was approved by the Research Ethics Committee of the University of Pernambuco (CEP-UPE), CAAE 0094.0.097.000.10. All the participants signed the consent form and declared that they authorized the publication of the results.

It was a study of a descriptive nature, adopting a quantitative-qualitative approach, that was conducted in three municipal schools situated in the boroughs of Córrego do Jenipapo, Macaxeira and Morro da Conceição, located in the Health District III in Recife (State of Pernambuco).

At first, the study comprised 27 participants, all of whom were female. However, as the workshops proceeded, one of the schools requested to withdraw from the research owing to problems over the timetable of the teachers and as a result, only two meetings were held at that teaching establishment. Despite this, the data collected in the first stage of the research were retained so that they could be used to characterize the initial sample.

Six workshops were carried out in each of the schools with the aim of improving the vocal health of the teachers. The workshops took place every fortnight and were held in the school space itself at the end of the school activities; they followed a timetable that was arranged with the director of the school and the staff.

In the first workshop which lasted for an hour, the teachers answered a questionnaire called “vocal history” (Figure 1), adapted from França (2003). The purpose of this was to find out the vocal profile.
of the teacher-participants so that future workshops could be planned. In this meeting, there was a discussion about voice production and speech, everyday routines and the relationship of these factors with the voice and the need to take care of the voice.

<table>
<thead>
<tr>
<th>Vocal History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: _______________________________ D.N. Date of Birth: <em><strong><strong>/</strong></strong></em>/_____</td>
</tr>
<tr>
<td>Position occupied: __________________ Number of hours a week: __________________</td>
</tr>
<tr>
<td>Time spent in the profession (years): ______________ Academic Qualifications: ______________</td>
</tr>
<tr>
<td>1. Have you ever had (or are you having) problems with your voice or speech?</td>
</tr>
<tr>
<td>( ) Never ( ) Occasionally ( ) Often ( ) Constantly</td>
</tr>
<tr>
<td>Give details: ___________________________________________________________</td>
</tr>
<tr>
<td>2. Have you ever had vocal therapy?</td>
</tr>
<tr>
<td>( ) Yes ( ) No</td>
</tr>
<tr>
<td>Give details: ___________________________________________________________</td>
</tr>
<tr>
<td>3. Do you use any technique to enable you to use your voice in a professional way?</td>
</tr>
<tr>
<td>( ) Yes ( ) No</td>
</tr>
<tr>
<td>Give details: ___________________________________________________________</td>
</tr>
<tr>
<td>4. Have you ever suffered from any of the disorders listed below?</td>
</tr>
<tr>
<td>( ) Laryngitis or Pharyngitis (Tonsilitis) ( ) Bronchitis ( ) Rhinitis ( ) Sinusitis</td>
</tr>
<tr>
<td>( ) Outros Others</td>
</tr>
<tr>
<td>5. Have you ever had any specialist treatment for vocal problems or ailments related to the voice?</td>
</tr>
<tr>
<td>( ) Never ( ) Occasionally ( ) Often</td>
</tr>
<tr>
<td>6. Have you ever had to obtain medical certification to be absent from work or been unable to fulfill your responsibilities as a result of vocal problems?</td>
</tr>
<tr>
<td>( ) Never ( ) Occasionally ( ) Often</td>
</tr>
<tr>
<td>7. Do you smoke? ( ) Yes ( ) No</td>
</tr>
<tr>
<td>8. Do you have (or have you ever had) any of the following symptoms?</td>
</tr>
<tr>
<td>( ) a frequent cough (frog in the throat) ( ) hoarseness ( ) burning sensation in the throat ( ) Absence of a voice ( ) Finding it an effort to speak ( ) Speech tiredness ( ) Voice variations</td>
</tr>
<tr>
<td>9. Have you noticed anything in your communication that you would like to improve?</td>
</tr>
<tr>
<td>___________________________________________________________</td>
</tr>
<tr>
<td>If yes so, please describe it: __________________________________________</td>
</tr>
<tr>
<td>___________________________________________________________</td>
</tr>
</tbody>
</table>

Recife, _______ of _____ 2010

Figure 1 – Vocal history (adapted from França, 2003)

The other workshops lasted for 40 minutes and adopted the following pattern:

1) The time of the changeover from the guidelines of the previous workshop – influence of the guidelines on professional practice and the everyday difficulties experienced in carrying out the activities;

2) The use of vocal techniques used worldwide, starting out from moments of relaxation, support techniques for taking care of the voice (vocal health) and voice exercises. The objective was to show effective ways of taking care of the voice and mitigating the effects of an abuse of the voice by these professionals. The following exercises were carried out to achieve this: loud gargling with water, utterance of fricatives, vibration of the lips and tongue and humming.

3) Listening to the voice and impressions, stressing the importance of perception and self-assessment of the voice. The purpose of this was to ensure that everyone could evaluate what her voice...
was like at a particular moment and over a period of time; following this, reflection could be given to what had a beneficial or harmful influence on the vocal characteristics of each person. Recordings were made of the voices of teachers before and after they carried out their vocal exercises. These recordings were used for subsequent discussion with the participants about whether or not the vocal quality was better.

In the last workshop, there was a questionnaire (Figure 2) which was compiled by the authors with a view to recording the results of the way the intervention was perceived by the teachers.

Since the activity was undertaken in the PHC, there was no intention to carry out a diagnostic test or specialized monitoring but rather to concentrate on promotion, prevention and health education and encourage the practice of exercises, as an everyday anticipatory measure within the routine of the teacher’s work.

The data collected from both of the questionnaires were stored in an Excel databank – Windows7 and

**Self-perception Questionnaire**

Name: ________________________________________ Date__/__/______

1. How would you assess the workshops that are held in your school?
   ( ) Excellent ( ) Good ( ) Fair ( ) Poor

2. Which activity did you like most?
   ( ) general guidance ( ) group exercises
   ( ) conversation – in particular with the phonoaudiology
   ( ) others ________________________________

3. Did you think of giving up the workshops at any time?
   ( ) No ( ) Yes

4. If you answered yes to the last item, was this because:
   ( ) you didn’t notice any improvement from the guidance
   ( ) you didn’t notice any improvement from the exercises
   ( ) you felt embarrassed about taking part in group exercises
   ( ) you have carried out phonotherapy before
   ( ) other reasons ________________________________

5. Have you done the exercises suggested in the workshops?
   ( ) Yes ( ) No

6. If your answer to the last item was no this was:
   ( ) because of a lack of time
   ( ) because you didn’t feel any improvement as a result of the exercises
   ( ) because you didn’t understand how they should be carried out
   ( ) other reasons ________________________________

7. Did you notice any improvement in your professional performance?
   ( ) No ( ) Yes

8. If your answer was yes, What did you observe?
   ( ) An improvement in vocal quality
   ( ) reduction in hoarseness
   ( ) reduction of the problem of an effort to speak
   ( ) reduction in the problem of frequent coughing
   ( ) others ________________________________

9. Do you intend to continue with the guided practice and the recommended exercises?
   ( ) Yes ( ) No

10. If your answer to the last item was no the reason this was:
    ( ) because of a lack of time
    ( ) because you didn’t notice any improvement from the exercises
    ( ) because you were not sure how to do them
    ( ) due to other reasons ________________________________

**Figure 2 – Self-perception of the participants with regard to phonoaudiological activities**
were drawn on to conduct a descriptive quantitative analysis with a distribution of frequencies. There was also a qualitative analysis based on the replies to the questionnaires and the results of the activities that were carried out to heighten the awareness of the teachers of the need to take care of their voice. The relevant data from the study are shown in the form of Tables.

**RESULTS**

The 27 teachers who took part in the study were aged between 17 and 55, with an average age of 35. The average time spent in their professional career was 10.4 years, with 15 teachers (55.6%) who had been practicing teachers for less than 10 years and 12 (44.45%) who had worked for more than 10 years. With regard to their weekly workload, 19 (17.4%) worked more than 20hs, and 8 (29.6%) less than 20 hours a week.

Figure 3 shows the symptoms and vocal complaints that were most perceived by the teachers, which were: a burning sensation in the throat (85.2%), hoarseness (74.1%), a frog in the throat (or frequent cough) (70.4%) and finding it an effort to speak (66.7%).

![Figure 3 – Vocal symptoms mentioned by the teachers before the workshops](image)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burning sensation in the throat</td>
<td>85%</td>
</tr>
<tr>
<td>Hoarseness</td>
<td>74%</td>
</tr>
<tr>
<td>Regular cough</td>
<td>70%</td>
</tr>
<tr>
<td>Finding it an effort to speak</td>
<td>67%</td>
</tr>
<tr>
<td>Speech tiredness</td>
<td>56%</td>
</tr>
<tr>
<td>Absence of voice</td>
<td>37%</td>
</tr>
<tr>
<td>Voice variations</td>
<td>37%</td>
</tr>
</tbody>
</table>

Among the teachers, 92.5% of the teachers referred to symptoms, including some who showed them at the same time. In Table 1, there is a description of the information about the conditions referred to by the teachers and the variables related to the professional activity.

Referred having problems with the voice or speech 96.3% of the teachers, and the frequency of the variables related to professional activity is outlined in Table 2.

It can be seen that 48.1% have these problems occasionally; 37.0% frequently; 11.1% constantly and only 3.7% never experienced them.

In the group of teachers aged over 51; all stated that they had problems constantly, whereas in the group below 30, and between 30 and 40, the highest percentage of problems was in the occasional category (50% and 80% respectively). Concerning the time spent in the profession, there was a higher percentage of constant problems in the group over 11 years, whereas in the group below 10 years, a higher number had occasional problems. With regard to specific disorders, the most often mentioned were: rhinitis, (44.4%), laryngitis/ pharyngitis (tonsilitis) (37.04%), sinusitis (29.63%), bronchitis and others (18.5%).

Although 74% of the teachers suffered from these disorders, only 33.3% underwent medical treatment specifically for vocal problems or ailments related to the voice, while the rest (66.7%) never had any treatment.

With regard to the question of smoking, there was a low incidence in this group with only one teacher being a regular smoker.

On the issue of the self-perception of the participants concerning the measures taken to improve their phonoaudiological activities, 80% of the teachers replied that they had noticed an improvement, 6.7% said they had not noticed it and 13.3% did not answer the question. As regards the assessment of the teachers’ workshops, the majority (66.7%) thought the activities were excellent and the others
stated that they were good. The main benefits mentioned by the teachers were as follows: a lower rate of hoarseness (53.3%), an improvement in vocal quality (40%); a lessening of the problem over an effort to speak (20%); and a lessening of the frog in the throat problem (13.3%).

Of the total participants, 73.3% are doing the exercises suggested in the workshops on a routine basis and the rest (26.7%) are not doing them because of a lack of time. When asked about whether they intended to continue doing the exercises under supervision, 93.3% expressed a wish to continue with them and only 6.7% replied that they would not be able to continue because of a lack of time.

**DISCUSSION**

The sample of the research, who can be regarded as a group of people at risk of vocal alterations, made several complaints concerning the bad use of the voice. This serves as a warning of the need to seek better ways of taking care of the voice since there may be auditory signals that the voice is undergoing an alteration which require attention and hence these signals must be addressed\textsuperscript{6,7}.

| Table 1 – Frequency of the conditions mentioned by the teachers and the variables related to their professional activity, according to age group |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Age             | Teachers | Regular | Hoarseness | Burning sensation in the throat | Absence of voice | Finding it an effort to speak | Speech tiredness | Voice variations |
| less than 30    | 10       | 50.00%  | 60.00%     | 80.00%           | 20.00%           | 70.00%           | 40.00%          | 40.00%          |
| 31-40           | 6        | 50.00%  | 50.00%     | 83.33%           | 33.33%           | 50.00%           | 50.00%          | 33.33%          |
| 41-50           | 9        | 77.80%  | 88.90%     | 88.90%           | 55.56%           | 66.67%           | 44.44%          | 33.33%          |
| 51 and over     | 2        | 100.00% | 100.00%    | 100.00%          | 100.00%          | 100.00%          | 100.00%         | 100.00%         |
| Total           | 27       | 63.00%  | 70.40%     | 85.20%           | 40.70%           | 66.70%           | 48.10%          | 33.33%          |

| Table 2 – Frequency of problems with the voice of speech and variables related to professional activities |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Age             | Teachers | Never | Occasionally | Often | Constantly |
| less than 30    | 10       | 18.50% | 14.80%       | 3.70% |
| 31-40           | 5        | 14.80% | 7.40%        |       |
| 41-50           | 10       | 10.00% | 14.80%       | 7.40% |
| 51 and over     | 2        | 3.70%  | 48.10%       | 37.00% | 11.10% |
| Total           | 27       | 3.70%  | 48.10%       | 37.00% | 11.10% |

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Most of the symptoms increase with advancing age. All the teachers in the age group above 51 showed more than one symptom. It should also be noted that there was a link between the symptoms and the time spent in the profession and the weekly work load; there was a higher percentage among the participants with 11 or more years in the profession or who worked for over 21 hours a week.

With the support of the collected data, a study showed that hoarseness, speech tiredness, loss of voice and irritation in the throat are more common among teachers who work over 25 hours a week. This suggests that in this working group, the hourly workload factor is closely bound up with the problem of vocal impairment.

This finding is a warning of the need to carry out activities that can help prevent these occasional problems from becoming longstanding with the passing of time.

In the literature, it is clear that age and time spent in the profession are risk factors for teachers experiencing increased vocal problems. People with alterations in their voice are, on average, a little older than those without alterations and show the greatest signs in their thirties, since the average time for undergoing these alterations is 11 years spent in the profession. However, a number of discrepancies have been found in the literature in this area. The researchers of one study did not observe a relationship between the frequency of dysphonia and the age of the teacher or time spent in the profession. These authors believe that this was due to the fact that teachers with serious problems will be redeployed, or in other words, removed from the classroom and assigned other responsibilities in the sphere of education or perhaps even, in the more extreme cases, leave the profession altogether.

Studies suggest that being involved for a longer time in teaching is linked to a greater frequency of voice impairments, whether they be acute or chronic. The negative symptoms and alterations to the voice increase when there is a greater workload. From the accounts given by the teachers, it was evident that most of the participants suffered from vocal complaints although only a small proportion stated that they had undergone vocal therapy, which suggests that basic measures to address the problem and general health in schools, can lead to an improvement in the quality of life of these professionals.

Even when there are signs of vocal problems, the teachers continue to use their voice for the same requirements and avoid taking measures or seeking aid to alleviate the problem so that they can overcome vocally-abusive habits. Hoarseness, speech tiredness and voice defects are evident, however, in the fact that teachers give greater priority to understanding how to keep students under control than ensuring that they take care of their voice in the ways recommended by the therapists.

Another important finding in this study is that 18.5% of the teachers performed some kind of vocal technique, which shows that many do not have any knowledge of how to use or take care of their voice and those that do, fail to make use of it on a day-to-day basis.

In assessing the participants’ workshop, it is worth drawing attention to the comments made by one of them:

“They were good recommendations and the results are obtained automatically. I’ve benefited a lot in terms of voice quality. I will..."
It is clear that their situation and work routine makes it hard for teachers to practise activities concerned with vocal health, even though they are fully aware of its importance for them.

".... In my view, this kind of activity should be more often found in schools because as we use the voice as a part of our profession, we must take care of our working instrument. Added to this, vocal health is a general requirement in society because people have to be aware that the voice is a part of the body and plays a role in the way the body functions" (JRGB)

On the basis of these teachers’ comments, it is evident that they are interested in the activities that they carry out as forming a part of their working routine, as well as their perception of the importance of taking care of their voice to ensure a better professional performance.

Activities carried out with teachers in health education have yielded good results, particularly when the activity is undertaken in a group, since the difficulties experienced by teachers are similar. Soon, it will be possible for health measures such as groups undergoing experiences with their voice, to be characterized as important spaces for reflection and for changing the relationship that exists between the work and health of the teacher.

However, it should be noted that although the data examined have had a positive effect, there remain questions concerning the way working conditions make it difficult to maintain a healthy voice during one’s professional career. As has been stressed in other research studies, the question of whether or not to seek health assistance, is combined with other factors that go beyond the perception of ailments and involve the possible influence of the school workplace on the decision of the teacher to look for aid as a result of voice problems.

Another factor that both assisted and impeded the introduction of Speech Therapist to schools was their link to FHU (Family Health Units) in the area. In schools where there was already some kind of intervention by FHU, there was a greater degree of acceptance of the workshops since there was more belief in the value of the activities they carried out and more regularity in their use by teachers. This point strengthens the need for intersectoriality which entails integration between the health sectors and education and the accountability of the health team for the assigned area and the activities carried out in social amenities, including the schools.

Since the teacher is a worker, it is essential to regard the school as a working environment with its own structure and working conditions that influence and determine the degree of the health/illness of the working teacher.

When it is taken into account that issues regarding the health of teachers go beyond problems with the voice, it should be noted that there is a need to include multi-professional teams in schools. In addition, it is recommended that the PSE should not only be used for the students but for the whole school with activities that can help the school community, including parents, teachers and other professionals, as well as students; this will also make the working environment a more healthy place.

CONCLUSION

The majority of teachers have made some reference to problems with their voice or speech but few have sought assistance for them. The intervention of voice workshops for teachers has had positive results because most teachers realize the importance of taking care of the voice to achieve a better vocal performance, as well as in their professional activities. They also stated that they would continue to do the exercises after the intervention.

The group work allowed teachers to exchange experiences and was a motivating factor. The intervention of the workshop in the school space has enabled teachers to participate more easily and also to be aware of the need and importance of carrying out exercises and taking part in them since previously most of them had complained about the lack of time.

These results show the importance of carrying out activities concerned with the health of teachers with the aim of mitigating the effects of work on health and introducing phonoaudiology in the APS with the aim of enabling these activities to occur in everyday practice. The use of school space allows it to be converted into a social space for social awareness, reflection and discussion about working conditions and a way to achieve a healthy environment.

From this perspective, it is important to take note of recommendations for improving health in schools that are guided by comprehensiveness, interdisciplinary and intersectoriality. In particular, it is essential to forge close links between the schools and family health teams, as well as NASF, with a view to achieving comprehensive health for teachers and the school community.
RESUMO

Objetivo: apresentar uma ação de promoção à saúde vocal dos professores de três escolas municipais situadas no Distrito Sanitário III, em Recife-PE, no âmbito da Atenção Primária à Saúde – APS.

Método: foi aplicado um questionário sobre o histórico vocal dos professores e realizadas seis oficinas de voz, com o intuito de sensibilizar os docentes sobre a importância dos cuidados com a voz e incentivá-los a praticar exercícios vocais preventivamente como ação cotidiana dentro do processo de trabalho. Por fim, foi aplicado um questionário para avaliar a percepção dos docentes em relação às oficinas. Resultados: as educadoras encontravam-se na faixa etária de 17-55 anos, tinham 10,4 anos em média de exercício profissional e 96,3% relataram a percepção de problemas com a voz ou fala, sendo que quanto maior a frequência de aparecimento do problema, maior era o tempo de exercício profissional, a jornada de trabalho e a idade. Os depoimentos foram positivos em relação às oficinas, sendo que 80% das docentes referiram melhora no desempenho profissional e 93,3% afirmaram que continuará realizando os exercícios, mas apontaram a falta de tempo como principal dificuldade para realização dos exercícios rotineiramente. Conclusão: estes resultados identificam a importância da introdução de ações voltadas à saúde do professor com o intuito de amenizar os efeitos do trabalho sobre sua saúde, e a inserção do fonoaudiólogo na APS a fim de facilitar estas ações na prática cotidiana. A utilização do espaço escolar permite configurá-lo como espaço social para tomada de consciência, reflexão, discussão sobre as condições de trabalho e como um ambiente saudável.

DESCRITORES: Promoção da Saúde; Saúde Vocal; Professor; Educação em Saúde; Atenção Primária à Saúde

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