KNOWLEDGE ABOUT STUTTERING IN THE CITY OF SALVADOR

Conhecimento sobre a gagueira na cidade de Salvador

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ABSTRACT

Purpose: to verify knowledge about stuttering among residents of the city of Salvador. Method: this research is descriptive, cross sectional and quantitative with the voluntary participation of residents of the city of Salvador. They answered the questionnaire Attention to Stuttering and were matched in terms of gender, age and education. Results: of the 417 people interviewed 78.2% claimed to have seen or known people who stutter, 52.2% reported that the person who stuttered belonged to their circle of acquaintances, 62.4% believed that more than 5% of the population stutter; 53.6% responded that stuttering begins between the ages two and five years old; 53.5% reported that stuttering occurs more often in boys than in girls, 88.7% reported that this disorder occurs in all races, 28.9% reported that its cause is psychological; 84.2% stated that stuttering has treatment, 79.6% consider people who stutter with intelligence equal to that of normal speakers, 47.6% stated that use of hearing aids is worse than stuttering and 52.8% responded that would consult a speech language therapist. Conclusion: the population of the city of Salvador who answered the questionnaire easily identified people with stuttering, but demonstrated limited knowledge about the issues associated with it. This is a relevant factor for planning public education and health actions.

KEYWORDS: Stuttering; Public Opinion; Knowledge; Speech, Language and Hearing Sciences

INTRODUCTION

Stuttering is a communication disorder that causes human estrangement layman’s ears, making it identifiable and raising questioning by the public about its nature. It is a complex issue constantly discussed in the media, like the movie “The King’s Speech”, the Oscar-winning 2011.

Its descriptions are varied and seek to clarify its complexity. According to the International Classification of Diseases and other disorders, CID-101, Stuttering is characterized by frequent repetitions or prolongations of sounds, syllables or words, or by frequent hesitations or pauses that disrupt verbal fluency. Only be considered as a disorder if the intensity of the disturbance remarkably incapacitates the the flow of speech. One of the biggest researchers on the topic and also a person who stutters, mentioned a great difficulty in describing stuttering stating that the ones who really know it are the people who stutter2.

The etiology of stuttering is another controversial issue. Most current theories believe in multifactoriality. One of the latest models presented to this discussion proposes a deficit in neural processing as an essential condition associated with the inherent characteristics of the language, which when performed in speech favors the occurrence of moments of stuttering, and modulating factors considered individual3. Previously, researchers have suggested a lack of cerebral dominance for the neural mechanism of language in people who stutter. For some time, it was held the idea that stuttering is related to handedness ambiguous or inconsistent, concept that was incorporated into the discourse of popular beliefs about the disorder.

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However, there was no evidence for such ideas and Cerebral Dominance Theory became fragile. In an attempt to understand the genetic factors involved in stuttering, we performed a genome-wide linkage in a family with people who stutter in Pakistan. So, it revealed a significant linkage on chromosome 3q13.2-3q13.33 under a model of autosomal recessive heritage showing that genetics may be a factor for this complex disorder.

Stuttering has a prevalence of 1% among the world population, with an incidence of 5% because many children can recover with or without speech therapy. In general, it appears between the ages of two and five, affecting both genders, but at a ratio of three to four men for a woman, it means, stuttering affects more men, reaching for times the number of women. Another feature is that this disorder usually happens within families that have members who stutter or have gaguejaram.

Stuttering is a common disorder that appears in all cultures. It is one of those issues that “haunts the human race”, which manifests itself in all ethnic groups, despite the different prevalence rates. Thus, it can be stated that stuttering is a social problem in association with physical components. Some countries have developed socially oriented studies related to the disorder to examine the knowledge and information that the local population has about it. In Belgium and in China, in Shanghai, the research used a questionnaire with 13 questions about the prevalence of stuttering, age of onset, frequency among genders, occurrence among left handed and right handed and within other cultures, its causes, treatment, inheritance and the relationship between intelligence quotient (IQ) and Stuttering. In Shanghai 1968 people were interviewed and the researchers concluded that, although there is no specific profession to care for people who stutter in that country, the general public had a good level of knowledge about the disorder and in some aspects they issued more appropriate opinions than their Belgian counterparts.

Research carried out in Turkey, Bulgaria, Russia and the United States investigated and compared the identification of cluttering and Stuttering. We used a questionnaire in which there were the definitions of the disorders. From the results, it was stated that, by means of a definition or description, the public can identify the cluttering, as well as stuttering.

A pilot study using the questionnaire of Public Opinion Research of Human Attributes – Stuttering (POSHA-S), compared the results of three countries: Brazil, Bulgaria and Turkey and concluded that the interaction between nationality, religion, native language, culture and ethnicity may influence the differences in attitudes between the participants of the three countries. The POSHA-S in Turkey was also used to compare the effect of two kinds of statistical analyzes about the data obtained. It was concluded that the statistical of random sampling method is a better strategy than convenience sampling to the use of S-POSHA in specific regions. The authors also suggested that attitudes within different populations are not uniformly more negative or positive and, yes, diversify according to the parameters considered. Another study used the experimental data from versions of POSHA-S to compare to each other and interpret of results. Data were gathered from 12 countries in eight different languages. It was concluded that the POSHA-S can provide comparisons more and more significant for those interested in measuring public attitudes toward stuttering.

Based on the study conducted in Belgium and China, the questionnaire of was applied Attention to Stuttering in Brazil, in individuals living in Rio de Janeiro, in order to verify the knowledge of the population of this town about stuttering. 606 respondents took part in this study. The authors concluded that the population of Rio ignores some basic points related to stuttering and that the level of education influences the degree of knowledge. They also suggested the development of efficient strategies for guidance and clarification regarding the disorder.

The aim of this work was to verify the knowledge about stuttering among residents of the city of Salvador.

**METHOD**

All study participants signed an informed consent regulated by Law No. 196/96 of CONEP. The study was approved by the Ethics in Research Committee of the University of the State of Bahia, in the opinion of number 23462.

This is a descriptive, cross-sectional and of quantitative nature with the voluntary participation of residents of the city of Salvador.

The material used for the research was the questionnaire of Attention to Stuttering properly adapted and validated in Brazil. It comprises 10 objective questions that ask about the age of onset of stuttering, frequency in relation to gender and cerebral dominance, occurrence in different races, heredity, severity, intelligence, treatment and attitude of family members, and three subjective questions that ask if the respondent has seen or known people who stutter, the occurrence of this condition in the population and its etiology, totaling 13 questions. Attached to it is an identification protocol with questions about gender (male and female),
education (basic – elementary level, complete or incomplete, medium – high school, complete or incomplete, and – college level, complete or incomplete) and age (young, adult and elderly). Considering as young informants between 18-20 years, adults between 21-55 years and elderly over 55 years. Thus, it was guaranteed standards with comparative work carried out in Rio de Janeiro.

To start the study there was a selection of research assistants to participate in data collection according to the order of registration and availability. Subsequently, the 13 assistants selected were called 8 for a meeting, in which they received training for the application of the Attention to Stuttering questionnaire and were instructed on the collection site. The application was made on the streets of the six most populated districts of the city of Salvador, according to IBGE data of 2010, which are, respectively, Brotas, Itapuã, Pituba, Pernambués, Paripé and São Cristovão. In order to obtain a comparable population, each assistant used an table during the collection for monitoring the characteristics of the respondents. As each person was interviewed, the assistant marked on the table the informant’s profile. 417 people were interviewed, selected at random, without distinction of class or race, being 215 women and 202 men.

The number of people who refused to participate was collected in order to guide future research.

The inclusion criteria used in this research was to reside in the city of Salvador, not necessarily in the neighborhood of the questionnaire. Exclusion criteria were having degree in Speech Pathology and / or Medicine, self declaring stutter, illiterate and being younger than 18 years old.

The data collected through the questionnaire were statistically analyzed using the statistical analysis program SPSS version 19. We used the Chi – square test to check the significant difference between the parameters gender, age and education of respondents. The significance level was less than 5% (p <0.05).

- **RESULTS**

**Identification of people who stutter and level of relationship with respondents**

The results showed that stuttering is a disorder identifiable. Of the 417 responses, 78.2% of respondents claimed to have seen or known people who stutter and 52.2% said that the person with stuttering belonged to his circle of acquaintances, and may be a relative, a friend, a neighbor or other of designation that refers closeness. There was no significant difference between the variables gender, age and education.

**Prevalence of stuttering**

With regard to the prevalence of stuttering, 62.4% of respondents believe that more than 5% of the population stutters, showing a high estimated prevalence. Only 1.2% declared to be unaware. There was statistically significant difference in relation to gender (p = 0.002). Prevalence greater than 5% was stronger in women, 58.3%. Of the 11.6% who said the prevalence is less than or equal to 1%, the amount of people of the male gender reaches the double of the female gender, 62.5%. Of respondents who believe that stuttering has a prevalence between 2% and 5%, most were male (59.2%). In relation to age and education, there was no statistically significant difference.

**Age of onset of stuttering**

In relation to age of onset of stuttering, 53.6% responded that stuttering begins between two and five years old. This question showed statistically significant differences for the variables age (p = 0.009) and education (p = 0.001). Adults were majority with 40.4%. The average schooling prevailed among those who said that the age of onset of stuttering is less than or equal to one year (51.2%) and among those who claimed to be greater than five years (38.4%). Of the participants, 2.9% said they did not know about the age of onset of stuttering, mostly elderly (58.3%) and with elementary education (58.3%).
Rossi JP. Questionário de Atenção à Gagueira. Available at: http://www.uva.br/mestrado/dissertacoes_fonoaudiologia/jamile_perni.pdf

**Figure 1 – Attention to Stuttering Questionaire**

**Protocol for Identification of Participants**

<table>
<thead>
<tr>
<th>Gender: ( ) Male</th>
<th>( ) Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age: ( ) Young (18 to 20 years old)</td>
<td>( ) Adult (21 to 55 years old)</td>
</tr>
<tr>
<td>School educational Level: ( ) Basic (elementary level, complete or incomplete)</td>
<td>( ) High School (high school educational level, complete or incomplete)</td>
</tr>
</tbody>
</table>

**QUESTIONAIRE**

- Have you seen or known anyone who stutters? ( ) Yes ( ) No
- Do you have any acquaintance Who stutters (relatives, friends, neighbors) ( ) Yes ( ) No
- In your opinion, how many people out of 100, stutter?
- In your opinion what is the stuttering onset? ________________ years old.
- In your opinion does stuttering occur more frequently or less frequently or with the same frequency among boys or girls?
  - Boys: ( ) More ( ) Less ( ) With the same frequency
- In your opinion does stuttering occur more frequently or less frequently or with the same frequency among lefthanders and right-handers (right handed/ writes using right hand; Left hand/ lefthander?)
  - Lefthanders: ( ) More ( ) Less ( ) With the same frequency
- In your opinion does stuttering occur only among the White race or does it also happen, i.e. among African-Brazilians and Asians?
  - Only white race ( ) Also African-Brazilians and Asians
- In your opinion what is the cause of stuttering?
- In your opinion can stuttering be treated? ( ) Yes ( ) No
- In your opinion do people Who stutter have higher, lower or the same IQ as to normal speakers?
  - Among stutterers: ( ) higher ( ) lower ( ) same
- In your opinion, is stuttering hereditary? (transmitted from parents to kids)?
  - Hereditary ( ) Non hereditary
- Which of the following do you consider more grievous and which less grievous?Wearing glasses, wearing hearing aid devices or stuttering?
  - More grievous: ___________ Less grievous: ___________
- If you had a four year old child who stuttered, what would you do?
  - ( ) Wait
  - ( ) Look for the family physician
  - ( ) Look for a speech therapist
  - ( ) Other

Rossi JP. Questionário de Atenção à Gagueira. Available at: http://www.uva.br/mestrado/dissertacoes_fonoaudiologia/jamile_perni.pdf

**Figure 1 – Attention to Stuttering Questionaire**

**Distribution in relation to gender**

Most respondents, 53.5% reported that stuttering occurs more often in boys than in girls. Figure 2 shows the position of the respondents in relation to the other answer choices. There was no significant difference between the different age groups, education levels and genders. However, respondents with high school education were majority on this response, 42.6%.
Handedness and stuttering
On laterality and stuttering, 77.1% of respondents believe stuttering occurs with the same frequency in left-handed and right-handed, with no significant difference between the subgroups.

Race and stuttering
The ethnic distribution of stuttering, 88.7% of respondents reported that this disorder occurs in all races. There was no statistically significant difference between subgroups.

Causes of stuttering
In this question seven categories of responses were defined: 28.9% of participants reported the cause of stuttering as emotional; 26.3% as organic; 13.3% Genetics, 5.1% combination of factors, 1.4% believe it is by learning (imitation, cohabitation ...) and 15.9% reported not knowing. Figure 3 shows the order of the categories according to the percentage. The category “other causes” received 9.2% of the responses which covered the following examples use “pacifier”, “can not speak at the same speed you think”, “something one eats “, “wrong wind,” “the person develops it because s/ he wants to “,” the person does not learn to speak properly “,” by habit “,” lie “,” lack of correction” and “lack of medical care”. Statistically significant difference in the subgroups of education (p = 0.050). Of those who reported emotional cause, participants with high school educational level were majority (44.2%), while those who college educational level, mostly (57.1%) reported association of factors as the cause of stuttering. Of those who reported learning as cause 50% were those with elementary educational level. The high school educational level
was majority (47%) of those who said they did not know the cause of stuttering and who reported other causes (42.1%). There was no significant difference in gender and age variables.

**Treatment**
For the vast majority of respondents (84.2%) stuttering has treatment. Education levels differed statistically ($p = 0.042$). Among participants with college educational level, 91.2% believe that the disorder may be minimized. In subgroups gender and age have not showed statistically significant differences.

**Intelligence and stuttering**
Regarding intelligence, 79.6% of the respondents stated that QI of people who stutter is equal to the normal speakers. The responses did not differ significantly in subgroups.

**Hereditability and stuttering**
Most respondents (68.1%) reported that stuttering is a non hereditable disorder. There were no statistically significant differences between gender, age and educational level.

**Handicap and stuttering**
Referring to handicap between wearing glasses, using hearing aid devices and stuttering 47.6% of the participants classified using hearing aid devices as the most disadvantageous, 33.2% considered stuttering and 19.2% wearing glasses. There was significant difference in age ($p = 0.010$). Adults were majority (39.4%) in considering the use of hearing aid devices and of the ones who stated that stuttering was more disadvantageous condition (43.5%).

**Attitude of family members**
In question that investigates the attitude that the family member would adopt if he had a four year old kid who stuttered, 52.8% of respondents answered that they would consult a speech therapist, 34% would consult the family physician, 9.4% would wait, 2.4% would adopt another attitude and 1.4% said they would consult the physician and a speech therapist. The data showed statistically significant differences in the educational level variable ($p = 0.000$) since 76.3% of respondents with college educational level believe that the speech therapist is the most qualified professional to perform guidance on stuttering, as well as to treat it, in opposition to 53.4% of those with elementary educational level that would refer to the family physician. In Figures 4 and 5 one can see the opinion of these participants. There were no significant differences for the variables of gender and age.

The level of significance of variables for each question can be found in Table 1. A total of 139 people refused to participate in this research.

Visualization of the opinion of the participants in descending order on family attitude. Chi – Square.. $p = 0.000$.

**Figure 4** – Positioning of college educational level interviewees on family attitude
DISCUSSION

The results on the identification of people with stuttering corroborate the findings listed on the work done in Rio de Janeiro. In both cities stuttering is a disorder recognized by its residents and gender, age and education levels did not influence this issue. In Shanghai the same result has been found, but with a statistically significant difference for the age variable. The group of 21 to 55 knew or had seen a person who stuttered with frequency of of 91.3%, whereas in the group with less than 21 years, this rate reached 80.6%.

Considerations about the prevalence of stuttering showed high estimate in Salvador, as well as in Rio de Janeiro, but in Salvador the gender variable statistically differed. Women believe more than men in the high occurrence of stuttering, which can be related to a greater involvement of mothers in issues related to the development of children. The males approached of statistical data stating that the prevalence of stuttering is a less than or equal to 1%. In the capital of Rio, educational level influenced the results, because a small proportion of respondents with college educational level reported that the prevalence of stuttering is higher than 5%. In the Chinese city, 40.3% of participants indicated...
the prevalence consistent with the known statistical data.

In terms of age of onset of stuttering, residents of both cities knew about this information, but in Salvador that number was higher, 53.6% compared to 41.3% in the city of Rio de Janeiro. While in Salvador significant differences referred to age and educational level, in the capital of Rio they referred to the genus. In Shanghai, 60.5% of respondents placed the onset of stuttering between two and five years old kid.

Concerning the distribution of stuttering in relation to boys and girls, both cities claimed it to be more prevalent in boys. In Rio de Janeiro there was significant difference to educational level, the college educational level indicated a greater knowledge. For the vast majority of the Shanghai respondents, stuttering is more prevalent in boys and the results differed statistically for age. The older age group most frequently indicated that response suggesting that the lifetime allowed more experience with people who have the disorder and thus they can analyze it in terms of gender.

Respondents of Rio de Janeiro, Salvador and Shanghai agree that this disorder occurs equally in left-handers and right-handers, which may mean that the three cities do not recognize the relationship between handedness and stuttering. On the occurrence of stuttering in different races Salvador data corroborate the data from Rio de Janeiro and Shanghai, demonstrating that for the participants of the research, this disorder occurs in all races. However with a higher number in Salvador, 88.7% compared to 77.2% in Rio de Janeiro. Respondents from Rio with college educational level were more frequent in this response, in Salvador and in the Chinese city there was no statistical difference between the groups.

With regard to the causes of stuttering, most respondents from Rio and from Salvador said that the emotional factor is the reason for developing this disorder. This response was more frequent in Rio de Janeiro with 56.9%. In Salvador that number dropped to 28.9%. Classifications of response differed between the cities, but the two have adopted seven categories. In Rio, the authors considered the following: emotional, neurological, genetic, changes in speech, imitation, organic factors and any other cause. According to the responses of respondents from Salvador, there was the need to create a category for the association of other factors and for those who said they did not know the cause of stuttering. The neurological factor was incorporated in the category organic cause. Thus, removing the created categories and comparing the same in both cities, the following order of causes mentioned by participants in Salvador: organic, genetic, and other causes learning (imitation) was followed. In Rio, the group other causes appeared secondly followed by neurological (organic), Genetics and imitation. For the people from Salvador, the educational level influenced the responses while in Rio there was no statistically significant difference between the variables gender, age and educational level. In the Chinese city, the most cited categories were complex causes, emotional and ignorance.

With regard to treatment, both cities believe that stuttering can be treated, but the questionnaire does not address the distinction between treatment and cure. In Rio de Janeiro this number was quite high, 94.05%, as well as in Shanghai, with 96.1%. In Salvador that number dropped to 84.2%. The two Brazilian cities showed a statistically significant difference with respect to educational level (p = 0.042). The vast majority of respondents with college educational level showed that response with 97.1% in Rio and 91.2% in Salvador.

Regarding the degree of intelligence of people who stutter, the two cities agreed that there is no difference in IQ between normal speakers and speakers who stutter, this number being higher in Salvador (79.6%) than in Rio de Janeiro (66.3%). These data confirm the results obtained in the Chinese city. There was no significant difference in the capital of Bahia, but in the city of Rio de Janeiro genres differ. The men said that people who stuttered have higher intelligence, while women believe more in equality of intelligences.

About heredity and stuttering, the results confirm those from Salvador of Rio de Janeiro. Participants residing in both cities believe that stuttering is not hereditary with 68.1% and 69.3% respectively. In both researches there were no significant differences between the variables. According to a study conducted in São Paulo that investigated the level of knowledge about the disorder in relatives of children who had stuttering as their main complaint, the participants considered stuttering as a disorder non hereditary and can be cured15. In Shanghai, 76.8% believe in non heredity of stuttering.

Concerning handicap, the respondents from Salvador claimed that the use of hearing aid devices is more disadvantageous leaving stuttering in second place. The adults were majority for both conditions, with a significant difference (p = 0.010). In Rio de Janeiro the groups did not differ statistically occurring the same percentage for two responses: 48% considered stuttering worse off, as well as, 48% considered the use of hearing aids. In the Chinese city, 30.9% weighed stuttering more handicap negative.
It is known that stuttering has an impact in lives of those who have this disorder. Research conducted in the United States examined the influence that stuttering has on work performance and employability. The study included 232 people who stuttered with ages from 18 years old on. The data collected indicated that 33% of respondents believe that stuttering interferes with their job performance and that more than 70% agree that it decreases the chances of being hired or promoted. However, 20% said they had a job or promotion due to the disorder.

Regarding the attitude of the family members, the majority of respondents from both cities agreed that would seek a speech therapist if they had a four year old child that stuttered, and in Rio the percentage was higher, 63.8% compared to 52.8% in Salvador. Subsequently the respondents from Rio said they would seek the family physician, would wait and would adopt another attitude. In Rio de Janeiro, there was no significant difference while in Salvador, the educational level statistically influenced the responses: 76.3% of respondents with college educational level would seek a speech therapist and 53.4% of respondents with elementary educational level would refer to the family physician. In Salvador, 1.4% of the participants said that they would seek a speech therapist and a physician. In the city of Rio de Janeiro none of the participants reported association of responses. In Shanghai, the vast majority of respondents would look for a speech and language therapist, although there is no regulated profession that addresses this issue.

In the early twentieth century, people who stuttered felt anxiety almost great due to unavailability of alternative communication and because of the fact that speech therapists were people who stutter. This last fact would bring concern because to the patients there was no sufficient improvement since his/her own therapist continued to be a person who stuttered. Currently the speech therapist is often the first professional to be sought when there is a change of fluency and paradigm shifts on the care of people who stutter have shown the benefits of speech therapy.

The conceptions and attitudes about the disorder were also studied in a population of individuals who stuttered. Among the issues addressed, individuals were asked about attitudes that could minimize the disturbance. They suggested to take to a witch doctor or perform magic spells, to scare the person who stutters, slapping, not taking lectures from persons occupying a higher work position, read aloud, attend to swimming classes and doing yoga. Previously, the Orthodox Jews who just started the stuttered speech therapy after receiving the blessing of his rabbi.

Another study also investigated the knowledge and attitudes towards about stuttering, but in a population of public school teachers and private elementary school. Of the 55 participants, 72.7% responded that they have the knowledge that comes from general common sense, which creates uncertainty when dealing with a student who stutters. The study concluded that teachers need more specific guidelines so that they can have tools to be used in the classroom to work with students who stutter.

Research conducted in the United States, northwest of the state of Ohio had 185 participants and examined people’s knowledge about stuttering, access to sources of information and the influence of these sources on this knowledge. The researchers used a questionnaire containing 44 questions. Among these were items about sources of information, designed specifically for this study, and on about stuttering items that were selected from pre-existing surveys. The results indicated that people of Northwest Ohio do not have specific knowledge about the disorder, although they possess familiarity with stuttering. Responsible for the survey also indicated limitations on the study.

**CONCLUSION**

The respondent population of the city of Salvador was found to have easily identify people with who stutter and that, in general, know issues about the disorder. However, this knowledge was shown limited on certain aspects, which may have contributed to the view of the handicap. Many of them were optimistic about the treatment and more than half of the participants attributed this role to the Speech Therapist. It was observed that the level of education affected the degree of knowledge and the results corroborate previous studies, reflecting the universality of the theme.

Research has shown that the easy identification of the person who stutters by the layman, due to the strangeness of speech, coexists with misinformation about the complexity of the problem and, consequently, the lack of resources of the family and the school in necessary care, factor which was considered relevant in the planning of public education and health actions.

It is on this knowledge, based on the opinion of the population, that the possibility of offering subsidies in practices is realized, aimed at protective and
preventive actions for citizen’s health. The clinical speech therapy is also amplified since aspects of lay knowledge that interfere with the therapeutic process are punctuated. Extending the reflection, it also stands out in this context the responsibility of institutions to train professionals speech therapists and guarantee in their curriculum components the presence, theoretical and practical, compatible with the complexity and demands that involves the condition of stuttering.

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