

Characteristics of Stammering in Young Adults; A Comparison between Native and Foreign Languages

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ABSTRACT

Introduction: Stammering is a speech disorder characterized by involuntary speech disruptions which has an adverse impact on the quality of life of people who stammer (PWS). Manifestations of stammering vary from one language to another, especially when switching from the native language to a foreign language. In the local context, comparative data between Urdu (native language) and English (foreign language) is lacking.

Aims & Objectives: To assess and compare the characteristics of stammering in Urdu and English languages.

Place and duration of study: The study was conducted at Central Park Medical College, Lahore from November 2017 to March 2018. **Material & Methods:** In this cross-sectional study, bilingual PWS (n=18)

were asked to read aloud written paragraphs in both Urdu and English languages and their speech samples were recorded. Fluency Friday scale was used to assess the characteristics and severity of stammering in both languages. **Results:** Increased severity of stammering was observed PWS while speaking in the English language as compared to Urdu. Significant positive correlations were observed between different parameters of stammering in both languages. A greater number of stammered words was seen in English than Urdu and therefore, more time was required for completion of speech in English language than Urdu. Frequency of blocks / pauses was more in English than Urdu. **Conclusion:** In the local setting, severity of stammering in PWS is more in the foreign language English than the native language Urdu. This may possible be due to less exposure, limited proficiency and reduced confidence in the foreign language. The findings can help clinicians toward better management of bilingual PWS.

Key words: Stammering, Language dominance, Language anxiety

INTRODUCTION

Stammering is a communication pathology characterized by involuntary speech disruptions such as part-words (i.e. sound or syllable) repetitions, sound prolongations & blocks (postural fixation) which negatively affects the everyday life of people who stammer (PWS).^{1,2} Manifestations of stammering vary from one language to another, especially when switching from the native language to a foreign language.³ Such transition may even change the severity and type of stammering as well. At least 50% of world's population grows up and lives in a bilingual or multilingual community.⁴ Up to 70% of Pakistani population is bilingual or multilingual and the common languages spoken here are Punjabi, Urdu, Pashto, Sindhi, English and

Balochi. An increasing number of people in Pakistan now prefer to communicate in the English language particularly in the urban setting. In fact, English proficiency is now considered a symbol of higher social status. This social shift may have an adverse impact on the stammering pattern of PWS and consequently, it may compromise the psychosocial quality of life of the affected individuals.⁵

Studies comparing the stammering patterns in native and foreign languages have been done with English/Spanish,⁶ English/French, English/Mandarin,⁷ English/Arabic⁸ and Persian/Kurdish⁹ but to the best of our knowledge, no comparative study between Urdu (national language of Pakistan) and English has been conducted thus far. The present study investigated the patterns of stammering in these two languages in young adult men from the local population.

MATERIAL AND METHODS

A cross-sectional study design was employed to evaluate the characteristics of stammering in young bilingual adults of Pakistan. The study population comprised of 18 bilingual male PWS with an age range of 17 to 28 years. Informed consent was taken from each participant prior to participation in the study. Ethical approval was obtained from Central Park Medical College Research Committee.

Speech samples were recorded for assessment of the frequency of pauses and type of stammering in both languages. The Fluency Severity scale¹⁰ was used to ascertain the severity of stammering. The same scale was also used to classify PWS into groups based on the frequency of stammering and also by time taken for completion of speech. Speech samples were recorded using one paragraph each of in native (Urdu) and foreign language (English) comprising of 241 and 237 words respectively. The participants were asked to read out both paragraphs aloud. It has been suggested that a minimum baseline of 200 words must be used for speech assessment in any language¹¹. The recorded speech samples in both Urdu and English languages were analyzed by using Fluency Friday Scale.

Statistical analysis:

Statistical analysis was done using SPSS version 22. Mean \pm standard deviation was calculated. Paired-sample T-test was used to check differences between the groups. Pearson's correlation coefficient was computed to determine correlation between attributes of stammering studied in the two languages. Stem and leaf plots of total time and total blocks both in native (Urdu) and foreign (English) were plotted.

RESULTS

The age range of participants was 17 to 28 years with a mean age was 19.89 years. The severity of stammering in the English language was more as compared to Urdu (Table-1.). Thus, the language used (native or foreign) was found to alter the categorization of PWS based on the severity of stammering (Fig-1,2). Significant positive correlations were observed between different parameters of stammering in both languages (Table-2). It was seen that the greater the number of

stammered words, the more was the time required for the completion of speech regardless of the language (Figure 3). It was also observed that there was a greater number of stammered words in English than Urdu and therefore, more time was required for completion of the paragraph in English language than Urdu (Fig-3). It was also observed that frequency of blocks / pauses was more in English than Urdu (Fig-3). Blocks frequency-based severity was more pronounced in English than Urdu (Fig-1). The data showed that greater the number of pauses, greater was the time required for completion of speech regardless of the language used. It was also seen that the total number of blocks in English speech was more than in Urdu speech and so was the time taken to complete speech.

Parameter	Urdu n=18 Mean \pm SD	English n=18 Mean \pm SD	Mean difference	p-value
Total number of blocks	27.11 \pm 17.69	49.61 \pm 31.96	-22.50	.000*
Time required (seconds)	105.11 \pm 33.88	136.61 \pm 49.42	-31.50	.000*
Percentage of stammered words	11.22 \pm 7.36	20.92 \pm 13.48	-9.70	.000*

*Difference is significant at p <0.05

Table-1: Mean differences in parameters of stammering based on the Fluency Friday scale in Urdu (native) and English (foreign) languages

Parameter	Correlation Coefficient	p-value
Total number of blocks	0.875	.000*
Time required to complete speech	0.840	.000*
Percentage of stammered words	0.932	.000*

*Difference is significant at p <0.05

Table-2: Correlation between different parameters of stammering based on the Fluency Friday scale in Urdu (native) and English (foreign) languages

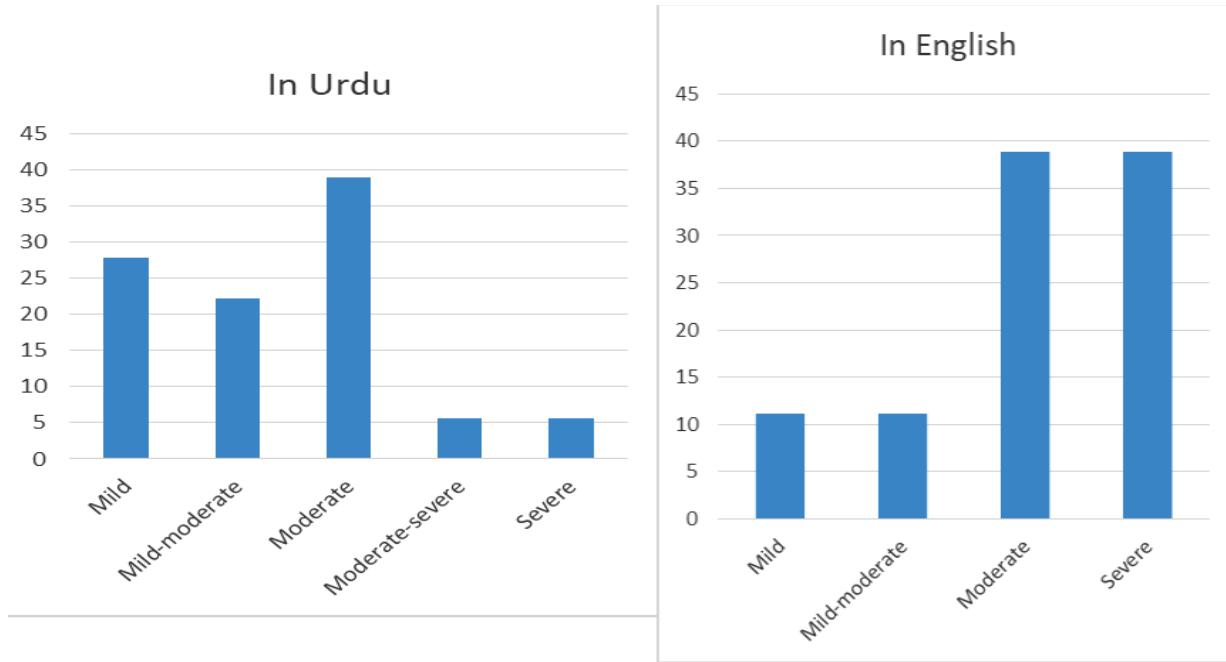


Fig-1: Categories of stammering in Urdu and English based on stammered words

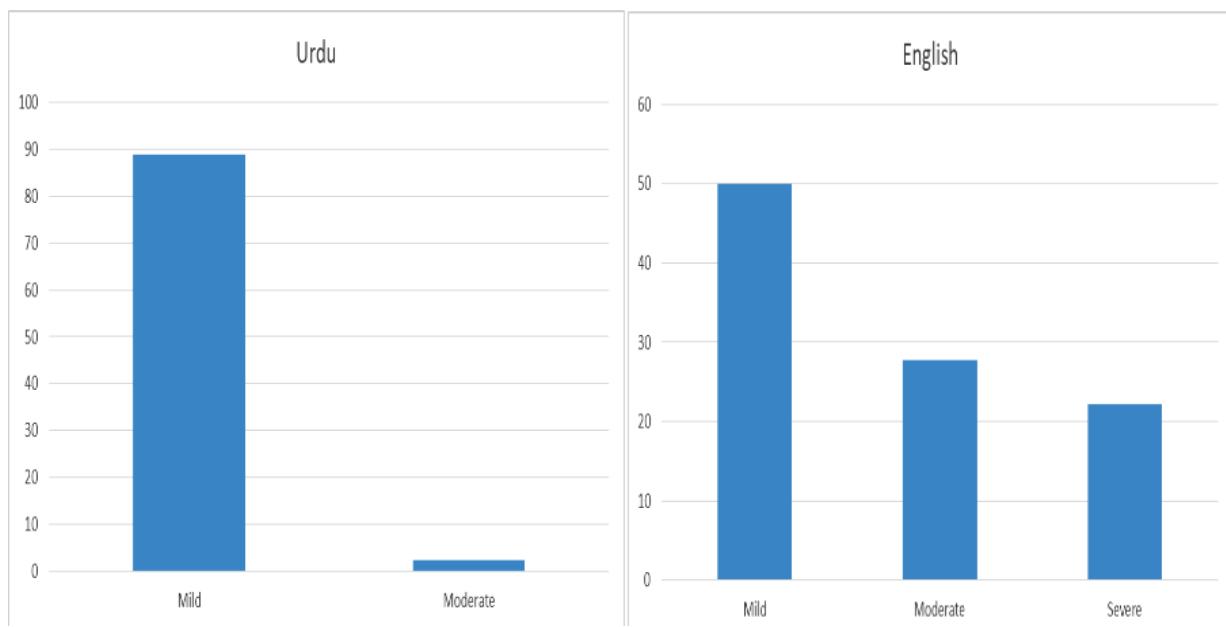


Fig-2: Categories of stammering in Urdu (right) and English (left) based on time taken to complete speech

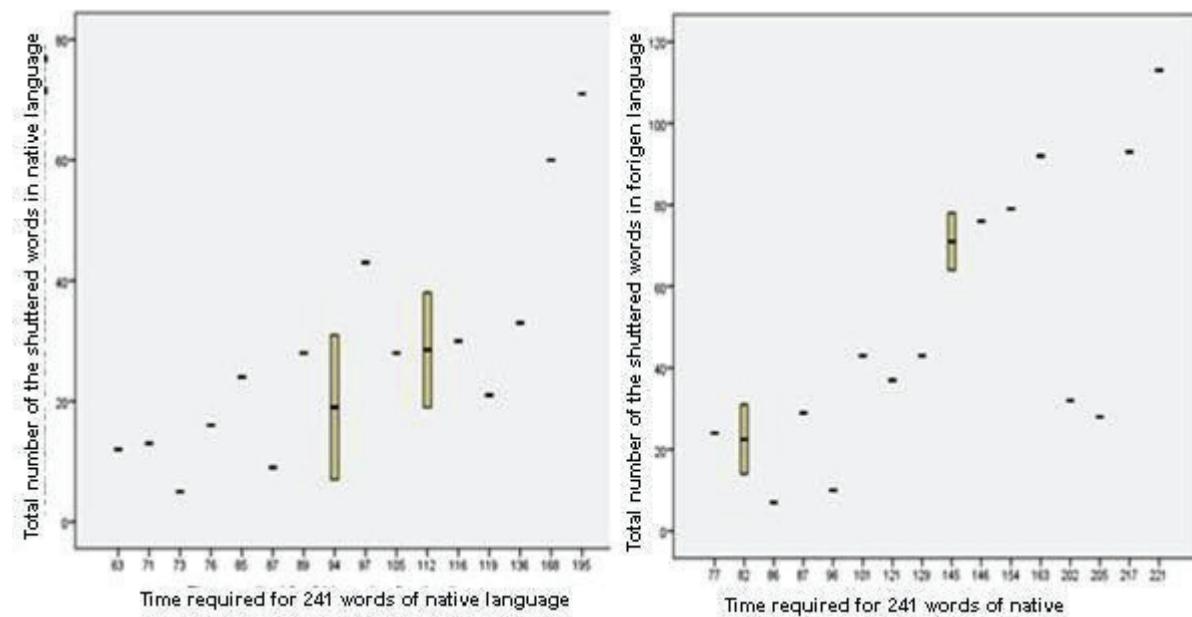


Fig-3: Relationship of stammered words and time required to complete speech in Urdu (right) and English (left)

DISCUSSION

Differences in the characteristics of stammering in native and foreign languages have been shown previously. Our study looked at such differences between Urdu (native language) and English (foreign language) in young adult male PWS from the local population. Our findings suggest an increase in the severity of stammering in English language on all the parameters studied as compared to Urdu language.

The current findings are consistent with previous studies comparing stammering in native and foreign languages. Van Borselet al. reported that there is more stammer in unfamiliar language due to less familiarity when compared with native language.¹² Nwokahet al. demonstrated that most of the PWS believed that their stammer was more in foreign language due to less exposure, limited proficiency and reduced confidence in foreign language than their native language.¹³ As per Valente et al.'s standards to measure frequency of stammering,¹⁴ a shift is observed in the severity of stammering from moderate to severe while switching from Urdu to English. Jankelowitz et al. have also showed that less time is required while dealing in native language because of language familiarity.¹⁵

In the present study, the severity of stammering as determined by number of blocks, number of stuttered words and time taken to complete speech, was significantly increased in English language as compared to Urdu. It has been shown previously that good exposure to second language before the age of 5 years diminishes the effect of second language on stammering because both languages develop simultaneously and involve the same neuronal areas. However, for late learners, brain areas for both languages are different and so is the severity of stammering.¹⁶ In the present study, the participants hardly had any exposure to English language before the age of 5 years which explains the significant difference observed in the severity of stammering between Urdu and English languages. Furthermore, language anxiety induced by speaking second language can aggravate stammer.¹⁷ Our findings are supported by Jayaram et al. who described that severity of stammering is inversely related with comfort in that language as a result of command over the said language, schooling and exposure as well as speaking span.¹⁸ All these factors implicated in influencing the severity of stammering in the local population are in favor of Urdu language. Language dominance, the property of being more fluent in one language than another, is another important factor that impacts upon the

severity of stammering. Activation of different brain parts has been shown with the first and second languages, depending upon age and duration of exposure.^{19,20} Language dominance appears to influence severity of stammering which may even result in change of category of PWS from mild to moderate or from moderate to severe when they switch from Urdu to English as Urdu is dominant language in the local population. Shenker et al. have also highlighted that improper schooling in a particular language and less time spent in speaking that language lead to a higher degree of severity of stammering as pauses and time taken to complete speech is increased by the time spent in thinking the appropriate words or sentences.^{21,22,23}

A limitation of the study is the small sample size. More robust and generalizable results can be obtained with a greater sample size. Moreover, a relative lack of exposure of most of the population in Pakistan to English language may also have confounded the data, and led to increased severity of stammering observed in English language as compared to Urdu.

CONCLUSION

There is a significant increase in the severity of stammering from Urdu to English as more blocks and stuttered words are reported in English language than in Urdu. Second language anxiety, language familiarity and improper exposure to attributes of English language may be the reasons for the observed increased severity of stammering in English language as compared to Urdu.^{12,22,23} The study also confirms the utility of Fluency severity scale as a good index for categorization of PWS. A more comprehensive and larger future study will help build upon these preliminary results and such findings will be helpful in clinical management of bilingual PWS.

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