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Vocal hygiene awareness in defence people

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INTRODUCTION

Voice is a potent, effective and artistic tool for communication the voice can convey not only sophisticated scholarly concepts, but also fine emotional nuances voice is the primary instrument through which an individual personality is projected compatriots are influenced (Sataloff, 2006).

Voice is the laryngeal modification of pulmonary airstream which is further modification by the configuration of vocal tract anyone who needs their voice to carry out their job is considered as voice professional voice users. Professional voice users are also considered as atheistic voice users because their voice is more extensive and strenuous than that of non-professional voce users. “Professional voice users are those who directly dependent on vocal communication for their livelihood (Stemple, 1995).

Vocal misuse and abuse were predominant causative factor for voice problems in vocation involving high demands on vocal mechanism, alone or in combination with biologic and psychosomatic factors, which may result in chronic or acute symptoms of vocal attrition (overall reduction of vocal capabilities, wear and tear of vocal mechanism) such as vocal fatigue, hoarseness, throat discomfort or pain and benign mucosal lesions Sapir (1993).

Vocal symptoms mainly seen in Professional Voice Users is vocal fatigue it is usually described as negative sensory vocal symptoms that corresponds to change vocal

response (Satalaff, 2006).

A voice disorder exists when a person's voice quality, pitch and loudness differ from those and similar age, gender, cultural background and geographic location. a voice disorders may also exist when either the structure, function or both of the laryngeal mechanism no longer meet the voicing requirement established for the mechanism by the speaker. There is individual who directly depended on vocal communication for their livelihood. They are classified as professional Voice Users (PVU).

Vocal hygiene focuses on healthy use of vocal organs the importance of increased hydration, elimination of throat clearing, is a part of good vocal hygiene program. A proper vocal hygiene program coupled with voice therapy can change behavior so that the vocal folds are not damaged.

Defense personnel fall under the category of non-vocal professionals; their voice is vital to their career, and they utilize it more in everyday life. The Indian Armed Forces are the Republic of India's armed forces. The Indian Army, Navy, and Air Force are the three professional uniformed services that make up the Indian Armed Forces.

Voice issues are more common in professional voice users, such as lecturers and instructors. As a result, the current study contributes to raising awareness about vocal problems and other vocal pathology caused by voice abuse, as well as the three phases of prevention, which include primary prevention, which entails removing anything that could cause a voice disorder and secondary prevention, which entails removing something that could cause a voice disorder. Early diagnosis and treatment of voice problems is a secondary preventive strategy. Tertiary prevention, which encompasses physical, psychological, and occupational interventions to return the patient to a normal or near-normal state.

Karulkar, Ravi and Gunjawate (2020) profiled voice-related complaints, as well as vocal and non-vocal habits among Hindustani classical singers. Cross-sectional study design was used to profile voice-related complaints and vocal and non-vocal habits among Hindustani classical singers. The commonly reported vocal habits included excessive phone use, loud coughing/sneezing, throat clearing and excessive speaking. A

high consumption of caffeinated beverages and spicy food were also reported. his study helps to highlight the voice-related complaints and vocal and non-vocal habits of Hindustani classical singers. Further studies, need to explore the prevalence of voice problems incorporating other dimensions of voice evaluation such as acoustic, auditory perceptual, self-reported and laryngeal examination.

Chitguppi, Raj, Meher and Rathore (2019) analysed the voice of professional voice users (PVU) is comparable with that of a nonprofessional voice user (NPVUs), both of whom have no obvious vocal cord lesions. PVUs had a significantly higher incidence of voice-related complaints compared with NPVUs. The former group also showed a higher deviation from the normative data. A significant influence of gender and the duration of work experience was also observed among PVUs and concluded that the voice of an apparently normal PVU is not similar to that of an apparently normal NPVU. Female PVUs and PVUs with a longer duration of work experience show the highest deviation from normative data.

REVIEW OF LITERATURE

Individuals who are not entirely reliant on their voice to earn a living are known as non- professional voice users. The Indian Armed Forces are the Republic of India's military forces. The Indian Army, Navy, and Air Force are the three professional uniformed services that constitute the Indian Armed Forces. It consists of three professional uniformed services: the Indian Army, Indian Navy, and Indian Air Force Anyone who needs their voice in order to carry out their job is considered a professional voice user. Professional voice users are those individuals who are directly depended on vocal communication for their livelihood (Stemple, 1993).

Voice is the laryngeal modification of the pulmonary air stream which is the further modified by the configuration of vocal tract (Johnson, Fredrick & Spriesterrbach, 1963). Anyone who needs their voice to carry out their job is considered as professional voice users. Professional voice users are also considered athletic voice users because their voice use is more extensive and strenuous than that of non professional voice users. “Professional voice users are those who are directly dependent on vocal communication for the livelihood” (Stemple, 1995).

Koufmann & Issacson (1991) evolved a classification of vocal professional based on their voice use and risk.

Level 1: Include the elite vocal performers who are sophisticated voice users like the singers and actors, where even a single vocal difficulty can cause serious consequences to them and their careers.

Level 2: Include the professional voice users whom even a moderate vocal difficulty would prevent adequate job performance, clergy man, lecturers/ teachers, politician public speakers and telephone operators are classified in this level of voice users.

Level 3: Includes the non vocal professional like lawyer. They can perform their job with slight or moderate voice problems; only severe dysphonic endangerous adequate job performances.

Level 4: Non vocal non professionals which include laborers and clerks. The non professionals are not impeded from doing his or her work when they experience any kind of dysphonia.

There is an old dictum ‘Prevention is better than cure’ and it still holds well even in the modern world. Several authors have addressed the importance of the prevention of voice disorders among those who work in vocally demanding occupations, such as teachers (Fritzell, 1996; Verdolini & Ramig, 2001; Morton & Watson, 2001 Yiu, 2002; Roy & Merrill, 2004).

Marge (1991) has identified two types of prevention. Primary prevention refers to elimination of something that might cause a voice disorder. For example, quitting smoking is a preventive act in-order to prevent future occurrence of voice disorders, while secondary prevention involves early detection and treatment of voice disorders. There is another level in the prevention called tertiary prevention, also called as rehabilitation, which includes physical, psychosocial and vocational measures taken to restore the patient back to or near normal condition. Several studies have reported on the outcome of vocal hygiene education and voice training for subjects who do not suffer from voice disorders but who belong to the risk groups of such problems.

Prolonged voice use for verbal instruction in the presence of background noise is primary cause of voice problems of members of this profession (Smith, Lemke, Taylor, Kirchner & Hoffman, 1998). Other causes include improper dietary habits, medical conditions, stress, anxiety and psychological factors. Deviant voice qualities, inability to sustain phonation, vocal fatigue, pain during phonation and throat irritation are some of the reported voice problems resulting from these causes (Yiu, 2002; Boominathan, 2008). Vocal hygiene is an essential component of treatment. In some cases, vocal hygiene may be the knowledge of what is traumatic or stressful to the vocal folds, techniques to improve or expedite recovery and the reduction or elimination of throat clearing.

Vocal Hygiene:

-Hydrate: Hydration is essential for the best functioning of the vocal tract. Be sure to drink plenty of healthy fluids throughout the day, though room temperature water is the best.

-Breathing: Make sure you have enough air support for everything you need to say. Try not to speak to the very end of your breath, renewing it more often by pausing, if necessary.

Voice Production:

• **Use an easy approach to voice production.** Abrupt hard onsets of voice initiation can be traumatic to the vocal fold tissues.

• **Use voice that is most optimal for you.** Using a pitch range level that is either inappropriately high or low can put excess stress on the vocal mechanism. Don't make strange noises with your voice and try not to imitate voices that are abrasive.

• **Avoid using a voice that is too loud.** Yelling and screaming, or talking, laughing, or singing louder than you absolutely must can be quite abrasive to the vocal fold tissues and can contribute to swelling and altered voice production.

• **Avoid excess talking.** Pay attention to when your throat feels tired. Try not to push it. If

you need to talk for extended periods make sure to give it a rest 10 minutes for every 2 hours of talking.

• **Do not whisper.** Whispering has a drying effect on the mucosa of the vocal folds. It also forces the airstream during expiration and in turn can increase muscular tension and effort somewhere in the vocal mechanism.

• **Use a headset** rather than cradling the phone between your shoulder and you ear, if you must be on the telephone for extended periods of time.

- Influencing daily habits and behaviors:

• **Cut down and eventually eliminate** excessive coughing, habitual throat clearing, or hard sneezing. If necessary, keep a journal of how often you clear your throat to chart frequency, time of day, and throat sensations before and after. This will assist you in making connections between your behaviors and voice health.

• **Thickened** mucous may be the result of **gastric reflux problems.** See your doctor to aid you in its management. Reflux can contribute to and exacerbate voice disturbances.

• **Get enough rest.** When one is fatigued, the natural voice is lower in intensity and sometimes in pitch and tone, contributing to forced voice in order to be heard. Take a moment or two during the day to stop and relax.

• **Stay healthy.** The coughing and sneezing commonly associated with a cold or flu can contribute to edema/swelling in the laryngeal area as well as irritation to the mucosal tissue.

• **Don't smoke anything**, the evidence bears out that smoking is directly related to laryngeal cancer. Beyond the direct effects on the vocal folds themselves, smoking can cause respiratory problems which can have a direct effect on voice production.

• **Try to avoid smoky environments**. Second hand smoke acts as an irritant to the mucosal lining of the vocal tract and lungs.

• **Avoid excess alcoholic consumption.** Alcohol contributes to the drying of mucosal linings of tissues. Also, alcohol makes the stomach produce more acid than usual, which can lead to acid reflux. Alcohol further increases this risk of acid backflow because it also relaxes the lower esophageal sphincter (LES), allowing liquid to pass through more easily.

• **Do not** use mouthwash, which contains over 25% alcohol as it can be drying to delicate tissues. If you think that you need a mouthwash more than just occasionally, see your dentist for a check-up. Offensive mouth odors can be caused by tooth decay and/or gastric reflux.

- When experiencing a vocal disturbance

• **See a physician immediately** if you have laryngitis for more than seven days or pain in the throat, jaw, or ear upon speaking, eating, or swallowing for more than one day.

• **Reduce or avoid** talking when you have an upper respiratory infection such as a cold. See a physician if the cold persists, especially a chest cold which has persisted for more than seven days.

• **Do not** sing, act in plays, or give speeches or oral reports if you have a vocal disturbance or an upper respiratory infection. If you absolutely must speak to a large group, be sure to use voice amplification technology (aka microphone).

• **When experiencing a vocal disturbance,** if you must speak to a group, then sit in the corner of the room so that you can be heard easily without talking loudly, and then speak only when others in the room are quiet. If you can obtain amplification of your voice when speaking to groups, it is more desirable than attempting to project your voice without assistance. Also, limit the amount of time speaking under such circumstances.

Vocal misuse and abuse were predominant causative factors for voice problems in vocations involving high demands on vocal mechanism, alone or in combination with biologic and psychosomatic factors, which may result in chronic or acute symptoms of vocal attrition (overall reduction of vocal capabilities, wear and tear of vocal mechanism) such as vocal fatigue, hoarseness, throat discomfort or pain and benign mucosal lesions.

Sapir (1993)

It has been reported that the vocal symptom mainly seen in PVU is vocal fatigue. It is usually described as negative sensory vocal symptom that corresponds to change in vocal response, contrary to and usually quality or response. (Sataloff, 1933)

Western studies

Amir, Shental and Shabtai (2006) evaluated whether the voice characteristics of women who use birth control pills that contain different progestins differ from the voice characteristics of a control group also presents a meta-analysis that combined the results with those from 3 recent studies that compared voices of women who use and do not use birth control pills results support findings from previous studies, which suggested that no adverse effect on voice was detected among nonprofessional speakers who use new-generation monophasic birth control pills, for the measures studied.

Shrestha, Kharel and Adhikhary (2019) studied the prevalence of voice disorder in patients visiting the voice clinic ENT-HNS department of tertiary care center revealed that voice disorders were more frequent in females than males and also in professional voice users as they tend to use voice more daily.

Kim and Jaeock (2015) compared professional (Pro) and non-professional (Non-pro) voice users with voice disorders in self-reporting voice evaluation using Korean-Voice Handicap Index (K-VHI) and Korean-Voice Related Quality of Life (K-VRQOL) concluded that professional voice users are more sensitive to their functional and physical handicap resulted by their voice problems and that goes double for the patients with severe and neurologic voice disorders.

Indian studies

Sheyona and Devadas (2020) investigated the prevalence of self-reported voice problems and its impact on the nonprofessional voice users indicated that a significant number of nonprofessional voice users suffer from voice problems, and it has a significant impact on their job performance.

Boominathan, Rajendran, Nagarajan, Seethapathy and Gnanasekar (2008)

described vocal abuse and vocal hygiene practices among different levels of professional voice users in India findings suggested that enable speech and voice pathologists to plan strategically to prevent voice problems and reach these voice professionals.

Karulkar and Gunjawate (2021) explored the voice problems, vocal and non-vocal habits of Naradiya kirtankars findings highlighted the need for dedicated efforts towards increasing the awareness among the kirtankars' about the vocal, non-vocal factors associated with voice problems and the role of voice health-care professionals in voice care.

Karulkara, Ravi and Gunjawate (2020) aimed to profile voice-related complaints, as well as vocal and non-vocal habits among Hindustani classical singers highlighted the voice-related complaints and vocal and non-vocal habits of Hindustani classical singers.

Need for the study

Vocal hygiene habits play important role in vocal usage in professional voice users and non professional voice users. It is very important that vocal hygiene habits have to be focused on person's using their voice for their profession which can also be a consideration for the non voice users, From the above review it can be seen that importance of self reported voice problems and its impact on non professional voice users defense (Army, Navy, Air force) is one such profession coming under non professional voice users, but vocal hygiene plays important role in them. Dearth of literature focusing on vocal hygiene habits in defense people inspired the present study.

METHOD

Aim of the study:

The aim of the present study was to evaluate the efficacy of vocal hygiene awareness program in persons working in defense (army, navy, air force). To evaluate this orientation material was used. The orientation program was evaluated using a questionnaire (pre test and post test).

The current study was carried out in two phases:

Phase I

Orientation program

Phase II

Again was carried out in three steps

1. Development of questionnaire
2. Administration of questionnaire
3. Carrying out sanitization program

PHASE I

ORIENTATION PROGRAM

An orientation program which was prepared on 17/08/2021 the material used in orientation material used in the following area

PHASE II

Step I Development of questionnaire

30 questions (close ended, open ended and multiple choice0 were divided into following sections

a) Demographic data
b) Section A had questions related to anatomy of voice production mechanisms
c) Section B had questions related to causes of the voice disorders
d) Section C had questions related to preventive voice care.

The developed questionnaire before administering to the target group was administered to a group of general public who were asked to rate the questions based on intelligibility, simplicity, ambiguity and language level. Their suggestions were taken and necessary corrections were incorporated in the questionnaire, the questionnaire was then administered to target group, before and after the orientation program to evaluate the efficacy of the orientation program.

Participants:

30 adults in the age range of 20 to 30 year working in defense area (10 army, 10 navy and 10 air force) participated in the present study. All participitants were native Malayalam speakers and were from Kerala. All participants in the study were not having any speech, hearing and language problem.

Inclusion criteria

- No history of neurological, vascular and motor abnormalities
- Should be a native Malayalam speaker
- Age selected is to be specific for the testing

Exclusion criteria

- Non native Malayalam speaker

PROCEDURE

The date was collected as follows.

Prior to the orientation program the target group chosen for the study were explained briefly about the purpose of the orientation program, that is the program was not evaluate their knowledge but to evaluate the efficacy of the orientation program, after this the target group were given questionnaire and special emphasis was made not to given ,while answering the group was also told not to discuss the answers with colleagues. They were given ten minute test answers. The questionnaires the present answer were collected and they were told another test (post test) would be administered after the orientation program.

After the administration of protest the orientation lecture was delivered using the audio visual material as supplement a brief discussion was held to clear their doubts. Before post test was administered using the same questionnaire.

Scoring:

The responses got from 30 participants were separately scored for pre and post test. A score of 1 was given for correct response. And 0 was incorrect response. The obtained scores were tabulated and statistically analyzed for significant between pre and post test.

Analysis

The obtained data was statistically analysed by using the method Fishers exact test.

RESULTS AND DISCUSSION

The aim of the current study was to evaluate the efficacy of vocal hygiene awareness program in person working in defense (Army, Navy, Air force).

A. Awareness and Non Awareness of vocal hygiene in army participants

Table 4.1

Shows the voice awareness in Army participants

	Not Aware		Aware	
	Count	Row N %	Count	Row N %
Q1	1	10.0%	9	90.0%
Q2	0	0.0%	10	100.0%
Q3	9	90.0%	1	10.0%
Q4	9	90.0%	1	10.0%
Q5	10	100.0%	0	0.0%
Q6	8	80.0%	2	20.0%
Q7	6	60.0%	4	40.0%
Q8	9	90.0%	1	10.0%
Q9	9	90.0%	1	10.0%
Q10	9	90.0%	1	10.0%
Q11	7	70.0%	3	30.0%
Q12	8	80.0%	2	20.0%
Q13	7	70.0%	3	30.0%
Q14	4	40.0%	6	60.0%
Q15	6	60.0%	4	40.0%
Q16	6	60.0%	4	40.0%
Q17	2	20.0%	8	80.0%
Q18	2	20.0%	8	80.0%
Q19	9	90.0%	1	10.0%
Q20	0	0.0%	10	100.0%
Q21	2	20.0%	8	80.0%
Q22	4	40.0%	6	60.0%
Q23	5	50.0%	5	50.0%
Q24	3	30.0%	7	70.0%
Q25	4	40.0%	6	60.0%
Q26	6	60.0%	4	40.0%
Q27	6	60.0%	4	40.0%
Q28	5	50.0%	5	50.0%
Q29	6	60.0%	4	40.0%
Q30	4	40.0%	6	60.0%

Table 4.1 shows the percentage of aware and not aware to the questions of vocal hygiene in Army participants

1. Aware of vocal hygiene :

   From the table it's clear that 100% was obtained in two questions, above 70%(71 – 99) was obtained in four questions, above 50%(51 – 70) was obtained in five questions, above 10%(11 – 50) was obtained in twelve questions, and above 5%(6 – 10) was obtained in six questions and 0% in one question.

2. Not Aware of vocal hygiene:

   From the table it's clear that 100% was obtained in one question, above 70%(71 – 99) was obtained in eight questions, above 50%(51 – 70) was obtained in eight questions, above 10%(11 – 50) was obtained in ten questions, and above 5% (6 – 10) was obtained in one questions and 0% in two question.

B. Awareness and Non Awareness of vocal hygiene in Navy participants

Table 4.2

Shows the voice awareness in Navy participants

	Not Aware		Aware	
	Count	Row N %	Count	Row N %
Q1	4	40.0%	6	60.0%
Q2	0	0.0%	10	100.0%
Q3	8	80.0%	2	20.0%
Q4	8	80.0%	2	20.0%
Q5	10	100.0%	0	0.0%
Q6	8	80.0%	2	20.0%
Q7	8	80.0%	2	20.0%
Q8	7	70.0%	3	30.0%
Q9	0	0.0%	10	100.0%
Q10	10	100.0%	0	0.0%
Q11	4	40.0%	6	60.0%
Q12	4	40.0%	6	60.0%
Q13	4	40.0%	6	60.0%
Q14	3	30.0%	7	70.0%
Q15	3	30.0%	7	70.0%
Q16	5	50.0%	5	50.0%
Q17	2	20.0%	8	80.0%
Q18	2	20.0%	8	80.0%
Q19	10	100.0%	0	0.0%
Q20	0	0.0%	10	100.0%
Q21	5	50.0%	5	50.0%
Q22	4	40.0%	6	60.0%
Q23	7	70.0%	3	30.0%
Q24	6	60.0%	4	40.0%
Q25	6	60.0%	4	40.0%
Q26	6	60.0%	4	40.0%
Q27	5	50.0%	5	50.0%
Q28	5	50.0%	5	50.0%
Q29	5	50.0%	5	50.0%
Q30	2	20.0%	8	80.0%

Table 4.2 shows the percentage of aware and not aware to the questions of vocal hygiene in Navy participants

1. Aware of vocal hygiene :

   From the table it's clear that 100% was obtained in three questions, above 70%(71 – 99) was obtained in three questions, above 50%(51 – 70) was obtained in eight questions, above 10%(11 – 50) was obtained in thirteen questions, and above 5%(6 -11) was not obtained in the questions and 0% in three question.

2. Not Aware of vocal hygiene:

   From the table it's clear that 100% was obtained in three question, above

70%(71 – 99) was obtained in four questions, above 50%(51 – 70) was obtained in five questions, above 10%(11 – 50) was obtained in fifteen questions, and above 5% (6 -11) was not obtained in the questions and 0% in three question.

C. Awareness and Non Awareness of vocal hygiene in Air Force participants

Table 4.3

Shows the voice awareness in Air Force participants

	Not Aware		Aware	
	Count	Row N %	Count	Row N %
Q1	6	60.0%	4	40.0%
Q2	0	0.0%	10	100.0%
Q3	10	100.0%	0	0.0%
Q4	10	100.0%	0	0.0%
Q5	10	100.0%	0	0.0%
Q6	7	70.0%	3	30.0%
Q7	8	80.0%	2	20.0%
Q8	9	90.0%	1	10.0%
Q9	2	20.0%	8	80.0%
Q10	10	100.0%	0	0.0%
Q11	4	40.0%	6	60.0%
Q12	3	30.0%	7	70.0%
Q13	9	90.0%	1	10.0%
Q14	6	60.0%	4	40.0%
Q15	6	60.0%	4	40.0%
Q16	7	70.0%	3	30.0%
Q17	5	50.0%	5	50.0%
Q18	5	50.0%	5	50.0%
Q19	10	100.0%	0	0.0%
Q20	0	0.0%	10	100.0%
Q21	5	50.0%	5	50.0%
Q22	5	50.0%	5	50.0%
Q23	8	80.0%	2	20.0%
Q24	8	80.0%	2	20.0%
Q25	2	20.0%	8	80.0%
Q26	8	80.0%	2	20.0%
Q27	8	80.0%	2	20.0%
Q28	8	80.0%	2	20.0%
Q29	5	50.0%	5	50.0%
Q30	0	0.0%	10	100.0%

Table 4.3 shows the percentage of aware and not aware to the questions of vocal hygiene in Air Force participants

1. Aware of vocal hygiene :

   From the table it's clear that 100% was obtained in three questions, above 70%(71 – 99) was obtained in two questions, above 50%(51 – 70) was obtained in two questions, above 10%(11 – 50) was obtained in sixteen questions, and above 5% (6 – 10) was obtained in two questions and 0% in five question.

2. Not Aware of vocal hygiene:

   From the table it's clear that 100% was obtained in five question, above 70%(71 – 99) was obtained in eight questions, above 50%(51 – 70) was obtained in five questions, above 10%(11 – 50) was obtained in nine questions, and above

5%(6 – 10) was not obtained in the questions and 0% in three question.

D. Comparison of vocal hygiene awareness among three population

Table 4.4

Shows the significance among the three population

	Army		Navy		Airforce		Fishers exact test p value	
	Count	Row N %	Count	Row N %	Count	Row N %		
Q1	9	90.0%	6	60.0%	4	40.0%	0.065	NS
Q2	10	100.0%	10	100.0%	10	100.0%	.	NS
Q3	1	10.0%	2	20.0%	0	0.0%	0.329	NS
Q4	1	10.0%	2	20.0%	0	0.0%	0.329	NS
Q5	0	0.0%	0	0.0%	0	0.0%	.	NS
Q6	2	20.0%	2	20.0%	3	30.0%	0.830	NS
Q7	4	40.0%	2	20.0%	2	20.0%	0.506	NS
Q8	1	10.0%	3	30.0%	1	10.0%	0.383	NS
Q9	1	10.0%	10	100.0%	8	80.0%	.000*	HS
Q10	1	10.0%	0	0.0%	0	0.0%	0.355	NS
Q11	3	30.0%	6	60.0%	6	60.0%	0.301	NS
Q12	2	20.0%	6	60.0%	7	70.0%	0.061	NS
Q13	3	30.0%	6	60.0%	1	10.0%	0.058	NS
Q14	6	60.0%	7	70.0%	4	40.0%	0.387	NS
Q15	4	40.0%	7	70.0%	4	40.0%	0.301	NS
Q16	4	40.0%	5	50.0%	3	30.0%	0.659	NS
Q17	8	80.0%	8	80.0%	5	50.0%	0.240	NS
Q18	8	80.0%	8	80.0%	5	50.0%	0.240	NS
Q19	1	10.0%	0	0.0%	0	0.0%	0.355	NS
Q20	10	100.0%	10	100.0%	10	100.0%	.	NS
Q21	8	80.0%	5	50.0%	5	50.0%	0.287	NS
Q22	6	60.0%	6	60.0%	5	50.0%	0.873	NS
Q23	5	50.0%	3	30.0%	2	20.0%	0.350	NS
Q24	7	70.0%	4	40.0%	2	20.0%	0.076	NS
Q25	6	60.0%	4	40.0%	8	80.0%	0.189	NS
Q26	4	40.0%	4	40.0%	2	20.0%	0.549	NS
Q27	4	40.0%	5	50.0%	2	20.0%	0.366	NS
Q28	5	50.0%	5	50.0%	2	20.0%	0.287	NS
Q29	4	40.0%	5	50.0%	5	50.0%	0.875	NS
Q30	6	60.0%	8	80.0%	10	100.0%	0.082	NS

NS – No Significance HS – Highly Significant

From the table 4.4 the result suggest that there is highly significant variation in question number nine among the three population and non significant for the other questions.

DISCUSSION

The present review focuses on the evaluation of vocal hygiene awareness in defence people. (Army, Air Force and Navy). The questionnaire was conducted among the defence people and the result obtained was statistically analyzed to know the awareness of the vocal hygiene among the defence people.

The objectives evaluated for the awareness of vocal hygiene in defence people were:

1. **Awareness and Non Awareness of vocal hygiene in army participants**

- The percentage data for awareness of vocal hygiene in army shows that 100 percent was attained in two questions, above 70 percent (71–99) in four questions, above 50 percent (51–70) in five questions, above 10 percent (11–50) in twelve questions, above 5 percent (6–10) in six questions, and 0 percent in one question.

- The percentage result for non awareness of vocal hygiene in army shows that 100 percent was attained in one question, above 70 percent (71–99) in eight questions, above 50 percent (51–70) in eight questions, above 10 percent (11–50) in ten questions, and above 5 percent (6–10) in one question and 0 percent in two questions.

2. **Awareness and Non Awareness of vocal hygiene in Navy participants**

- The percentage data for awareness of vocal hygiene in navy that 100 percent was attained in three questions, above 70 percent (71 – 99) in three questions, above 50 percent (51 – 70) in eight questions, above 10 percent (11 – 50) in thirteen questions, and above 5 percent (6 -11) in three questions.

- The percentage data for non awareness of vocal hygiene in navy shows that 100 percent was attained in three questions, above 70 percent (71–99) in four questions, above 50 percent (51–70) in five questions, above ten percent (11–50)

in fifteen questions, and above five percent (6 -11) in three questions.

3. Awareness and Non Awareness of vocal hygiene in Air Force participants

- The percentage data for awareness of vocal hygiene in air force shows that 100 percent was reached in three questions, above 70 percent (71–99) in two questions, above 50 percent (51–70) in two questions, above 10 percent (11–50) in sixteen questions, above 5 percent (6–10) in two questions, and 0 percent in five questions.

- The percentage data for non awareness of vocal hygiene in air force shows 100 percent was attained in five questions, above 70 percent (71–99) in eight questions, above 50 percent (51–70) in five questions, above 10 percent (11–50) in nine questions, and above 5 percent (6–10) in three questions.

4. Comparison of vocal hygiene awareness among three population

- The findings indicate that there is highly significant variation in question number nine among the three populations, but that the other questions are not.

The result revealed that awareness on the vocal hygiene had to be provided for the defense people which have to manage their profession using vice the present study is in correlation with Boominathan, Rajendran, Nagarajan, Seethapathy and Gananasekar (2008) described vocal abuse and vocal hygiene practices among various level of professional voice users in India and reveals that speech and voice pathologist can plan strategically to prevent voice problem and reach these voice professionals.

SUMMARY AND CONCLUSION

Vocal hygiene focuses on the proper use of vocal organs, as well as the significance of enhanced hydration and the avoidance of throat clearing. A good vocal hygiene programme combined with voice treatment can help to improve behaviour and prevent damage to the vocal folds.

The current study was designed to look into the voice hygiene awareness programme among defense personnel, not to track any behavioral changes as a result of the lecture. Thirty defense personnel from Kerala district who are native Malayalam speakers were chosen as the subjects They are free of any speech, language, or neurological issues. The participants were aged from 30 to 50 years old.

The questionnaire was administered out one pre and one post. Following the lecture and demonstration programme, the participants were requested to complete a post-test questionnaire. The goal was to establish a baseline level of awareness of various aspects of voice and voice production. After attending vocal hygiene lectures provided by qualified speech language pathologists, the individuals' completed questionnaires were returned. Following the conclusion of the lectures, a pre-test was given to assess past understanding of vocal hygiene.. The questionnaire took the defense team 10-15 minutes to complete. The participant's ability to answer the identical questions and demonstrate efficacy was tested. A lecture and demonstration presentation on vocal hygiene. The programme included three sessions on (a) the anatomy of voice production, (b) causes and types of voice problems, and (c) vocal hygiene guidelines for defense personnel, all of which were provided via audio visual presentation and demonstration. The first one dealt with many areas of voice production (brief overview of voice production). Especially for those in the military. Vocal and non-vocal habits were reviewed as risk factors, typical causes for voice difficulties, voice/misuse, and overuse in defense personnel. Finally, we discussed vocal hygiene and voice care suggestions, guidelines, Do's and Don'ts for efficient voice use, particularly for defense personnel.

The responses got from 30 participants were separately scored for pre and post test. A score of 1 was given for correct response. And 0 was incorrect response. The obtained scores were tabulated and statistically analyzed for significant between pre and post test.

From the current evidence, it is clear that the defence personnel who must control their profession need to be educated on vocal hygiene. The current research was carried out, according to Boominathan, Rajendran, Nagarajan, Seethapathy, and Gnanasekar (2008), who described vocal abuse and vocal hygiene practises among various levels of professional voice users in India and revealed that speech and voice pathologists can plan strategically to prevent voice problems and reach these voice professionals, speech and voice pathologists can plan strategically to prevent voice problems and reach these voice professionals.

Implication of the study

The study helps to find the vocal hygiene awareness among the defence people which include the population of Army, Navy and Air force

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