Self-Esteem and Anxiety among Young Adult Male Stutterers of Central Punjab

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ABSTRACT

Background and Objective: *The main objective of the study was to investigate anxiety levels and self-esteem in stutterers and assess their relationship with the severity of stuttering and its chronicity have a direct relation with anxiety and its severity.*

Methods: *Young adult male volunteers (n = 86, age range 17 – 35 years) recruited for this cross-sectional study were placed into three groups; controls (non-stutterers, n = 30), mild to moderate stutterers (n = 26) and moderate to severe stutterers (n = 30). Hamilton anxiety scale (HAM-A) and Rosenberg self-esteem scale (RSES) were employed for the assessment of anxiety and self-esteem, respectively. One-way ANOVA and post-hoc Tukey tests were performed to observe group mean differences. Pearson's correlation was computed to assess relationship between anxiety and self-esteem. P-values of ≤ 0.05 were considered significant.*

Results: *Significantly increased anxiety levels were observed in stutterers as compared to non-stutterers, especially in moderate to severe group. Self-esteem levels of stutterers were not different from those of the non-stutterers. Congenital stuttering was common (48%) and a high proportion (83%) of stutterers reported parental consanguinity in moderate to severe stutterers. No significant correlation was observed between self-esteem scores and anxiety levels (n = 86, Pearson's R = -0.039, P< 0.721).*

Conclusion: *Stuttering is associated with anxiety and the increase in severity of stuttering leads to higher anxiety levels. Anxiety also worsens stuttering.*

KEYWORDS: *Stuttering, Anxiety, Self-esteem, Adults.*

INTRODUCTION

Stuttering is a common speech disorder that may be congenital or acquired in life.[1] In most cases, it lasts only in early age (as in most of the cases) but can also persist throughout life time. Stuttering afflicts more than 70 million people directly and their families indirectly.[2] In addition to the physical features, stuttering is also marked by behavioral and psycho-social symptoms including emotional sensitivity,[3] depression[4] and social avoidance. Fear, nervousness, tension, guilt, anxiety, perfectionism, and worry are the other behavioral alterations seen in people who stutter.[5,6] Personality types also have a central role in many theories of stuttering; for example, persons who stutter tend to have an emotionally sensitive temperament.[2]

Defined as a state of stress, anxiety is known to have a negative effect on a person's social and communal life. Anxiety may lead to stuttering, even in other-wise fluent speakers.[7] Rate of stuttering and its chronicity have a direct relation with anxiety and its severity. Both anxiety and stuttering predispose the affected individuals to fear and nervousness.[8] The fear of speaking and nervousness thus induced causes the

activation of sympathetic nervous system which results in a stressful state, thereby compounding the problem. Stammering can also affect the self-esteem and self-confidence of people who stutter due to lower moral support.[4,9]

To our knowledge, no work has been done in the regional context on stuttering and its impact on anxiety levels and self-esteem although these psychological ailments are commonly encountered locally. The consequences of stammering in local population have not been yet studied so far which is likely to affect the lives 1% of any given population.[10] The objective of the present study is to investigate anxiety levels and self-esteem in stutterers and assess their relationship with the severity of stuttering in the local affected populace.

METHODS

The study received ethical approval from Central Park Medical College Research Committee. A cross sectional design study was employed in which young adult male volunteers (n = 86) were recruited between 5th June, 2017 to 20th December, 2017. Recruitment was done from higher secondary educational institutions across

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Lahore, Kasur and Sheikhupura districts using random convenient sampling method. Potential participants were identified by the researchers and requested for voluntary enrollment after providing detailed information about the study. Written informed consent was taken from each participant prior to participation in the study. The recruited men were segregated into 3 groups; mild to moderate stutterers (n = 26), moderate to severe stutterers (n = 30) and control group (n = 30). The control group comprise of healthy age-matched volunteers without any speech problem. Only men were included as the incidence of stuttering is far lower in women than men.[11] Men whose stuttering developed following traumatic brain injury, stroke or any other organic brain disorder were excluded from the study.[12]

For the assessment of anxiety and self-esteem, Hamilton anxiety scale (HAM-A) and Rosenberg self-esteem scale (RSES) were employed respectively. HAM-A is a widely available clinician-rated instrument in the public domain used to analyze the severity of anxiety in adults, adolescents and children.[13] HAM-A comprises of 14 items rated on a five-point Likert scale. The scores range from 0-56 and higher scores reflect high level of anxiety. RSES is widely used tool consisting of 10 items with each item answered on a four-point Likert scale. The scores range from 0-30 and lower scores are indicative of low self-esteem.[14]

STATISTICAL ANALYSIS

Statistical analyses were performed using SPSS version 22. One-way ANOVA was performed to check difference within and between the groups. Post-hoc Tukey test was performed to observe which group means differ. Relationship between anxiety and self-esteem was studied using Pearson's correlation. P-values of < 0.05 were considered significant.

RESULTS

A total of 86 subjects with age ranging between 17-35 years (mean 21.57 years) were segregated into 3 age-matched groups; controls (non-stutterers), mild – moderate stutterers and moderate – severe stutterers. Stuttering in the study population was attributable to congenital causes (48%) followed by stuttering due to emotional instability (35%) and acquired factors (10%) (Fig.1). Out of 86 study participants, parents of 50 (58.13%) were first cousins. Parental consanguinity was observed in 13 out of 30 control participants (43.33%), 12 out of 26 mild to moderate stutterers (46.15%) and 25 out of 30 moderate-severe stutterers (83.33%) (Fig.2).

The range of RSES score in controls was 16 – 35 (mean 22.97). The range of RSES score of mild to moderate stutterers was 10-28 (mean 21.96). The range of RSES score in moderate to severe stutterers was 10-31 (Mean 22.23± 10.71). No significant

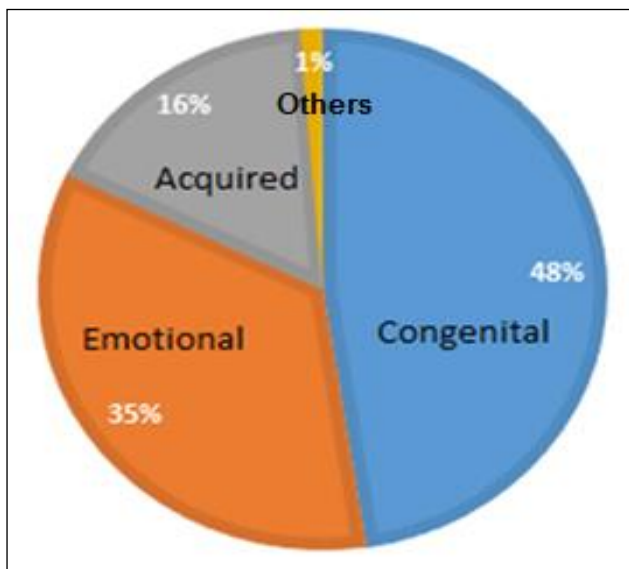difference in RSES scores was observed between the groups.

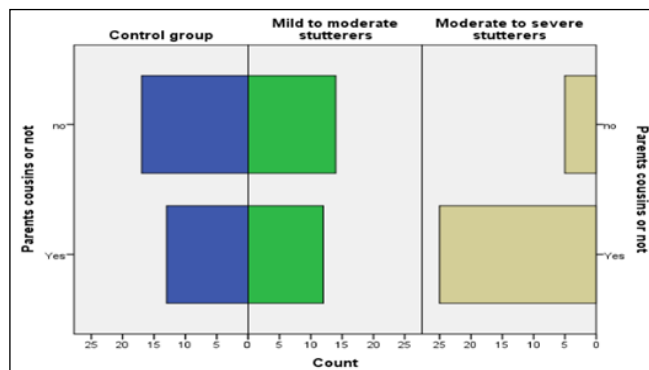**Fig. 1:** *Factors implicated in development of stuttering in affected subjects.*

Fig. 2: *Parental consanguinity in the study participants.*

0.677) (Table-1). The ranges of HAM-A scores in controls, mild to moderate and moderate to severe stutterers were 2-33 (mean score 15.43), 9-35 (mean score 19.73) and 9-39 (mean score 25.70) respectively. Significant difference was observed in HAM-A scores between the groups (P<0.001) (Table- 1).

After applying Post-hoc Tukey's test, significant difference was observed in HAM-A scores between the control and moderate to severe groups (15.43 ± 1.29 vs. 25.70 ± 1.40, P<0.001), showing significantly higher anxiety levels in moderate to severe stutterers than controls (Table-2). Significant difference was also ob-served between anxiety levels of mild to moderate group and moderate to severe group (19.73 + 1.34 vs. 25.70 ± 1.40, P<0.008), showing that anxiety levels were significantly higher in moderate to severe stutterers than mild to moderate stutterers (Table- 2).

No significant difference was observed between anxiety levels of controls and mild to moderate stutterers (15.43 ± 1.29 vs. 19.73 ± 1.34, P < 0.073) (Table-2). No significant correlation as observed between self-esteem scores and anxiety levels (n = 86, Pearson's R = -0.039, P < 0.721).

Table-1: *Group comparisons of RSES and HAM-A scores.*

Parameter	Control (n = 30) Mean ± S.E.M	Mild-moderate (n = 26) Mean ± S.E.M	Moderate-severe (n = 30) Mean ± S.E.M	p-value
RSES	22.97 ± .728	21.96 ± .981	22.23 ± .795	0.677
HAM-A	15.43 ± 1.291	19.73 ± 1.342	25.70 ± 1.400	0.000*

*Difference is significant at 5% level of significance

Table-2: *Multiple comparisons of HAM-A scores in the study groups.*

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	p-value
Control	Mild-moderate	-4.29	1.93	0.073
	Moderate-severe	-10.26	1.86	0.000*
Mild-moderate	Control	4.29	1.93	0.073
	Moderate- severe	-5.96	1.93	0.008*
Moderate-severe	Control	10.26	1.86	0.000*
	Mild- moderate	5.96	1.93	0.008*

*Difference is significant at 5% level of significance

DISCUSSION

The present study explored the effect of the severity of stuttering on anxiety levels and self-esteem of the affected individuals. The current work found higher anxiety levels in stutterers as compared to controls and the effect was more mar-ked in moderate-severe stutterers. Previous work has revealed that individuals who stutter display greater anxiety.[15-17] The role of anxiolytic drugs in ameliorating the severity of stuttering has also been documented.[18] Anxiety has been linked to the severity of stuttering.

Anxiety in social communication is higher among severe stutterers as compared to mild stutterers and fluent speakers.[19]

Stuttering itself has been described as a state of anxiousness accompanied by changes in the functional connectivity of brain.[20] It has been shown that long-standing anxiousness enhances the severity of stuttering as do bullying and ragging.[21] Anxiety increases severity of stuttering via sympathetic activation which lea-ds to further nervousness and stress.[20] It has been demonstrated that higher anxiety levels become permanent personality traits of stutterers due to the continuous state of anxiety experienced while communicat-ing.[22] Stuttering and the associated high anxiety levels have a negative impact on the quality of life by restricting social engagement.[8,19]

The current study did not reveal any significant effect of stuttering on the self-esteem of affected per-sons which is congruent to previous studies that have also reported similar results.[15] It has been suggested that with the passage of time, people get used to their circumstances, so stuttering doesn't impact the self-esteem levels. It has been demonstrated that despite having higher anxiety levels, self-esteem levels of stutterers are not different from those of non-stutterers.[16]

The present study also observed that stuttering was mostly congenital as majority of the subjects had parents who were cousins. Parental consanguinity was particularly high (83%) in individuals with stuttering of moderate to severe intensity. The current findings of emotional disturbance as another major trigger of stuttering are in accordance with earlier reports that frustration and anxiety can cause stuttering.[17]

CONCLUSION

It is concluded that the speech disorder stuttering is associated with higher anxiety levels which may exacerbate the condition. Anxiety levels are particularly high in moderate-severe stutterers with potential negative impact on the quality of life of the affected individuals.

LIMITATIONS OF STUDY

The relatively small sample size is a limitation of the present study. More robust and generalizable results can be obtained with a greater sample size. Further, the geo-graphical area for the selection of participants limited, making the study findings area specific. Non-

selection of female volunteers is another limitation which could be overcome in future studies.

RECOMMENDATIONS

Anxiety management should be made part of the treatment plan, especially for chronic severe stutterers who are more likely to be affected by anxiety. A multi-pronged approach employing speech therapy, psycho-social rehabilitation and administration of anti-anxiety medications may result in improved clinical outcomes for the affected individuals.

AUTHOR'S CONTRIBUTION

MZS: Substantial contributions to conception and design and final approval of the version to be published.

FNT: Acquisition of data & final approval of the version to be published.

SIAS: Drafting the article, analysis and interpretation of data, revising it critically for important intellectual content and final approval of the version to be published.

CONFLICT OF INTEREST

None to declare

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