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Public Awareness of Childhood Language Impairment in Turkey: A Descriptive Study

Türkiye'de Çocukluk Çağı Dil Bozukluğuna İlişkin Toplumsal Farkındalık: Betimsel Çalışma

Nurcan KEMENT[a], S. Seyhun TOPBAŞ[a], Talat BULUT[a]

[a]Department of Speech and Language Therapy, İstanbul Medipol University Faculty of Health Sciences, İstanbul, Türkiye

ABSTRACT Objective: Childhood language impairment (CLI), also known as developmental language disorder, adversely affects children's expressive and/or receptive language development. Although relatively significant action has been taken to raise public awareness about other developmental disorders in Turkey, limited attention has been paid to CLI. Moreover, no previous study has been conducted about awareness of the Turkish population about CLI. **Material and Methods:** We carried out the Turkish version of a survey developed by Working Group 3 of COST Action IS1406 to estimate public awareness of CLI regarding its nature, causes and the problems associated with it. Data were collected in the form of face-to-face interviews. The sample included 87 participants from socio-economically diverse districts of İstanbul, Turkey, determined on the basis of the Human Development Index. **Results:** A significantly lower number of the participants reported having heard of CLI compared to autism, attention-deficit/hyperactivity disorder and speech disorder. Another finding was that women with children reported having heard of CLI significantly more than those without children. It was also observed that the participants had inadequate knowledge of the problems that individuals with CLI have and of its causes. **Conclusion:** The current findings highlight the need to take more action to raise public awareness about CLI in Turkey.

Keywords: Childhood language impairment; developmental language disorder; specific language impairment; public awareness

ÖZET Amaç: Çocukluk çağı dil bozukluğu (ÇÇDB), diğer adıyla gelişimsel dil bozukluğu, çocukların alıcı ve/veya ifade edici dil gelişimini olumsuz yönde etkilemektedir. Türkiye'de diğer gelişimsel bozukluklara ilişkin toplumsal farkındalığın artırılmasına yönelik ciddi çalışmalar yapılmış olmakla birlikte ÇÇDB'ye yönelik çalışmalar sınırlı kalmıştır. Ayrıca Türkiye'de ÇÇDB'ye ilişkin toplumsal farkındalık üzerine yapılmış bir çalışma bulunmamaktadır. **Gereç ve Yöntemler:** Bu çalışmada ÇÇDB'nin doğası, sebepleri ve ÇÇDB ile ilişkilendirilen sorunlara ilişkin toplumsal farkındalığı ölçmek amacıyla COST Aksiyonu IS1406 3. Çalışma Grubu tarafından geliştirilen anketin Türkçe versiyonu uygulanmıştır. Veriler yüz yüze gerçekleştirilen mülakatlar ile toplanmıştır. İstanbul'un sosyoekonomik açıdan farklı ilçelerinden 87 katılımcı örneklemi oluşturmuş olup bu ilçeler İnsani Gelişme Endeksi kullanılarak belirlenmiştir. **Bulgular:** Otizm, dikkat eksikliği hiperaktivite bozukluğu ve konuşma bozukluklarına kıyasla anlamlı oranda daha az katılımcı ÇÇDB terimini duyduğunu belirtmiştir. Çalışmanın bir diğer bulgusu, çocuğu olmayan kadınlara kıyasla çocuğu olan kadınlar arasında ÇÇDB teriminin daha fazla duyulmuş olmasıdır. Ayrıca çalışma örnekleminin, ÇÇDB'si olan bireylerin yaşadıkları sorunlar ve ÇÇDB'nin sebeplerine dair yetersiz bilgi sahibi olduğu gözlenmiştir. **Sonuç:** Çalışmanın bulguları, Türkiye'de ÇÇDB'ye ilişkin toplumsal farkındalığın artırılması için harekete geçilmesi gerektiğini göstermektedir.

Anahtar Kelimeler: Çocukluk çağı dil bozukluğu; gelişimsel dil bozukluğu; özgül dil bozukluğu; toplumsal farkındalık

Childhood language impairment (CLI) is a developmental disorder in which there are no problems in auditory or neurological domains, or in non-verbal cognition, but there are slight or moderate limitations in children's language acquisition, and receptive and/or expressive language skills.[1,2] When both environmental expectations and standard tests are taken into consideration, these children seem to have problems in learning to speak compared to their peers, and understanding or using one or more aspects of language.[3] Although the existence of these difficulties has been known for a long time, it has taken time to

Correspondence: Talat BULUT
Department of Speech and Language Therapy, İstanbul Medipol University Faculty of Health Sciences, İstanbul, Türkiye
E-mail: tbulut@medipol.edu.tr

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define CLI, to define criteria for this term and to advance the studies in this field.[1] The criteria used to diagnose CLI consider limitations in the domains of both comprehension and production of language.[4] From this point of view, it is important to assess the child's ability to express herself as well as her understanding and comprehension skills. As for prevalence, studies have shown that children with CLI constitute approximately 7% of the population.[1,5] This striking incidence rate highlights the importance of research in this field.

As children with CLI grow older, they face various problems, which adversely affect their academic, social and professional lives.[6] Longitudinal studies have been conducted to determine the problems experienced by individuals with CLI. It was reported that children with a history of CLI continued to have more difficulties in communication than children without CLI.[7] It was also found that children with a speech impairment experienced fewer long-term issues in their linguistic, cognitive and academic performance later in their lives compared to their peers who had a language impairment in early childhood.[7] According to another study on this subject, children with speech and language impairments in early childhood did not perform as well at school as their typically developing peers in terms of language and literacy, mathematical thinking, and approaches to learning.[6]

A growing body of research has investigated public awareness regarding CLI across the world. By quantifying the level of awareness in a community, these awareness studies reflect the current state and needs of the community in terms of appropriate knowledge and attitudes towards language impairments. Attaining this level of appropriate knowledge and attitudes can then help individuals in the community, especially parents and adults around the child, to suspect and recognize language impairments and seek professional intervention without delay. Previous surveys on public awareness revealed that attitudes and awareness levels of societies with cultural differences showed variations.[8,9] Despite the importance of public awareness in this area, until recently, no comprehensive research has measured the awareness and attitudes of societies in Europe and the surrounding countries of the European Union. As for studies conducted on this subject in Türkiye, the scarcity of research treating CLI as a primary disorder is outstanding. It is also noted that the existing literature on this topic in Türkiye has focused on assessment of CLI and identification of diagnostic criteria, but not on the attitudes and awareness level of the Turkish society concerning CLI.

Motivated by this gap in the literature, a group of researchers from Europe and beyond including Türkiye have collaborated within the scope of COST Action IS1406. As part of this collaboration, a comprehensive survey was conducted within the participating countries including Türkiye to investigate the level of knowledge and awareness on CLI in the respective countries.[10] The cross-country findings of the survey and the findings of the Romanian version of the survey were recently published.[11,12] The cross-country data collected from 1,519 participants in 18 European countries revealed that CLI was heard of the least among the developmental disorders that were investigated.[11] A number of socio-demographic variables including age, gender, being a parent of a child, education and income level were found to correlate with whether the participants had heard of the term. Based on these findings, it was concluded that the public's awareness of CLI and knowledge of the problems and circumstances associated with it were limited, highlighting the need to take actions on multiple fronts by involving the media, and the school and healthcare systems, among others.[11]

Against this background, the current study reports the findings of a survey conducted in Türkiye to offer a quantitative description of public attitudes and awareness concerning CLI in comparison to several other developmental disorders, as well as the problems and causes associated with CLI. In addition, the present study also investigates the impact of socio-economic and demographic variables on public awareness. CLI was previously known as delayed language, deviant language, language disability, language disorder, congenital aphasia/developmental dysphasia and is referred to as developmental language impairment in the current literature.[2,13,14] However, since these developments are still very recent and since the term CLI has been accepted in Turkish

literature for many years, the survey used in the present study adopted the term "CLI"* to best estimate the current level of awareness in the Turkish community concerning the condition.

MATERIAL AND METHODS

A quantitative public survey with multiple-choice, close-ended questions developed as part of COST Action IS1406 was conducted with participants sampled from İstanbul. The responses were analyzed using descriptive and inferential statistics to investigate awareness of CLI, to compare it with other developmental disorders and to examine the effects of socio-economic and demographic factors on public awareness.

PARTICIPANTS

Data were collected from different districts of İstanbul, Türkiye. We selected districts to be sampled in accordance with the Human Development Index (HDI).[15] Accordingly, the participants of the present study were selected from the districts of İstanbul which reflected all three of the HDI categories applicable to İstanbul (very high human development, high human development, medium human development) to obtain a representative sample of İstanbul and to approximate the characteristics of the Turkish community. The survey was conducted with participants in the form of face-to-face interviews. The participants were mostly passers-by on the street in the relevant districts, and occasionally neighbors or acquaintances of neighbors; therefore, the convenience sampling method was used due to limited resources. However, inclusion of different socio-economic groups in the sample was ensured as explained above.

The inclusion criteria for participation in the survey were being 18 years of age or older and not being a student or a graduate of speech and language therapy. A total 87 participants participated in the survey. Demographic and socioeconomic information was collected as part of the survey including age, gender, education, income level, bilingualism and having a child. The distribution of demographic and socioeconomic characteristics of the participants is given in Table 1.

TABLE 1: Socio-demographic distribution within the sample.

Variables		n (%)
Age	18-39 years	30 (34.5)
	40-59 years	30 (34.5)
	60-70+ years	27 (31.0)
Gender	Male	45 (51.7)
	Female	42 (48.3)
Education	Primary school	36 (41.4)
	High school	18 (20.7)
	Bachelor's degree	24 (27.6)
	Postgraduate degree	9 (10.3)
Income	Low	11 (12.6)
	Middle	60 (69.0)
	High	16 (18.4)
Bilingual	Yes	17 (19.5)
	No	60 (80.5)
Having a child under 18 years	Yes	33 (37.9)
	No	54 (62.1)

DATA COLLECTION

The current study utilized the survey developed by the 3rd Working Group of COST Action IS1406 over the course of 3 working meetings. Following pilot data collection and revisions, the final version of the survey was agreed by the members of the Action in 2017. The present study reports the findings obtained from data collected in Türkiye (please see 11 for further details on the development of the survey and a cross-country summary of the data). Originally written in English, the survey was translated into Turkish and checked by 4 academicians in the field of speech and language therapy. Following a pilot study conducted in Türkiye and a number of other participating countries, the survey was revised, and consensus has been reached among the countries participating in the Action. Due to space limitations, only a subset of the survey sections will be addressed here (see Kement's thesis for a more detailed summary of the results).[16]

The research was conducted in accordance with the Declaration of Helsinki 2008. Ethics approval for the study was obtained from the Institutional Review

*"Çocukluk çağı dil bozukluğu" in Turkish.

Board of the Faculty of Medicine at McGill University (Number: FW00004545, Date: 10/24/2017). The participants provided informed consent to participate in the study. The questionnaire took approximately 20 minutes to complete.

DATA ANALYSIS

SPSS 20.0 (Armonk, NY: IBM Corp) statistical package was used to analyze the data obtained from the survey. In addition to descriptive statistics, McNemar's and chi-square tests were performed for inferential statistics.

RESULTS

HAVING HEARD OF CLI AND OTHER DEVELOPMENTAL DISORDERS

The percentage of participants who answered yes to the question of whether they have heard of the terms CLI, autism, dyslexia, attention deficit hyperactivity disorder (ADHD) and speech disorder are shown in Figure 1. The yes response rate was the highest for speech disorder (96.6%), followed by autism (82.8%) and ADHD (82.8%), CLI (55.2%), and the lowest for dyslexia (49.4%).

Pearson's chi-squared goodness-of-fit tests were conducted to test whether the yes-no responses to having heard of each disorder were evenly distributed (similar ratios of yes-no responses) or were disproportionately distributed (significantly different ratios of yes or no responses). The results revealed that the yes-no response distributions were significantly disproportionate (more yes than no responses) in autism, χ^2 (1, n=87)=37.3, p<0.001, ADHD, χ^2 (1, n=87)=37.3, p<0.001, and speech disorder, χ^2 (1, n=87)=75.4, p<0.001, whereas they were not significantly disproportionate, i.e., the yes-no responses were evenly distributed, in CLI, χ^2 (1, n=87)=0.931, p=0.335, and dyslexia, χ^2 (1, n=87)=0.011, p=0.915. Furthermore, a McNemar's test was carried out to test whether there was a significant difference between CLI and the other disorders in terms of whether the participants had heard of them. It was found that CLI was heard of significantly less than autism, ADHD and speech disorder (ps<0.001), which survived a Bonferroni correction at an alpha level of 0.0125 for the 4 tests conducted. However, the yes-no responses to the same question did not significantly differ between CLI and dyslexia (p=0.499).

Using chi-squared tests of independence, we further investigated if there was any association between demographic (age, gender, having a child under 18 years) and socio-economic variables (education, income level), and the participants' answers to the question of whether they have heard of CLI. As for age, the three age groups tended to differ in terms of having heard of CLI before, although this difference did not reach statistical significance [χ^2 (2, n=87)=5.476, p=0.065]. As shown in Figure 2 below, the elderly group's percentage of yes responses to this question (37.0%) was less than that of the young (60.0%) and the middle-age (66.7%) groups.

We then examined the association that gender and having a child may have with the participants' answers to the same question. There was no significant association between gender and having heard of CLI [χ^2 (1, n=87)=3.240, p=0.072]. Similarly, no significant association was found between having a child and having heard of CLI [χ^2 (1, n=87)=0.635,

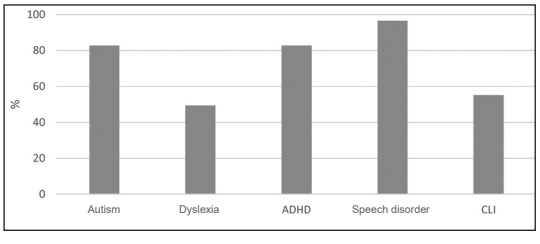

FIGURE 1: Percentage of participants who answered yes to the question of whether they have heard of childhood language impairment and other developmental disorders. ADHD: Attention deficit hyperactivity disorder; CLI: Childhood language impairment.

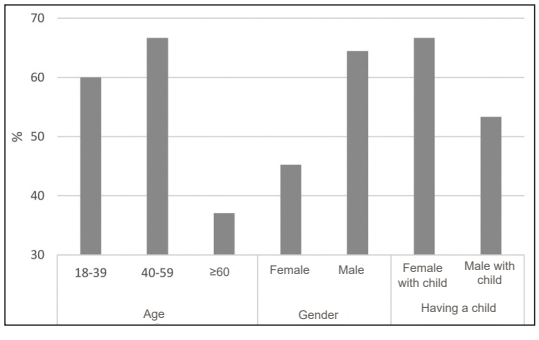

FIGURE 2: Percentage of yes responses to the question of whether the participants have heard of childhood language impairment as a function of demographic variables.

p=0.426]. To investigate whether gender and having a child interacted in their relationship to having heard of CLI, the responses were analyzed separately for each gender in terms of having a child. No signicant relationship was found between having a child and having heard of CLI within the male participants [χ^2 (1, n=45)=1.212, p=0.271]. However, within the female participants, having a child was significantly associated with having heard of CLI [χ^2 (1, n=41)=5.331, p=0.021], since women with children reported having heard of CLI (66.7%) more than those without children (29.2%) [χ^2 (1, n=41)=5.331, p=0.021].

Next, any relationship between socio-economic and educational variables, and having heard of CLI was analyzed. No significant association was found between the participants' income levels and their responses to whether they have heard of CLI [χ^2 (2, n=87)=0.431, p=0.806]. Likewise, analysis of the responses to the same question and level of education did not yield any significant effect, either [χ^2 (3, n=87)=0.294, p=0.961].

The following questions in the questionnaire inquired how those who reported having heard of CLI came to know about it. The majority of those participants (67.4%) reported that they heard it through friends, relatives, or neighbors. The other means whereby the participants reported having heard of CLI were the media (56.8%), reading (47.4%), healthcare professionals (35.9%), and their children's schools (8.1%). In another question, the participants who previously reported having heard of CLI were asked whether they knew someone with CLI, and 39.1% answered yes to this question, while 13.8% stated they did not know someone with CLI and 2.3% answered the question as "I am not sure."

PROBLEMS OF INDIVIDUALS WITH CLI

The participants who reported having heard of CLI (n=48) in the previous question were asked what problem(s) a child with CLI would be expected to experience. The participants were instructed to choose any or all of the following options that apply: having been late at saying first words; problems with pronouncing words or making speech sounds; putting ideas into sentences; choosing the correct grammatical forms (i.e., inflections, word endings) of words; making well-formed sentences; understanding instructions; telling stories; reading; writing; learning more than one language; making or understanding jokes; learning things in preschool or school; math; making friends; social skills; being teased or made fun of, bullied by peers; self-esteem; getting invites to friend's parties, social activities; and getting a job in the future. The percentage of responses for these various options are given in Figure 3 below.

According to the participants, the top three areas where a child with CLI would be expected to experience problems were pronouncing words or making speech sounds (91.7%), having been late at saying first words (89.6%) and putting ideas into sentences (89.6%). The least selected options, on the other hand, were writing, making or understanding jokes, understanding instructions, and math, which were chosen by less than 44% of the participants.

CAUSES OF CLI

The next question inquired about possible causes of CLI, asking the participants why they think CLI happens. The participants were instructed to choose any or all of the following options that apply: it is inherited from family; it happens because of intellectual disability; it happens because children who have it are being punished by fate or God; it happens because of spirits or the jinn (spell, evil eye etc.); it is caused by a physical, medical problem; it has a psychological origin; it is acquired through

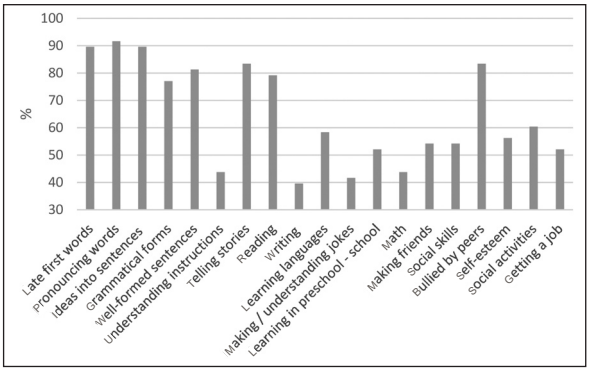

FIGURE 3: Percentage of responses to the question inquiring about problems a child with childhood language impairment would be expected to have.

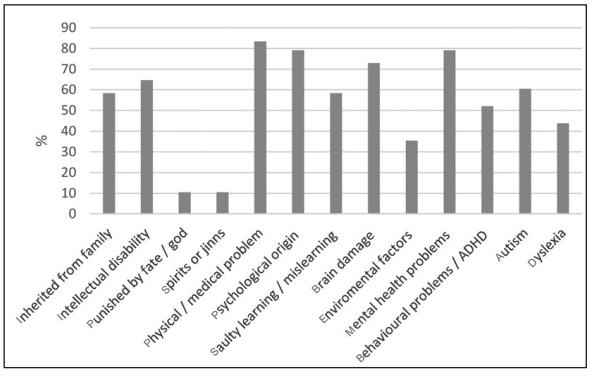

FIGURE 4: Percentage of responses to the question inquiring about possible causes of childhood language impairment. ADHD: Attention deficit hyperactivity disorder.

faulty learning/mislearning; it results from brain damage; it results from environmental factors such as poverty and malnutrition; it results from mental health problems such as depression, anxiety or emotional problems; it results from behavior problems, attention deficit or hyperactivity; it results from autism; it results from dyslexia. The percentage of responses for these various options are given in Figure 4 below.

It was found that the participants associated CLI mostly with internal factors such as medical, psychological or mental health problems, and less with external factors such as environmental and supernatural factors. The top three choices were "a physical, medical problem" (83.3%), followed by "a psychological origin" (79.2%) and "mental health problems such as depression, anxiety or emotional problems" (79.2%). The least preferred options were "punished by fate or God" (10.4%), and "spirits or the jinn (spell, evil eye etc.)" (10.4%).

DISCUSSION

The present study aimed to shed light on the public's awareness of and knowledge about CLI in Türkiye. To that end, a survey was conducted inquiring about the rate at which CLI was heard of in comparison to several other developmental disorders, as well as the problems and causes associated with the disorder. Overall, the findings indicate that the public was not well aware of CLI and the circumstances surrounding it. Each of the dimensions of CLI surveyed in the current study and the implications of the findings are discussed below.

HAVING HEARD OF CLI AND OTHER DEVELOPMENTAL DISORDERS

Only around half of the participants (55%) in the present study reported having heard of the term CLI, while the participants reported hearing most of the other developmental disorders to a greater extent. Indeed, CLI was heard of significantly less than speech disorder (97%), autism (83%) and ADHD (83%), but not dyslexia (49%). The Romanian version of the survey found similar levels of recognition of CLI versus other developmental disorders in Romania.[12] Except for dyslexia, our findings are also consistent with the cross-country findings across Europe, which revealed that with an average rate of 59%, CLI was the least recognized term among the 4 developmental disorders queried.[11] Though slightly lower, the rate at which CLI was heard of in Türkiye was not markedly different from the average rate found across Europe. Though not the focus of the current study, it is noteworthy that the percentage of the participants who reported having heard of dyslexia (49%) was quite lower than the average percentage for Europe (>80%).

Although socioeconomic variables (level of income and education) were not significantly correlated with having heard of CLI, some of the demographic variables demonstrated a significant or marginally significant correlation. For instance, age exhibited a marginally significant association with having heard of CLI as the senior (>60 years old) participants had heard of CLI (37%) less than that of the young (60%) and the middle-aged (67%) participants. These findings contrast with the study conducted by Thordardottir and Topbaş, who reported significant effects of socioeconomic variables on CLI recognition and lower average rates of having heard of CLI for the younger groups in general.[11] These differences might stem from social differences between Türkiye and the rest of Europe, and/or from relatively later establishment of speech and language therapy, and, hence, later recognition of language disorders, in Türkiye compared to Europe, or simply from differences in the number of participants included in the analyses.

Another demographic variable we examined was gender, which did not significantly correlate with the rates of having heard of CLI. However, when considered in combination with having a child, it was found that women with children reported having heard of CLI more than those without children, while there was no such difference between men with and without children. On the other hand, the overall findings of the European survey revealed a significant effect of being a parent of a child regardless of gender, although that study did not specifically test a gender by having a child interaction.[11] In parallel with the findings of the current study, a study conducted in Jordan found that women with children were more aware of language impairment than women without children.[8] These findings may be involved with the more prominent role of mothers in child-rearing, especially in eastern cultures including Türkiye.

PROBLEMS OF INDIVIDUALS WITH CLI

Despite being a heterogenous disorder involving number of problems, CLI is usually associated with an expressive and/or receptive language impairment affecting multiple linguistic components including syntax, morphology, phonology, semantics and pragmatics, and is distinguished from speech sound disorder.[14] According to our findings, the top three problems associated by our participants with CLI were pronouncing words or making speech sounds (92%), having been late at saying first words (90%) and putting ideas into sentences (90%), which were identical to the findings of Thordardottir and Topbaş.[11] Although selection of the latter 2 problems suggest that the participants recognized the impact of CLI on language skills, the fact that a large majority associated pronunciation and speech sound problems with CLI reflects a confusion between speech sound disorders and CLI. The least selected options, on the other hand, were writing, making or understanding jokes, understanding instructions, and math, which were chosen by less than 44% of the participants. This finding also reveals that the participants failed to link language impairment in CLI with the less obvious functional, communicative and pragmatic aspects of language use.

Those options selected the least as problems associated with CLI also highlight the failure to consider the impact of CLI on academic success. Indeed, it has been shown that CLI affects academic attainment later in children's lives.[7] It was also found that children with language impairment in the preschool period were at high risk of reading difficulties in primary school.[17] In this period, children diagnosed with language impairment showed lower skills in word recognition and reading comprehension than children without language impairment.[17] The same study revealed that children who received speech and language intervention in kindergarten had much better literacy skills in primary school than those who did not. Despite these findings, a rather low percentage of our participants (less than 44%) associated writing and math problems with CLI, while a higher percentage (79%) reported that reading would be affected in CLI.

CAUSES OF CLI

Recent evidence suggests that CLI is a complex disorder and both environmental (e.g., a low socioeconomic level or a lack of adequate parental support) and genetic factors play a role and interact.[18,19] We found that the participants associated CLI mostly with internal factors, with the top-three responses being physical/medical problems, problems of psychological origin, and mental health problems such as depression, anxiety or emotional problems, which were chosen by around 80% of the participants. On the other hand, fewer participants attributed CLI to external factors, as one of the least preferred options was environmental factors such as poverty and malnutrition, which was selected by only 35% of the participants. The current findings are very similar to the overall findings across Europe, which similarly identified intrinsic problems as the most frequently reported causes of CLI, while environmental factors were chosen much less frequently.[11] It is also noteworthy that a relatively high percentage of the participants associated CLI with other disorders including intellectual disability (65%), autism (60%), behavioral problems such as ADHD (52%), dyslexia (44%). These findings highlight the fact that both Turkish and the European community at large do not regard CLI as a stand-alone disorder on its own, but

rather as secondary to other conditions. However, biomedical conditions including intellectual disability, brain damage, neurodegenerative conditions and auditory problems are among the exclusion criteria for CLI, as they may involve a different trajectory of.[1,2,14]

The least preferred options as potential causes of CLI were supernatural or superstitious factors [being punished by fate or God, spirits or the jinn (spell, evil eye etc.)], which were chosen by around 10% of the participants. The same options were chosen at the rate of 3.2% and 3.6%, respectively, by the participants across European countries, suggesting that the Turkish sample resorted to supernatural forces more than the general European sample.[11] Since the public's perception of CLI shapes their conceptions of what they can do about it and which roles they can play therein, these findings may shine a light on how to best to promote awareness of CLI.[11]

LIMITATIONS

Several limitations can be considered in relation to the present study. The first one involves the extent to which our sample can represent the population under investigation. Although we collected data only from İstanbul and, as a metropolitan city, it differs from the rest of the country in many ways, it is often said that Istanbul has a mosaic structure reflecting a snapshot of the Anatolian diversity due to the high proportion of migrations from other cities to the metropolis.[20] In addition, to counteract potential sampling errors, we collected data from different districts of İstanbul based on the HDI, which reflects social, economic, municipal, education- and health-related dimensions of development within each district.[15] Furthermore, demographic and economic variables (age, gender, education, income) were also either matched or considered. The second limitation concerns the sample size of the current study (n=87), which may not have provided enough power to test certain hypotheses including the relationship between certain demographic and socioeconomic variables. Also, due to nature of some of our research questions, we had to perform analyses on data from subsets of the participants, which further reduced the sample size in the respective analyses. Despite these concerns, a comparison of the current findings with those of the Romanian and the European data show qualitative similarities across the countries in their awareness of CLI compared to other developmental disorders and in the patterns of the respondents' views regarding the nature of CLI.[11,12]

CONCLUSION

The present study aimed to investigate public awareness of CLI by implementing the Turkish version of a survey which was developed by an international team of experts. We addressed public awareness in terms of hearing about CLI, problems associated with it and its causes. Our findings illustrate the strikingly low percentage of people who had heard of CLI when compared to certain other developmental disorders (speech disorder, autism, and ADHD). The current findings also demonstrate that those who had heard of CLI were not well-informed of the circumstances surrounding CLI, including the problems and causes associated with it. The findings underline the need to embark on a widespread awareness-raising campaign in order to inform the public on the nature of CLI.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Nurcan Kement, S. Seyhun Topbaş, Talat Bulut;* ***Design:*** *Nurcan Kement, S. Seyhun Topbaş, Talat Bulut;* ***Control/Supervision:*** *Nurcan Kement, S. Seyhun Topbaş, Talat Bulut;* ***Data Collection and/or Processing:*** *Nurcan Kement, Talat Bulut;* ***Analysis and/or Interpretation:*** *Nurcan Kement, S. Seyhun Topbaş, Talat Bulut;* ***Literature Review:*** *Nurcan Kement, S. Seyhun Topbaş, Talat Bulut;* ***Writing the Article:*** *Nurcan Kement, S. Seyhun Topbaş, Talat Bulut;* ***Critical Review:*** *Nurcan Kement, S. Seyhun Topbaş, Talat Bulut;* ***References and Fundings:*** *Seyhun Topbaş.*

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