

Impact of Self-reporting Voice Symptoms on Occupational and Social Life among Stage Drama Actors and Their Knowledge on Vocal Hygiene Techniques, Habits and Treatment Options

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Abstract— Stage actors are included in the category of heavy occupational voice users. Literature suggests that they are at a high risk of developing a voice disorder. Impact on occupational and social life was reported among people with voice problems. Actors showed insufficient knowledge on vocal care and the role of speech language therapist. This study was carried out to determine the frequency of self-reporting voice symptoms, to perceive its impact on occupational and social life, to assess the level of knowledge on vocal hygiene techniques, habits and treatment options among stage actors. This cross sectional analytical study consisted of 88 stage drama actors who had been engaged in stage drama acting for minimum 01 year and who practice and/or perform at least 10 days per month. Subjective data; obtained using a self-administered questionnaire and was analyzed quantitatively utilizing descriptive statistics. Sixty three (71.6%) actors reported with voice symptoms and the most frequent self-reported symptom was hoarseness (33%). Affect for stage drama acting (N=45) and complaints of voice changes during stage drama practices and/or performances (N=43) were the reported highly affected occupational items. Complaints of voice changes of actors, by family and/or friends (N=34) was the reported most affected social item. More than half of the participants had some knowledge about 8/14 items that were tested in vocal hygiene techniques and habits section. Knowledge about surgeries as a relevant treatment and speech language therapist as a relevant professional was less. Majority of actors reported an impact on occupational life (83.9%) and social life (68.9%) due to voice problems. Though actors showed knowledge on vocal hygiene techniques, habits and treatment options for voice problems; there were some areas which demonstrated limited knowledge. Higher levels of impact and less knowledge on vocal care strongly suggest vocal hygiene education for stage drama actors.

Keywords— Voice, Occupational, Actors

I. INTRODUCTION

Different studies have revealed a connection between voice problems and vocal using activities. Occupational groups such as teachers, singers, stage actors, telemarketing operators, salespeople, lawyers, call centre operators and members of clergy are groups of heavy occupational voice users and at a high risk of developing a voice disorder. The risk of developing voice disorders is amplified as those occupational groups use their voice immensely everyday and if they do not follow good vocal hygiene (Ng, Baily & Lippert 2005, p. 142). However, Limited voice research has been carried out in the Sri Lankan context. The general objective of the study was to determine the frequency of self-reporting voice symptoms, to perceive its impact on occupational and social life and to assess the level of knowledge on vocal hygiene techniques, habits and treatment options among stage drama actors. The specific objectives were to determine the frequency of self-reporting voice symptoms among stage drama actors, to perceive the impact of self-reported voice symptoms on their occupational and social life, to assess the level of knowledge on vocal hygiene techniques and habits among stage drama actors and to assess the level of knowledge on treatment options for voice problems.

II. METHODOLOGY

The study was cross sectional analytical design. The stage drama actors who had been working for more than one year in stage drama acting, who was engaged in stage drama practices or/and performances ten or more than ten days per month were included to the study. Eighty eight subjects were selected according to simple random sampling method using computer sampling method (WinPepi software). Study instrument was a self-administered questionnaire which was made in Sinhala, Tamil and English. The questionnaire was developed with collaboration of five colleagues who conducted voice

research on five occupations. Questions were made under the sections of self-reporting voice symptoms during the previous year (May 2012 – June 2013), its impact on occupational life and social life, knowledge on vocal hygiene techniques, habits and knowledge on treatment options. Participants were asked to skip impact on occupational and social lives sections if they hadn't presented with any voice symptom. There were some items of the questionnaire which were composed by the researcher and colleagues and some were determined after studying reading materials and previous research. Likert scales and multiple choice questions were used in the questionnaire. Subjective data was quantitatively analysed using descriptive statistics via Statistical Program for Social Sciences (SPSS) – Version 16.0. Approval was obtained from Ethics Review Committee, Faculty of Medicine, Ragama for this study (Ref. No. P72/05/2013). The informed written consent was obtained from stage drama actors. Participants' schedules weren't disturbed due to collection of data.

III. RESULTS

Majority of the participants were below the age of 40 years (62.4%), had less than 20 years of experience as a stage drama actor (63.6%), were practicing and/or performing between 10-14 days per month (53.4%), had studied in a stage drama school (69%) and had voice training from drama school and/or any other place (86.3%).

A. Self-reporting voice symptoms

Of the 86 participants; 39.5% (N=34) had described their voice as very good while 40.7% (N=35) had described their voice as "good". Sixty three (72%) actors reported that they presented with voice symptoms during the previous year (May 2012 – June 2013). The most frequent self-reported voice symptom was hoarseness of voice (33%); was followed by difficulty in talking/singing high notes (28.4%). Both vocal fatigue and dry throat owned third higher position (15.9%) (Table 1).

Twenty five actors skipped this section as they reported that they weren't having any voice problem. Of the 62/63 actors who reported on self-reported voice symptoms; majority (83.9%) had reported an impact on occupational life due to those voice symptoms. These actors reported at least, a little impact on their occupational life due to voice symptoms in any of the five items which were included in occupational impact section.

Table 1. Frequency of self-reported voice symptoms

Self-reported voice symptoms	Reported	
	Frequency (N)	Percentage (%)
Hoarseness	29	33
Difficulty in talking/ singing high notes	25	28.4
Dry throat	14	15.9
Vocal fatigue	14	15.9
Pain in throat	10	11.4
Roughness of voice (without cold)	10	11.4
Itchy sensation	10	11.4
More effort to get voice	9	10.2
Difficulty in controlling voice	9	10.2
Difficulty in talking/singing low notes	9	10.2
Feeling something stuck in throat (Globus sensation)	8	9.1
Burning sensation of throat	5	5.7
Tightness in throat	4	4.5
Shortness of breath while talking	3	3.4
Voice loss	2	2.3
Other symptoms	2	2.3

B. Perceived occupational impact of self-reported voice symptoms

As reported by the participants only two items were affected more than 50% of them. Those most affected items were; affect for stage drama acting and complaints of voice changes during stage drama practices and/or performances. Most of the actors who reported an impact had reported a little impact on each item (Table 2).

C. Perceived social impact of self-reported voice symptoms

Twenty five actors skipped this section as they reported that they weren't having any voice problem. Of 61 responded actors with self-reported voice symptoms; two third (68.9%) of them had reported an impact on social life due to self-reported voice symptoms. These actors reported, at least, a little impact on their social life due to self-reported voice symptoms in any of the five items which were in social impact section.

The item "complaints of voice changes of actors' by family members and/or friends"; was the only item which was affected more than 50% of the participants as they reported. At least, one actor who was severely affected

could be seen in each item of this section which couldn't be seen in the occupational section (Table 3).

D. Knowledge on vocal hygiene techniques and habits

This section consisted of 14 items. The participants had to mark whether the item is correct or incorrect in maintaining a good voice. If they don't know the answer they were asked to mark it too. Getting adequate sleep was the most knowledgeable (96.6%) item in this section. It was followed by sipping water throughout the day (87.1%), smoking (87.1%), betel chewing (86%), alcohol consumption (83.5%) and doing physical exercises (75.9%). The least knowledgeable item was getting an early meal (getting meals 2-3 hours before bed time) (27.4%).

More than 25% of actors had incorrectly marked items such as reducing throat clearing (27.7%), taking menthol toffees (31.4%) and getting an early meal (27.4%). Twenty five percent of the actors had incorrectly marked the item speak in loud noise (except in stage acting). The

results show some actors had perceived above mentioned items incorrectly. Items such as getting an early meal (35%), consuming caffeine products (44%) and eating spicy food (35.7%) have got higher number of responses on "don't know". (Table 4)

More than half of the participants had some knowledge about 8/14 items that were tested (Table 4). Mean mark gained for knowledge on vocal hygiene techniques and habits was 9.14 (mark range = 0-14). The mean mark was exceeded by 51.1% actors.

E. Knowledge on treatment options for voice problems

This section consisted of 14 items. The participants had to mark whether the item is correct or incorrect. If they don't know the answer they were asked to mark it.

Of responded 85 actors; 63.5% of them had marked 2 weeks as the maximum waiting time to get voice treatments if the voice got changed; which was the correct answer.

Table 2. Perceived occupational impact of self-reported voice symptoms

	QO 1		QO 2		QO 3		QO 4		QO 5	
	N	%	N	%	N	%	N	%	N	%
Not at all	15	25.0	50	82.0	18	29.5	37	60.7	54	88.5
A little	26	43.3	7	11.5	31	50.8	14	23.0	4	6.6
Moderately	15	25.0	4	6.6	11	18.0	9	14.8	3	4.9
Very much	4	6.7	0	0.0	1	1.6	1	1.6	0	0.0
Total	60	100.0	61	100.0	61	100.0	61	100.0	61	100.0

Of 88 actors; 63 reported with self-reported voice symptoms.
 Of the 63 actors who reported with self-reported voice symptoms, one participant was not responded for all five items in the occupational section.
 Of the remaining 62 actors who reported with self-reported voice symptoms, one was not responded for QO 2, QO 3, QO 4 and QO 5.
 Of the remaining 61 actors who reported with self-reported voice symptoms, two were not responded only for QO 1.
 QO 1 = Affect for stage drama acting
 QO 2 = Taken leave from stage drama acting
 QO 3 = Complaints of voice changes during stage drama practices and/or performances
 QO 4 = Asked clarifications (repetitions) during stage drama acting
 QO 5 = Ignored duties in stage drama acting

Table 3. Perceived social impact of self-reported voice symptoms

	QS 1		QS 2		QS 3		QS 4		QS 5	
	N	%	N	%	N	%	N	%	N	%
Not at all	46	75.4	27	44.3	48	78.7	51	83.6	46	75.4
A little	11	18.0	22	36.1	8	13.1	8	13.1	7	11.5
Moderately	3	4.9	10	16.4	4	6.6	1	1.6	7	11.5
Very much	1	1.6	2	3.3	1	1.6	1	1.6	1	1.6
Total	61	100.0	61	100.0	61	100.0	61	100.0	61	100.0

Of 88 actors; 63 reported with self-reported voice symptoms.

Of the 63 actors who reported with self-reported voice symptoms, two participants were not responded for all five items in the social section.

QS 1 = Effect of voice condition on social relationships

QS 2 = Complaints of voice change by family members and/or friends

QS 3 = Voice problem annoys family members and/or friends

QS 4 = Avoids social events

QS 5 = Avoids talking in social events

Table 4. Knowledge on vocal hygiene techniques and habits

		H 1	H 2	H 3	H 4	H 5	H 6	H 7	H 8	H 9	H 10	H 11	H 12	H 13	H 14
Correctly	N	84	74	74	74	71	66	63	54	50	48	42	41	40	23
	%	96.6	87.1	87.1	86	83.5	75.9	74.1	65.1	59.5	57.1	50	49.4	46.5	27.4
Actors who replied	Incorrectly														
	N	1	4	2	1	2	10	9	9	4	21	5	23	27	23
	%	1.1	4.7	2.4	1.2	2.4	11.5	10.6	10.8	4.8	25	6	27.7	31.4	27.4
Don't know	N	2	7	9	11	12	11	13	20	30	15	37	19	19	38
	%	2.3	8.2	10.6	12.8	14.1	12.6	15.3	24.1	35.7	17.9	44	22.9	22.1	45.2
Total		87	85	85	86	85	87	85	83	84	84	84	83	86	84

Of 88 actors some were not responded for some items

H 1 = Getting adequate sleep

H 2 = Hydration (Sipping water throughout the day)

H 3 = Smoking*

H 4 = Betel chewing*

H 5 = Alcohol consumption*

H 6 = Physical exercising

H 7 = Limit talking in noisy environment

* Considered as unhelpful vocal hygiene techniques/habits

H 8 = Whispering*

H 9 = Eating spicy food*

H 10 = Speak in loud voice (except in stage acting)*

H 11 = Consuming caffeine products*

H 12 = Reduce throat clearing

H 13 = Taking menthol toffees*

H 14 = Getting an early meal (getting meals 2-3 hours before bed time)

Table 5. Knowledge on professionals for voice problems

		Family Physician	Dentist**	ENT Consultant	Physiotherapist**	Speech Language Therapist	Orthopedic Surgeon**
Actors who replied	Correctly						
	N	59	64	73	49	48	55
	%	69.4	77.1	84.9	59	57.1	66.3
	Incorrectly						
	N	16	4	6	4	13	1
	%	18.8	4.8	7	4.8	15.5	1.2
Don't know	N	10	15	7	30	23	27
	%	11.8	18.1	8.1	36.1	27.4	32.5
Total		85	83	86	83	84	83

Of 88 actors some were not responded for some items

** Considered as irrelevant professionals for voice problems

Table 6. Knowledge on treatments for voice problems

		T 1	T 2	T 3	T 4	T 5	T 6	T 7
Actors Who replied	Correctly							
	N	72	66	42	26	59	22	56
	%	84.7	78.6	50	31.3	69.4	26.2	65.9
	Incorrectly							
	N	6	1	4	20	10	5	5
	%	7.1	1.2	4.8	24.1	11.8	6	5.9
Don't know	N	7	17	38	37	16	57	24
	%	8.2	20.2	45.2	44.6	18.8	67.9	28.2
Total		85	84	84	83	85	84	85

Of 88 actors some were not responded for some items

T 1 = Medicine

T 2 = Shanthi karma (Devil dancing) ***

T 3 = Applying honey on neck***

T 4 = Surgeries

*** Considered as irrelevant treatments

T 5 = Voice therapy

T 6 = Adding ghee to daily meals***

T 7 = Relaxation exercises

Most knowledgeable item of professionals for voice problems was Ear Nose Throat (ENT) consultant (84.9%) and he was followed by dentist (77.1%). The least knowledgeable item was speech and language therapist (57.1%). More than 25% of actors had marked “don't know” for half of the professionals. Family physician (69.4%) wasn't similarly considered as a professional for voice problems like ENT consultant (Table 5).

Medicine (84.7%) was the most knowledgeable item of treatments for voice problems which was followed by shanthi karma (78.6%). The least knowledgeable item was adding ghee to daily meals (26.2%). It was the item which was gained most “don't know” responses (67.9%). Also applying honey on neck (45.2%) and surgeries (44.6%) got more “don't know” responses. Only 31.3% knew surgeries as a treatment for voice problems (Table 6).

Mean mark gained for knowledge on treatment options was 8.4 (mark range = 0-14). The mean mark was exceeded by 53.4% actors.

IV. DISCUSSION

Majority of the actors (71.6%) had reported with voice symptoms in the preceding year (May 2012 – June 2013). The symptoms were reported by themselves and no assessments were done by a clinician. The prevalence of voice disorders would be different according to the definitions used: ‘acoustically perceptible voice disorder’ (reported low prevalence rate of 46%) and ‘frequent or occasional self-perceived vocal alterations’ (reported high prevalence rate of 80%) (Jardim, Barreto & Assunção 2007). Self reported voice symptoms of this study were compared with other studies of different voice users. In this research the most frequently

reported symptoms were hoarseness, difficulty in talking/singing high notes, vocal fatigue and dry throat. According to Yiu (2002), 4/5 most common symptoms were similar to this study. Three of the five most common symptoms in another study (Hamdan et al. 2007) were similar with symptoms of above studies. But, according to a study on theatre students (Ng, Bailey & Lippert 2005); only the hoarseness was matched with above results. The symptoms given in questionnaires were much similar to each other except in the study by Ng, Bailey and Lippert (2005). According to results, the most frequent voice symptoms among stage drama actors in Sri Lanka are much more similar to the results with teachers in others Asian countries (Hong Kong and Lebanon). The reported symptoms had appeared most frequently after continuous stage drama practices and performances (57.9%) and when actors get tired (40.4%). This suggests occupational activities have played a role in developing voice symptoms in stage drama actors.

More than 80% of actors had reported they had an impact on at least one of the 5 occupational items due to voice problems. However, when considering the degree (level) of the impact; most of the actors reported a little impact on each occupational item. But Yiu (2002) mentioned; most of the teachers had reported a moderate impact of voice problems on job. The job impact on teachers of Hamdan and others' (2007) study and actors in current study was different. Fifty percent of teachers had reported an occupational impact but 75% for actors. The percentages of severely/very much affected subjects were similar in both groups but moderately impacted percentage in current study was four times higher than teachers. The percentages of little impact weren't very much different. The occupational impact for actors is higher than for the teachers in Hamdan and others' (2007) study but not for in Yiu's (2002) study. Of 61 actors, 18% had taken leave from stage drama practicing and/or performing due to voice problems. The findings were similar with the study of Roy et al. (2004). Teachers' intentional activity and interaction reduction due to voice difficulties (Roy et al. 2004) was about four times higher than the actors' ignorance of job duties (11.5%). This difference might be due to variation in activities/duties between the two jobs.

An affect could be seen in at least one of the five items of social life of 68.9% of actors due to voice problems. However, when considering the degree (level) of the impact on social relationships; most of the actors reported a little impact for each social item. This shows similar impact on teachers of Yiu's study (2002). The

results for social items; impact/annoy family/friends and impact/avoidance of social events/outings; were lower compared to teachers in Hamdan and others study (2007). Family/friends/listeners were reported to be annoyed a little by both actors in current study and teachers in Yiu's (2002) study. The reported social impact due to voice problems was at a lower level in both occupational groups. In Sri Lanka, usually stage performances takes place in weekends (sometimes on Fridays as well) and stage the show for 2-3 times a day. But in some countries, usually theatre actors presented in 5-7 shows per day in a five-day workweek (Hoffman-Ruddy et al. 2001). Thus the frequencies of voice symptoms and their impact on occupational and social life of Sri Lankan actors might be different from actors from other countries.

May be with the experience of actors; getting adequate sleep was marked as good vocal hygiene technique/habit which led it to be the most knowledgeable item. Theatre students tended to show lack in sleep (Ng, Bailey & Lippert 2005). The experience of hydration throughout the day might make that item to become at the second higher position among the correctly identifying items. Each and every stage drama begins and ends with a hot tea according to this investigator's experience. The findings were somewhat similar to the results on actors of Zeine and Waltar (2002). They had looked for the practice while current study looked for the knowledge. Teachers in Yiu's (2002) study had reported low frequencies in practicing habits such as smoking and consuming alcohol. Similarly, current study has shown a higher knowledge on them. People practice something when they aware of it in most of the time but this could be other way round too. Not only that but also sometimes though people have knowledge they might not practice it. These differences could be seen in practicing and having knowledge. Hamdan et al. (2007) found that seeking medical attention was higher among the participants who had more knowledge than who had less knowledge in vocal hygiene and bad vocal habits. In the current study, more than 75% of actors knew only 6/14 items. It was said by some senior stage drama actors that Sri Lanka doesn't have any professional training institute for stage drama actors which would help them to get more knowledge on voice training. As professional voice users; actors should aware of more number of items in vocal hygiene techniques and habits section. However, it is logical to assume that there would be less knowledge on vocal hygiene techniques and habits among theatre performers in world as there was only few theatre companies in the world which have 'voice care' programs (Carding & Wade 2000).

ENT consultant was identified by most of the participants as an appropriate professional for voice problems followed by family physician. The results were reported in other way round in a study (Houtte et al. 2011) which was investigated about the treatment-seeking behaviours. Some actors might thought family physician is less knowledgeable to treat their occupational voice; which might led ENT consultant to be marked by the majority (84.9%). Dentist was identified as an irrelevant professional by higher number of actors in current study but not other irrelevant professionals. The speech and language therapist was identified as a relevant professional by least number of actors. A group of actors from United States of America also had shown less knowledge on the role of speech and language therapist (Zeine & Waltar 2002). Among relevant treatment methods; medicine was the most correctly identified item by actors but surgeries was the least. The items "adding ghee to daily meals", "applying honey on neck" and "surgeries" were mostly marked under the "don't know" category. Of 97 practicing and prospective teachers; only 5 had mentioned that voice treatment methods should be included in vocal hygiene programs (Yiu 2002). This may be due to good knowledge on vocal hygiene programs or less interest/knowledge on voice treatment methods.

V. CONCLUSION

There is an impact on their both occupational and social lives of stage drama actors. According to the results nearly half of the actors couldn't overcome the mean marks for both vocal hygiene techniques and habits and treatment options for voice problems. Hence, stage actors have shown some knowledge in both above areas but also gaps in those areas. The knowledge they have shown in vocal hygiene techniques, habits and treatment options; can be considered as not fair enough when compared to the importance and demand of their voice in their career performance. These higher impacts and less knowledge strongly suggest education on vocal hygiene (appropriate use of voice & voice conservation techniques) and available treatment options (medical intervention and speech & language therapy services) for voice problems for stage drama actors. As the reported symptoms had appeared most frequently after continuous stage drama practices and when actors get tired the long hours of practices and back-to-back performances needs to be addressed in future studies.

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