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Survey on Cairene primary school teachers' knowledge and attitude about stuttering

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Abstract

Background: Behavior of teachers towards stutterers could have an impact on stutterers' self-image and the way they are viewed and treated by their peers. Assessment of the amount of knowledge of primary school teachers is essential to include awareness about stuttering in teachers' education to enable early identification and proper management for these children.

Aim: This study aimed to feature the primary school teachers' knowledge and attitude towards stuttering students.

Method: This study included 100 primary school teachers selected from 4 primary governmental schools in Cairo. Our subjects were subjected to a questionnaire field study to measure their assumptions, attitudes, and knowledge of stuttering and persons who stutter.

Results: There was some good teachers' attitude like talk as if the stutterer is talking normally. In addition, tell the student to slow down the rate of speech, and tell the student to think before he/she speaks, allowing stutters to take a deep breath, praising the student when he/she speaks well. While there were undesirable reactions in the form of teachers feel impatient and the stutterer is nervous, shy and has difficulty in making friends.

Conclusion: The results of this study showed some good knowledge of teachers about stuttering with some favorable attitude about stuttering which can help people who stutter (PWS) to overcome their difficulty, but still it is not enough. More efforts should be made to improve teachers' behavior to insure giving the best possible help to PWS.

Keywords: Stuttering, Stuttering knowledge, Stuttering attitude, Teacher, Primary school

Background

Stuttering is a multifactorial disorder that extends beyond its physical nature and has emotional, social, educational, and vocational aspect [1]. The actual occurrence of stuttering before the age of 6 years is much higher than the later years which suggests that most cases of stuttering will be found during a child's earlier years, and subsequently, most children who stutter are in mainstream schools [2], with a prevalence of 1.03% in primary school children in Cairo [3]. A study made on 2008 revealed

2.43% is the prevalence of stuttering in primary school children regardless of ethnic and racial differences [4].

In stuttering literature, the term public attitudes refer to the inaccurate, insensitive, or otherwise unhelpful beliefs, also including reactions, perceptions, opinions, and values that have been documented in various populations, including educators [5].

Children spend a massive portion of their formative years with their schoolteachers, who play a vital role in the development of our nation's youth. Part of this role must include sharing the responsibility for the educational development of students with impairments or disabilities. Although a teacher's primary role is to educate, they are likely not aware how their attitudes and beliefs about stuttering can significantly impact or influence student performance and classroom management [6].

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Teachers form an important part of the multidisciplinary team as one of main communication intervention partners for youngsters who stutter. Teachers' attitudes towards stuttering are consequently vital as attitudes are likely to influence behavior. Through analyzing their attitudes in addition to figuring out the factors influencing their attitudes, phoniatricians will be capable of developing and implementing professional programs specifically tailored for teachers [7].

Unfortunately, most of the research has revealed that educators are likely to have negative perceptions or associate negative personality traits with people who stutter [8]. This research have shown that educators attribute characteristics to people who stutter (PWS), such as "anxious," "shy," "withdrawn," "self-conscious," "tense," "less competent," "hesitant," and "insecure."

A study made in India revealed that teachers' awareness about stuttering in primary schools was 63.16% [9].

Another study made in South Africa showed positive teachers' attitude towards primary school students' stuttering but still with some unfavorable reactions [10].

In Cairo and especially in governmental schools, the role of socioeconomic factors such as poverty, parental illiteracy, and overcrowded classrooms play a significant reason for the deficient attention to these children's difficulty which increases the need for well-equipped teachers and measures that must be taken. We wanted a rapid and easy way to gather information to study a large group in a limited period. Hence, we decided to use a questionnaire to assess the knowledge of primary school teachers' attitudes and knowledge about stuttering.

The aim of this work was to assess the knowledge and attitude of teachers towards primary school children with stuttering in Cairo.

Methods

Development of questionnaire

We developed a paper and pencil format questionnaire including 18 items, with 5 questions about demographic data, and to ensure fulfilling the inclusion criteria and 4 questions about familiarity and experience of stuttering, we also added 7 items (each containing a number of yes, no, or not sure answers); 3 of them asking about knowledge of stuttering and another 3 asking about attitude towards PWS and management of stuttering. Lastly, the remaining one asked about sources of information and included 2 additional open-ended questions to help collect fresh individual ideas.

We started with a pilot group of 20 teachers; one question was misunderstood, so we modified that question.

Validity (content validity)

The final form of the questionnaire was tested by 2 experienced phoniatricians (with more than 15 years of experience) to regard language and cultural appropriates for Egyptian culture and was completely relevant to the purpose which it was meant for.

Reliability

It was done by test–retest after application of the questionnaire.

Subjects

This study included 100 primary school teachers from 4 primary governmental schools in Cairo who agreed to share in the study.

Inclusion criteria

Teachers must have at least 1 year of experience in teaching primary school students, a Bachelor of Education, main class teachers (teachers of Arabic, English, and math), give informed consent, and not to be a stut-terer him/herself.

Method

On the day of data collection, all the available teachers were included in the study, and then those who did not meet our inclusion criteria were excluded. The teachers took an average of 20 min to complete the questionnaire. Finally, the results of the final one-hundred subjects have been statistically analyzed.

Statistical analysis

Data extracted was revised, coded, tabulated, and introduced to a PC using Statistical Package for Social Science (SPSS 15.0.1 for windows; SPSS Inc., Chicago, IL, USA 2001). Data was provided, and appropriate analysis was performed.

Validity and reliability

We used the available and reliable methods for measuring validity and reliability as follows:

- 1 Validity of questionnaire was measured using:
 - (I) Content validity (judgment validity): pre-test application.
 - (II) Internal consistency validity: It is a measure of test homogeneity that is measured by correlating each item with the total score. The results demonstrated that there was internal consistency validity of the constructed questionnaire.

Table 1 Familiarity and experience with stuttering

Item		Number
Years of teaching		9.5 ± 6 (1–24)
Teach a student who is a stutter	Yes	29
	No	71
Think stuttering is a problem	Yes	78
	No	22
Know anything about symptoms of stuttering	Yes	21
	No	79

Table 2 Symptoms of stuttering according to teacher's knowledge

Symptoms of stuttering	Yes %	No %
Repetitions	64	36
Prolongations	24	76
Blocks	34	66
Seizures	16	84

2 Reliability of the constructed questionnaire was tested by test–retest reliability.

It means that the test would give the same results every time when repeated in the same conditions. The teachers were asked to respond to final form of the questionnaire twice with a 2-week interval. The correlative value of test–retest of questionnaire ranged between 0.95 and 1.0 ($P < 0.001$).

These results indicate the excellent reliability of the questionnaire.

Results

Descriptive data of the various measures applied to the teachers

Demographic data

The study was conducted on 100 primary school teachers with age range of 35 ± 10 years old, male:female ratio about 43:56.

Experience with stuttering

The participants were asked four questions to probe their familiarity, knowledge, and experience with stuttering. As illustrated by Table 1, we found that the mean of years of teaching is 9.5 ± 6 , only 29% of subjects have direct experience by teaching a student who stutter, and 78% of teachers thought stuttering is a problem.

Table 3 Belief of teachers about behavior of students who stutter

The behavior	Yes %	No %	Not sure %
Try to hide their stuttering	15	85	0
Are nervous or excitable	75	14	11
Are shy or fearful	66	16	18
Blame themselves for their stuttering	38	9	53
Difficulty in making friends	13	73	14
Can lead normal lives	64	15	21
Can do any job they want	41	50	9

Table 4 Causes of stuttering as believed by the teachers

	Yes %	No %	Not sure
Genetic inheritance	40	11	49
Very frightening event	60	17	23
Learning or habits	18	46	36
Virus or disease	31	55	14

Opinions on characteristics and symptoms of stuttering

Table 2 shows that repetitions are the most common symptom of stuttering reported by the teachers (64%), while the least common is prolongations (24%), and 16% of teachers considered seizures to be a symptom of stuttering.

Beliefs about behavior of stutterers

The most obvious behavior reported is nervousness and shyness, 75% and 66%, respectively (Table 3).

Opinions on causes of stuttering

Table 4 shows 60% of the subjects believed that stuttering is caused by a very frightening event.

Participants' reactions when talking with PWS

Some favorable reactions are commonly taken by teachers, for instance, 72% talk as if the stutterer is talking normally. In addition, 57% tell the student to slow down the rate of speech, and 65% tell the student to think before he/she speaks (Table 5).

Opinions on how to deal with PWS in the classroom

The least reported strategy with a frequency of 7% is praising the student when he/she speaks well (Table 6).

Table 5 Reaction of teachers when talking with a stutterer student

	Yes %	No %	Not sure %
Talk as if the stutterer was talking normally	72	18	10
Make a joke about stuttering	20	65	15
Help the stutter with words he/she stutters	4	69	27
Stop him/her from completing the utterance when he/she stutters	35	24	41
Feel relaxed (not tense) when talking with him/her	20	64	16
Tell the student to slow down the rate of speech	57	33	10
Tell the student to think before he/she speaks	65	14	21
Give the student time to finish the utterance without my help	42	26	32
Tell the stutter to take a deep breath before talking	67	23	10

Table 6 The teachers' strategies for dealing with stutterer students in the classroom

	Yes %	No %	Not sure %
Excuse the student from talking in front of the class if he does not want	16	68	16
Praise the student for performing well in class	69	14	17
Talk to the student about his/her stuttering	56	23	21
Talk to the class about the stutterer problem	31	53	16
Praise the stutterer when he/she speaks well	7	78	15
Not sure how to react	66	16	18

Table 7 Whose job is helping the stutterer as believed by the teachers

	Yes %	No %	Not sure %
Student's parents	39	20	41
The teachers	21	30	49
Pediatric doctor	61	30	9
Phoniatrician	47	40	13

Table 8 The teachers' sources of information about stuttering

	Yes %	No %
Knows someone who stutter	20	80
Magazines, newspaper, and books	10	90
Television, radio, and movies	57	43
The Internet	41	59
My bachelor degree	73	27

Opinion about who can help

The majority felt the stutterers should be seen by a pediatrician ((61%) (Table 7).

Opinions on sources for information

The highest percentage of sources for information comes from teacher academic background and media (television, radio, and movies) by 73% and 57%, respectively (Table 8).

Correlation between reactions of teachers when talking with stutter students

Significant and highly significant correlation were found between some reactions of teachers while talking to stutters and period of experience (Table 9),

teachers who taught a student who stutter before having favorable reaction when talking with a student who stutter (Table 10).

Discussion

Nobody can deny the relation between the teacher and the student, and not only can this affect almost every behavior of the student and his image about himself but may also be reflected on his/her academic and social performance. This explains the need to assess the mindset and knowledge of teachers about those important aspects such as stuttering.

Since there is limited information about this subject in Egypt, we thought to figure out the magnitude of the trouble to start planning for the intervention.

First, we knew that there are some disadvantages in using questionnaires, and we tried to minimize it as much as possible by privacy protection to avoid incorrect responses, no sensitive questions, making sure the respondents understand the questions, and not making too long questionnaire.

Our study showed that the most reported symptom of stuttering is repetition which is present not only in stutters but also in children with physiological dysfluency, so it is not diagnostic, while the more distinctive features of stuttering, as blocks and prolongations, are less

Table 9 Correlation between reaction of teacher's items when talking with stutter students and period of experience in teaching

If teachers were talking to a stutterer they would ...	Period of experience	
	Correlation of coefficient (r)	P
Talking as if the stutterer was talking normally	0.5	.000**
Make a joke about stuttering	-0.24	.015*
Help the stutter with words he/she stutters	-0.21	.039*
Stop him/her from completing the utterance when he/she stutters	-0.17	0.101
Feel relaxed (not tense) when talking with him/her	-0.2	.036*
Tell the student to slow down the rate of speech	0.45	.000**
Tell the student to think before he/she speaks	0.44	.000**
Give the student time to finish the utterance without my help	0.15	0.128
Tell the stutter to take a deep breath before talking	0.16	0.112

r, Pearson's correlation, P* < 0.05 (significant), P** < 0.001 (highly significant)

Table 10 Correlation between reaction of teacher's items when talking with stutter students and teaching a student who stutters

If teachers were talking to a stutterer they would ...	Teaching a student who stutter	
	Correlation of coefficient (r)	P
Talking as if the stutterer was talking normally	0.4	.000**
Make a joke about stuttering	-0.9	.000**
Help the stutter with words he/she stutters	0.9	.000**
Stop him/her from completing the utterance when he/she stutters	-0.7	.000**
Feel relaxed (not tense) when talking with him/her	0.86	.000**
Tell the student to slow down the rate of speech	0.5	.000**
Tell the student to think before he/she speaks	0.46	.000**
Give the student time to finish the utterance without my help	0.66	.000**
Tell the stutter to take a deep breath before talking	0.4	.000**

r, Pearson's correlation, P* < 0.05 (significant), P** < 0.001 (highly significant)

commonly identified by teachers. Additionally, a small percentage reported seizure as a symptom of stuttering which is definitely not a symptom but can be a comorbidity, but this represents shortage of teachers' knowledge.

Nervousness and shyness were the commonest beliefs about stutterers, denoting the severe psychosocial stress on them especially at school. St. Louis [11] who measured public attitude towards stuttering and described it as unsubstantiated stereotype holds that people believe about stutterers.

Most respondents believed that people who stutter can lead normal lives; however, they were less optimistic about whether stutterers can do any job they desire. Also, Irani et al. [12] reported that the teachers in their study seem to consider that careers that require more speaking are not well-suited for PWS.

The results also confirm the well-known confusion about the cause of stuttering. Phoniatrists agree for a genetic causal component and less certainty about psychological or learning components. Unfortunately, the

majority believed the cause is exposure to a frightening event which is a common belief among the public population. These results go with St. Louis [11] who found that some people believe that stuttering is caused by a force of God.

A comparison between the teachers in this study and Arab parents in a study by Al-Khaleedi et al. [13] revealed similar gaps in teachers' knowledge about stuttering (e.g., etiology of stuttering) as well as in the stereotypical beliefs they held about PWS (e.g., "shy" or "fearful"). Such prejudice would put the student who stutters at an obvious disadvantage as the surrounding environment, including home and school, is not helping him which makes him suffers.

The best news about what teachers report if they found themselves talking to someone who stutters is trying to act as if the student is talking normally. These results goes with St. Louis [11] who reported that most people would ignore the stuttering.

Our study showed that the most consistent advice teachers in Egypt believed would help the person who stutters is to tell the person to “take a deep breath.” The next common suggestion was asking PWS to “think before speaking” followed by recommending “slow down or relax.” This is consistent with the study by Abdalla and St. Louis [5] that revealed that the most consistent advice teachers in Kuwait believed would help the person who stutters is to allow the individual to repeat until the word comes out. All of this is opposite to what is supposed to be done; according to the Stuttering Foundation [14], advising the stutterers to follow the mentioned instruction would only makes a person more aware of the problem, aggravating the stuttering. It is better to listen patiently, and modeling slows and clears speech yourself.

Although praising the stutterer free speech is used in a lot of well-known techniques to manage stuttering, unfortunately, it is the least reported strategy to be used by teachers. The second least is excusing the student from talking in front of the class if he/she does not want, which adds to the social tension of the stutterer and leads to the development of avoidance.

The high percent of opinions about referring to a pediatrician can be explained by the fact that most people believe that pediatrician can treat all the flaws in children. Although good percentage reported referral to the phoniatician, but there is still deficiency in the knowledge about the role of phoniatician.

Almost most of teachers reported the source of information from their studies because we included only teachers who graduated from Faculty of Education. Since a lot of teachers graduated from other faculties (e.g., math teachers from Faculty of Commerce, science teachers from Faculty of Medicine or Pharmacy), their knowledge is expected to be even worse. Nevertheless, we cannot ignore the role of the media in delivering such important awareness about stuttering, since the television, radio, and movies were reported as the second source of information.

About 29% of the teachers had direct contact with a student who stutters in their classrooms. One would presume that the teachers may have drawn knowledge of stuttering from experience with PWS, and that those who knew PWS would express more realistic attitudes towards the disorder. Actually, the correlation between reactions of teachers when talking with stutterer and period of experience in teaching showed that those teachers with more experience in teaching are adopting some favorable reactions like ignoring the stuttered speech, asking the stutterer to think before talking, but they could not deny their uncomfortable feeling when talking with a stutterer.

The correlation between reactions of teachers when talking with stutterer and period of experience in teaching showed that the more the experience, the better the reactions, like ignoring the stuttering and asking the student to slow down and take deep breath, also the less likely the unfavorable reaction like making fun of stutterer. This signifies the important role of experience in teachers.

The limitation in our study is that we included only governmental schools, and of course the situation can be different in private school and including teachers not graduated from Faculty of Education. Also, we recommend further studies to include the academic level of stutter students and to examine the situation in rural areas.

To sum up, although there is moderate awareness in teachers' knowledge and attitude, it is not adequate. Teachers need training to address the special needs of stutterer students, to identify the symptoms, the behavior, and feelings of stutterers first, and to learn alternative reaction and techniques to deal with these students. Group work orientations, programs, lectures, and workshops can be organized for the teachers in order to prevent further mental and social damage.

Conclusion

The results of this study showed some good knowledge of teachers about stuttering with some favorable attitude which can help PWS to overcome their difficulty, but still we recommend more efforts to be done by the Ministry of Education. Lectures and internships about stuttering improve teachers' behavior to insure giving the best possible help to PWS.

Abbreviation

PWS: People who stutter.

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Authors' contributions

DAE formulated the idea and aim, conducted the research process, performed the writing and editing. MYA designed the work. AA provided the study material and interpretation of data. RG acquired the data, applied the statistical techniques and writing the original draft.

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Availability of data and materials

The datasets used during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

All participants in this study have given their written consent, and the study protocol has been approved by the Ain Shams Institute's Ethical Committee of Human Research.

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interests.

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