

VHI & VRQOL in Temple Priests

Silpa P., BASLP
Ananya P C., BASLP
Noorul Huda Kasim, BASLP
Jenny Mevis D'souza, Lecturer

Abstract

As preachers are risk of developing voice problems, and there is relatively little research found in literature about self-evaluation of voice in this group. Hence the present study aimed to determine the VHI and VRQOL scores in priests. 50 priests in the age of 20 - 60 years were randomly selected for the study. And subjects were asked to fill the VHI and VRQOL questionnaires. Result showed that there was highly significant difference between 4 groups (20-30yrs, 30-40yrs, 40-50yrs, 50-60yrs) for VHI domain scores, and there is no significant difference between 4 groups (20-30yrs, 30-40yrs, 40-50yrs, 50-60yrs) for VRQOL total scores. And also there is no significant difference between 2 groups (>2 & <2 duration of preaching) for VHI domain scores, and there is no significant difference between 2 groups (>2 & <2 duration of preaching) for VRQOL scores. And for year of preaching group there was highly significant difference seen between 2 groups (>10 & <10 years off preaching) for VHI domain scores, and is no significant difference between 2 groups (>10 & <10 years off preaching) for VRQOL scores. Thus, self-evaluation is the best tool to know each subjects perceptions about their voice and its effect on daily life.

Key words: Preacher, VHI, VRQOL, Self-evaluation, Voice

Introduction

Human voice is remarkable instrument. Each individual's voice is unique voice plays in musical accompaniment to speech rendering it tuneful pleasing, audible and coherent, being the

spoken word (Green 1964). Any change in any of the parameters (pitch, loudness & quality) of voice can lead to voice disorder.

Voice is the laryngeal modification of pulmonary airstream which is further modified by the configuration of vocal tract 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 directly depend vocal communication for their livelihood. (Stemple, 1995)

Since voice plays a major role in speech & communication it needs to be assessed. There are multiple approaches to evaluate voice disorders. Evaluation of voice disorder can be performed by using laryngoscopic techniques such as stroboscopic, electromyography, imaging technique aerodynamic measurement, acoustic analysis, subjective listener’s evaluation and measures of functional disability that are self evaluated by speaker. In some situation the examiner has to depend more on subjective means rather than objective means. Also studies suggest that objective and instrumental measures fail to assess the level of disability experienced by the speaker as a function of voice disorder. The subjective evaluation of voice problem made by the patient is dependent on wide range of parameter such as individual overall daily function, occupation social and psychological states. Examples of subjective rating scales are, GRABS, Buffalo rating scale and voice handicap index.

VHI was proposed by Jacobson et.al in 1997 VHI provides non standardized index of the subject self rating degree of his/ her voice related problem in three domains emotional, physical, functional. The item was developed from patients statement taken from case history or interview in which three domains using five point rating scale from (0 - never) to (4 -always). The higher the score greater the voice problem (Jacobson 1997)

VRQOL measure is a validated outcome instrument specific for voice disorder. VRQOL is a question and answer tool that has been developed to help the patient and clinician to assess the amount of disability that a voice disorder is causing. Patients are requested to note the

frequency and severity of a variable on a five point rating scale from 1 to 5. (Hogikyan& sethuram1999)

Cohen, Noordzij, Garrett and Ossoff (2008) investigated the factors that influence the self-perceived handicap associated with singing voice problems. Duration of symptoms, being an amateur singer or singing teacher, benign vocal fold lesions, and neurologic voice disorders were associated with increased SVHI scores. Age greater than 50 years and gospel singing were predictive of increased SVHI scores. Singers experience significant handicap as a consequence of their singing problems with certain issues associated with greater impairment.

Spina, Maunsell, Sandalo, Gusmão, & Crespo (2009) correlated quality of live and voice with the level of dysphonia and professional activity. Result showed there was no statistically significant difference between the groups - professional users and non-users of their voices, and they concluded that dysphonia affected the quality of life of all subjects regardless of their voice use.

Tutya, Zambon, Oliveira,& Behlau (2011) investigated that how the impact of a dysphonia on teachers' lives is characterized by the V-RQOL, VHI and VAPP and to analyze the relationship among the information they provide. And result revealed that physical functioning (V-RQOL) and physical (VHI) domains provide similar results, however social-emotional domain of the V-RQOL exhibited more evidently the impact of the voice disorder in dysphonic teachers than the VHI.

Morawska, Niebudek-Bogusz, Zaborowski, Wiktorowicz & Śliwińska-Kowalska. (2015) performed the Polish V-RQOL version in voice professionals suffering from dysphonia and compared with the commonly used voice self-assessment tool – VHI. The V-RQOL results showed that quality of life in dysphonic subjects was lower than in control group (62.4 vs 88.8 points). And they suggested that the Polish V-RQOL measure seems to be a promising quality of life assessment screening tool to detect occupational voice disorders.

Need: Relatively less research has been done on priests regarding voice analysis, especially in the field of self-evaluation of voice using rating scales. Few studies in Indian population with respect to quality of life measures of professional voice users such as types of

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Silpa P., BASLP, Ananya P C., BASLP, Noorul Huda Kasim, BASLP and Jenny Mevis

D'souza, Lecturer

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singers, teachers etc have been done, but in case of priests this is the first attempt to know their perception about voice affecting daily life.

Aim of the Study

- a). Determine the VHI domain scores and VRQOL scores within 4 groups of priests (20 - 30 yrs, 30 - 40 yrs, 40 - 50 yrs, & 50 - 60 yrs)
- b). Determinethe VHI domain scores and VRQOL scores between 2 groups of priests(>2 &< 2 duration of experience)
- c). Determinethe VHI domain scores and VRQOL scores between 2 groups of priests (>10 &< 10 years of experience)

Methodology

Subjects

50 priests in the age of 20 - 60 years were randomly selected from different temples in Kerala. The groups were divided according to the selected variable such as

- Duration of preaching (>2 &<2)
- Years of preaching (>10 &<10)
- Age (20 - 30 yrs, 30 - 40 yrs, 40 - 50 yrs, & 50 - 60 yrs)

Procedure

The study was done in temples in Kerala. Both the scales were translated to Malayalam language. All patients were asked to fill the Voice Handicap Index and Voice Related Quality Of Life scales.

VHI is a patient-based self-assessment tool that consists of 30 items distributed over three domains: functional, physical, and emotional. The VHI total score ranges between 0 and 120 a high number indicates greater severity of voice problem. The VHI overall score is then categorized as a minimal amount of handicap when the score is from 0 to 30, a moderate amount

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of handicap with score between 31 to 60 and finally a serious amount of handicap when the score is more than 60.

The V-RQOL questionnaires are a self-administered short form patient report instrument that measures the subjective burden elicited by a voice disorder. It consists of only ten statements on voice related aspects across emotional, physical and functional domains. Each patient responds according to the suitability or closeness of each item (ranging from 1= not a problem to 5= the problem is “as bad as it can be”) to his situation. The overall VR-QOL score ranges from 10 to 15 (excellent), 16 to 20 (very good), 21 to 25 (good), 26-30 (fair) and scores more than 30 and up to 50 is poor.

Statistical package for social sciences (SPSS) software was employed for statistical analyses. In order to verify if there was a statistically significant difference among the VHI domain and VRQOL scores with the social-demographic variables such as age, the Kruskal-Wallis Test was conducted. In order to verify if there was a statistically significant difference among the VHI domain and VRQOL scores with year and duration of experience, the Mannwhitney test was conducted.

Results and Discussions

The present study was conducted with the aim to study VHI & VRQOL in temple priests. The obtained data was statistically analyzed and results were discussed below.

- a) VHI domain scores and VRQOL scores within 4 age groups (20- 30yrs , 30- 40yrs, 40- 50yrs, 50- 60yrs)**

Groups: AGE

Groups	N	Mean	Std. Deviation	Median(IQR)			
					Kruskal wallis test value	p value	
EMOTIONAL	20 - 30	12	1.00	1.651	0(0-2.5)	19.720	p<0.001 HS
	30 -40	12	1.83	2.167	1(0-3.75)		
	40 - 50	13	1.31	2.250	0(0-2)		
	50 - 60	13	6.38	3.305	7(4.5-9)		
PHISICAL	20 - 30	12	1.500	2.5406	0(0-4)	11.355	.010 sig
	30 -40	12	1.833	2.2088	1(0-3.75)		
	40 - 50	13	1.154	1.9936	0(0-2.5)		
	50 - 60	13	4.385	2.5670	4(3.5-6.5)		
FUNCTION	20 - 30	12	1.42	2.678	0(0-1.75)	8.157	.043 sig
	30 -40	12	1.58	2.109	0.5(0-3.75)		
	40 - 50	13	1.31	1.974	0(0-3)		
	50 - 60	13	3.77	2.682	5(1-5)		
VHI TOTAL	20 - 30	12	3.17	4.303	1(0-8.5)	14.364	.002 HS
	30 -40	12	4.92	5.334	2.5(1-9.75)		
	40 - 50	13	4.23	4.640	1(0-10)		
	50 - 60	13	12.46	7.102	10(10-17)		
VRQL	20 - 30	12	10.00	.000	10(10-10)	.000	1.000 NS
	30 -40	12	10.00	.000	10(10-10)		
	40 - 50	13	10.00	.000	10(10-10)		
	50 - 60	13	10.00	.000	10(10-10)		
TOTAL	20 - 30	12	10.00	.000	10(10-10)	.000	1.000 NS
	30 -40	12	10.00	.000	10(10-10)		
	40 - 50	13	10.00	.000	10(10-10)		
	50 - 60	13	10.00	.000	10(10-10)		

Table 1: showing the mean, standard deviation and significant value of VHI domain scores and VRQOL scores in 4 age groups.

As is evident from the table 1, lower scores (1.00, 1.83, 1.31) were obtained for emotional domain in 3 age groups (20-30 yrs, 30-40 yrs& 40 -50 yrs), were comparatively higher scores (6.38) were obtained for 50-60 years group. Similar results were found for physical and functional domain scores, lower scores (1.500, 1.833, 1.154) obtained for physical domain in 3 age groups (20-30 yrs, 30-40 yrs& 40 -50 yrs), were comparatively higher scores (4.385) were obtained for 50-60 years group. And also lower scores (1.42, 1.58, 1.31) obtained for

physical domain in 3 age groups(20-30 yrs, 30-40 yrs& 40 -50 yrs), were comparatively higher scores (3.77) were obtained for 50-60 years group.

And also from table 1. It clearly shows VRQOL scores for 4 groups with no significant difference between the groups ($p = 1.000$).

b). VHI domain scores and VRQOL scores between 2 groups (>2 &< 2 duration of experience)

Groups: DURATION OF PREACHING

Groups	N	Mean	Std. Deviation	Median(IQR)		
					Mannwhitney test value	p value
EMOTIONAL >2	25	1.40	1.958	0(0-3)	5.027	.025 sig
< 2	25	3.76	3.811	2(0-7)		
PHISICAL >2	25	1.560	2.1424	0(0-3)	2.146	.143 NS
< 2	25	2.800	2.8577	3(0-5)		
FUNCTION >2	25	1.36	1.800	0(0-3)	2.522	.112 NS
< 2	25	2.84	3.023	2(0-5)		
VHI TOTAL >2	25	4.32	4.598	3(0-7)	2.755	.097 NS
< 2	25	9.40	8.784	11(0-17)		
VRQL >2	25	10.00	.000	10(10-10)	.000	1.000 NS
< 2	25	10.00	.000	10(10-10)		
TOTAL >2	25	10.00	.000	10(10-10)	.000	1.000 NS
< 2	25	10.00	.000	10(10-10)		

Table 2: showing mean, standard deviation and significant value of VHI domain scores and VRQOL scores between 2 groups.

The above table showing, lower mean scores (1.40) in emotional domain for >2 group, and relatively higher mean scores (3.76) were found for <2 group. And there was significant difference ($p=.025$) between 2 groups (<2&>2 groups)for emotional domain. Similar findings were seen in physical and functional domains, lower mean scores (1.560, 1.36) were obtained in physical and functional domain of > 2 group but relatively higher mean scores (2.800, 2.84) obtained for physical and functional domain of <2 group. There was no significant difference

between >2 &<2 groups of physical and functional domain. And VRQOL scores reveals, no significant difference between 2 groups(p = 1.000).

c). VHI domain scores and VRQOL scores between 2 groups (>10 &< 10 years of experience)

Groups: YEAR OF PREACHING

Groups	N	Mean	Std. Deviation	Median(IQR)	Mannwhitney test value	p value
EMOTIONAL >10	25	.76	1.332	0(0-1)	15.940	p<0.001
< 10	25	4.32	3.625	4(1-7)		HS
PHISICAL >10	25	.880	1.9000	0(0-0.5)	13.620	p<0.001
< 10	25	3.600	2.5495	4(1-5.5)		HS
FUNCTION >10	25	1.12	2.128	0(0-1)	4.910	.027
< 10	25	2.84	2.672	3(0-5)		sig
VHI TOTAL >10	25	2.76	4.428	1(0-3.5)	12.914	p<0.001
< 10	25	10.76	7.764	13(3-17)		HS
VRQL >10	25	10.00	.000	10(10-10)	.000	1.000
< 10	25	10.00	.000	10(10-10)		NS
TOTAL >10	25	10.00	.000	10(10-10)	.000	1.000
< 10	25	10.00	.000	10(10-10)		NS

Table 3: showing mean, standard deviation and significant value of VHI domain scores and VRQOL scores between 2 groups.

The above table showing, lower mean scores (0.76) in emotional domain for >10 group, and relatively higher mean scores (4.32) were found for <10 group. And there was highly significant difference (p=.001) between 2 groups (<10 &>10 groups)for emotional domain was seen. Similar findings were seen in physical domain, lower mean scores (0.880) obtained in > 10 group but relatively higher mean scores (3.600) obtained for <10 group. And p value reveals there was a highly significant difference between the 2 groups. But for functional domain, the p value (p = 0.27) revealed that there as a significant difference between groups, that is lower scores were seen in >10 group (1.12) and higher scores were seen in <10 group (2.84). There was no significant difference between >10 &<10 groups of physical and functional domain. And VRQOL scores reveals, no significant difference between 2 groups (p = 1.000).

From the above 3 tables it is evident that, there was a significant difference for VHI scores between the 3 variables: Duration of preaching (>2 &<2), Years of preaching (>10 &<10) & Age (20- 30 yrs, 30- 40yrs, 40- 50 yrs, & 50- 60 yrs). And for VRQOL scores, there was no difference was seen among groups for all 3 variables.

Summary and Conclusions

Relatively less studies have been done on professional voice users especially in priests in the field of perception self evaluation of voice by using rating scales. The present study aimed to investigate the VHI domain scores and VRQOL scores in priests. 50 priests in the age of 20 -60 years were taken in the study. 3 groups were done based on 3 variables: age, duration and years of preaching. Subjects were asked to fill the VHI and VRQOL questionnaires.

The result obtained revealed that there was a highly significant difference between VHI domain score in age and year of experience variables, and no significant difference in VHI domains in duration of preaching variable was seen. And also there was no significant difference was seen in all 3 variables such as age, duration of preaching and years of preaching in VRQOL scores between the groups. Present study also reveals that increased duration and years of preaching group has more impaired physical, emotional and functional domain scores than other groups. VRQOL scores were also found to be more in increased duration and years of preaching group than other group.

Thus to conclude that subtle changes in the voice of the priests occurs due to long term effects of preaching and is possible to quantify the parameters in the professional voice users from that of the nonprofessional voice users, using self-evaluation measurements. Thus, self-evaluation is the best tool to know each subjects perceptions about their voice and its effect on daily life. And also it has shown that VHI scale is best to evaluate subjects emotional, Physical and functional perceptions about their voice. It is also widely accepted tool and it is reliable.

Clinical Implications

This information will be helpful for speech language pathologists to understand emotional, physical and functional domains of voice in priests.

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Limitations and Future Directions

The limitations of the study was that the small population. Study was not compared with controlled group and only focused on one group (priests).

Future studies should:

- Focus on other professional voice user group with more variables as criteria
- Comparison between different voice users can be done.
- Using other self rating scales such as vioss, VHI- 10, DSI etc.

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Silpa, P.
Third Year BASLP Student
Dr. M. V. Shetty College of Speech and Hearing
Maladi Court, Kavour
Mangalore – 575015
Karnataka
India
silpanambiar23@gmail.com

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Ananya
Third year BASLP student
Dr. M. V. Shetty College of Speech and Hearing
Maladi Court, Kavoor
Mangalore – 575015
Karnataka
India

Noorul Huda Kasim
Third Year BASLP Student
Dr. M. V. Shetty College of Speech and Hearing
Maladi Court, Kavoor
Mangalore – 575015
Karnataka
India

Jenny Mevis D'souza
Lecturer
Dr. M. V. Shetty College of Speech and Hearing
Maladi Court, Kavoor
Mangalore – 575015
Karnataka
India
jennymavis1992@gmail.com