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PUBLIC AWARENESS OF DYSLEXIA IN BALKAN COUNTRIES

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Abstract. The purpose of this study was to conduct a survey of public awareness of dyslexia in five Balkan countries. Participants were surveyed about basic knowledge of dyslexia and included the populations of Montenegro, Bosnia and Herzegovina, Kosovo, Bulgaria, and Croatia. The general public has insufficient knowledge of dyslexia in most Balkan countries, its causes and support that could be organized.

Keywords: dyslexia; public awareness; Balkans

Introduction

The purpose of this study was to conduct a survey of public awareness of developmental dyslexia (DD) in five Balkan countries. Participants were surveyed about basic knowledge of DD and included the populations of Montenegro (MNE), Bosnia and Herzegovina (BIH), Kosovo (KOS), Bulgaria (BUL), and Croatia (CRO). These countries share some of the same economic disadvantages and a close tie between education, economics, and literacy. Except BUL, all countries were part of the former Yugoslavia. All the republics in the former Yugoslavia had the same education system. Although the education system has undergone broad changes in all of these countries since their independence from Yugoslavia, they still share residual challenges from the previous system. BUL was included in this study because it was also a socialistic republic, had a similar economic system as Yugoslavia and the same concept of special education (SE).

The identification and support for persons with DD is easier to understand when considering the historical progression of SE in the Balkan countries. Development of SE in these countries was influenced by Russia and based on the ideas of Vygotsky (1993). "Defectology" is the term corresponding to the area of Vygotsky's research and practice.

This term reflects the following disabilities: hearing impairment and deafness ("surdo-pedagogika"); intellectual deficits ("oligophreno-pedagogika"); visual impairment and blindness ("tiflo-pedagogika"); and speech and language disorders ("logopedia") (Petrovsky & Yaroshevsky, 1998). According to defectological principles, "children with organically intact brains and sensory systems traditionally belonged to general education in spite of the wide range of educational problems they presented" (Gindis, 1988). Specific learning difficulties (SLDs) were unknown in the Vygotsky's approach (Gindis, 1992), although are among the most common disorders in school-age children, with approximately 5 – 15% prevalence rates (Diagnostic and Statistical Manual of Mental Disorders – DSM-5; American Psychiatric Association, 2013).

Dyslexia is a developmental disorder characterized by slow and inaccurate reading (Peterson & Pennington, 2012), despite normal intelligence, conventional instruction, and adequate socio-cultural opportunities. According the DSM-5 (2013) dyslexia is an alternative term used to refer to a pattern of SLDs characterized by problems with accurate or fluent word recognition, poor decoding, and poor spelling abilities. SLDs were not considered under defectological principles, what had a harmful impact, such as failing to provide adequate support to children with less extensive or invisible impairments, with omission of prevention and screening and almost exclusive orientation only on rehabilitation (Grigorenko, 1998).

After years of domination of the defectological principle, the socio-political reforms of the 2000s gave impetus to the integration and inclusion movement in all Balkan countries. System reform on inclusive education was moving from the system level downwards. Legislation is now in place in most of the countries and, in many cases, implementation mechanisms are being developed and adopted for preschool, primary and secondary education. Inclusive education brought also positive changes with regard to view of DD, but some chalanges remain.

Overview of legislation and services in the Balkan countries

In BUL, during period of dominance of the defectological principle, a SE system, consisting of special schools (SS), was established. SS were organized mainly for children with mild disabilities. The transition period marked increasing exchanges with western countries and the end of a period of cultural isolation (Tsokova & Becirevic, 2009). "Defectology" was renamed in "special education" (Tzokova & Garner, 2000). In 2002, major changes in legislation began (Tsokova & Becirevic, 2009), with amendments to the Public Education Act (1991) such that children with SE needs were enrolled in mainstream kindergartens and schools. But, although such law has been adopted, BUL still follows the two-track model of education with high number of SS. Children with special needs (SN) in inclusive settings account for only 1.4% of the total number of children in the education system (Panayotova, 2010). In September of 2015, the BUL Parliament ratified the changes in the Law and DD was listed for the first time. In BUL, the first article about DD was published in 1983 (Matanova, 1983), and the first definition was given in 2001 (Matanova, 2001).

The effects of war on the education system in BIH were the most devastating of all Eastern Europe countries. Many problems strongly imperil this field: ethnic, linguistic and curricular segregation of the schools, the need of teacher training and defectological tradition of SS (Tarabusi, 2010). BIH in 2004 adopted the Framework Law for Primary and Secondary education, which stipulates inclusion of children with SN into the regular classrooms. However, inclusion is just declarative (Dizdarevic, Vantic-Tanjic, & Nikolic, 2010). A law that recognizes students with DD was passed in only three of BIH's ten cantons, and in these three cantons the lack of operational guidelines for implementation of this law directly violates the right of DD to equal access and education. There is no formal education of teachers, although 92.9% of felt that they need more training from this field (Duranovic, Dedeic, Huseinbasic, & Tinjic, 2011). In BIH, the first article about DD was published in 2003 (Duranovic, 2003) and the first book in 2010 (Duranovic & Smythe, 2010).

In MNE, law on the Education of Children with SN for the first time came into force in 2004 and was reviewed and changed in 2010. The MNE Ministry of Education has been supporting the process of deinstitutionalisation and promoting inclusive education with the aim to ensure that a child with SN stays in their family and attends mainstream schools together with their peers. However, positive attitudes toward students with disabilities have not yet developed, and teachers are not trained to be able to identify their needs and possibilities. There is no information about the prevalence of DD and no official criteria for identifying these children. A large number of teachers are faced with the problem of not knowing how to recognize or treat children with DD (Duranovic et al., 2011).

The strategic plan for inclusive education in KOS was developed in 2002 (Landsman & Maloku-Berdyna, 2009). The education of children with SN was placed in the long-term strategy of the KOS Ministry of Education, Science and Technology. The strategy included an equal and professional approach for all and integrating children with SN into regular education and society. However, despite the investment, KOS is far behind in comparison with developed countries in understanding children's needs and their inclusion in the education system. There is a discrepancy between these policies and the situation in practice (Kosova Education Center, 2006). To date, the KOS legislature has not recognized the needs of students with DD, which has been attributed to a lack of knowledge for identification and support of DD. Only one research study was conducted with children with DD in KOS (Avdyli & Cuetos, 2012). The lack of funds, research and awareness concerning to the importance of prevention and support for children with DD in KOS may account for the gap between reality in practice and the relevant regulations (Jusufi, 2014).

The situation in CRO related to the understanding of SLD can be divided into four time periods (Lenček, 2017): (1) In the late seventies and early eighties, when researchers became aware of the existence of SLD. The teachers recognized mostly students with lower academic scores. These children were looked upon only as bad

students, not as those with difficulties; (2) The late eighties were marked by some strong efforts toward inclusivity. Children with difficulties are integrated in regular schools (Igrić et al., 2015). But, the knowledge about SLD was still lacking. In 1990, the Regulations about elementary education of students with difficulties entered into force. Therein, an Orientation list of types and degrees of developmental difficulties clearly states the following: SLD are disorders in reading (DD, alexia), writing (dysgraphia) and calculating (dyscalculia, acalculia). (3) The beginning of the 21st century was characterized by an acceptance of SLD as a general term that comprises diagnoses of DD, dysgraphia, dyscalculia, dyspraxia. Since 2010, researchers work intensively on raising awareness of importance of intervention (Lenček & Peretić, 2010); (4) From 2015 to date, the new issue of regulations was established. Broadening the category of SLD testifies to the system's awareness of the fact that in the education system exist children in need for different education forms than the regular one.

The present study

Most studies about DD have been conducted from a perspective of economically advanced countries, where researchers have been studying DD for decades and where parents, in concert with professionals, provided the momentum and successful lobbying that culminated in the recognition of DD in legislation since 1970s (Vogel & Holt, 2003).

Although DD was recognized in the 19th century (Berlin, 1884), in the Balkan countries focus on this field came much later. The study aimed to extend our understanding of the public awareness of DD across five Balkan countries. The present study compared public awareness in different Balkan countries and analyze difference of the five participating populations from one another with aim to investigate importance of availability of information and presence of formal education about DD for higher public awareness.

Methods

Participants. A survey was designed for face-to-face interviews to convenience samples in public areas (e.g., shopping malls, streets). A total of 1.701 individuals were surveyed in this manner, in BIH (N=655, population 3.531.159), in KOS (N=300, population 2.100.000), in MNE (N=312, population 625.266), in BUL (N=235, population 7.186.893), and in CRO (N=199, population 4.290.612). People easily available in public places were sampled in order to represent the lay public that might come into contact with an individual with DD.

Questionnaire. The questionnaire requested personal information such as age, sex and occupation. The respondents' occupation were classified into socio-economic (S-E) groups defined by the UK Classification of Occupations of the Office of Population Censuses and Surveys (OPCS) (1980), which classifies an individual on the basis of five categories of occupation: I, Professional (e.g., doctors, lawyers, scientists, academics, engineers); II, Intermediate (e.g., managers, administrators, school teachers/masters, nurses, middlerank civil servants); IIIN, Skilled (or junior) non-manual (e.g., clerical, shop assistant, secretary); IIIM, Skilled manual (e.g., carpenters, electricians, butchers, cooks, bus driver); IV, Partly skilled manual (e.g., agricultural worker, bus

conductor, postman); V, Unskilled manual (e.g., cleaner, labourer, docker). These five were augmented by two additional categories covering: VI, unemployed and students; VII, Retired. Respondents who were retired or unemployed were classified by their last occupation. This classification has been used in previous researches about public awareness (Simmons-Mackie et al., 2002; Vuković et al., 2016).

The questionnaire was developed following questionnaire for investigation of public awareness of aphasia[26] and modified specifically for investigation of awareness of DD. The respondents were asked if they would answer a few questions, and than whey were asked if they had ever heard of DD. For those who answered positively, knowledge of DD was tested by asking them to define DD. Each respondent was asked to identify characteristics associated with DD by choosing "yes", "no", or "not sure" from a list that included features that were or were not indicative of DD. A respondent was considered to have some basic knowledge of DD if they selected indicators of DD: "having reading problems, reading slowly or making errors when reading aloud", "having writing problems, slow, non-automatic handwriting that is difficult to read", "making letter or number reversals, guessing based on shape of word or context, ignoring suffixes, can't sound out unknown words", "talented in art, drama, music, designing", "when speaking, difficulty finding the correct word", or "poor grades in many classes". There were also foil questions asking respondents if DD involved "problems with thinking or general intelligence" and "mental health problems." The respondents were also asked what they believed caused DD, where they had heard of DD, and about available services for DD.

Results

Age and sex. The mean age of the entire sample was 34.49 years. There were significant differences between the mean ages sampled in each country ($F(4,1696)=32.38$, $p<0.001$). Post-hoc One-way Anova Tukey analysis showed that the KOS sample had the highest mean age (39.36), significantly older than respondents from B&IH and Montenegro ($p<0.001$). The MNE sample was the youngest (mean=28.09) and was significantly different from sample from all other countries ($p < 0.001$). There were significant differences in age between those who said they had heard of DD (mean=32.14), those who had not (mean=37.0), and those who were not sure (mean=33.46), ($F(2,1698)=23.57$, $p< 0.001$), but no significant difference in age between those with some basic knowledge and those without basic knowledge.

Of the respondents 39,4% were male and 60,6.8% were female. Thus, there were more females responding to the surveys ($\chi2 = 35.37$; df = 3; $p < .001$), and this was the case in all geographic regions, except for KOS.

There were significant differences in sex between those who said they had heard of DD, and those who had not ($\chi2 = 43.41$; df = 2; $p < .001$), and between those with some basic knowledge and those without basic knowledge ($\chi2 = 12.65$; df = 1; $p < .001$). Of the male respondents 37.1% had heard of DD and 8.3% were not sure, and 53.4% female respondents had heard of DD and 5.8% were not sure. Of the respondents who said to knoe what is DD 72.61% male and 82.73% female had some basic knowledge of DD.

Socio-economic status. It can be seen that for BIH and MNE participants were mainly in S-E groups VI, for KOS participants were mainly in S-E groups IIIN and IV, for BUL participants were mainly in S-E groups II Intermediate and VI, and for CRO participants were mainly in S-E groups II Intermediate and IIIM, Skilled manual.

There were significant differences in S-E status between those who said they had heard of DD, and those who had not ($\chi 2 = 210.36$; df = 14; $p < .001$), and between those with some basic knowledge and those without basic knowledge ($\chi 2 = 17.46$; df = 7; $p < .05$).

Those with a higher S-E status were more likely to have heard of DD. The biggest percentage of respondents who heard of DD were from S-E groups I (80.3%), and II (72.9%). Among those who noted to have heard of DD, the biggest percentage of respondents who had some basic knowledge of DD were from S-E groups I (86.84%), II (82.72%), and from group V - Unskilled manual (86.84%).

Education. The majority of respondents from all countries had received education to high school. There was a significant interaction between educational level and whether a respondent had heard of DD ($\chi 2 = 104.74$; df = 8; $p < .001$), and whether a respondent had some basic knowledge of DD ($\chi 2 = 15.32$; df = 4; $p < .005$).

Those with a higher education level were more likely to have heard of DD than those with a lower education level. The biggest percentage who had some basic knowledge of DD were those who had attended school up to primary level (92.70%) and those who had Master or PhD degree (85.23%), but these two samples were with the smallest number of participants and this result can be skewed. Of the respondents who had attended school up to high school 76.22% had some basic knowledge of DD and 76.22% of those who had Bachelor degree.

Table 1. The demographic characteristics of the samples.

	B&H	Montenegro	Kosovo	Croatia	Bulgaria	Total
N	655	312	300	199	235	1701
Mean age	33.21 (13.87)	28.09 (9.36)	39.36 (15.58)	37.40 (17.11)	37.90 (14.48)	34.49 (14.51)
Male	272 (41.5)	110 (35.3)	156 (52)	67 (33.7)	66 (28.1)	671 (39.4)
Female	383 (58.5)	202 (64.7)	144 (48)	132 (66.3)	169 (71.9)	1030 (60.6)
Profession:						
I – Professional	31 (4.7)	15 (4.8)	11 (3.7)	31 (15.6)	54 (23.0)	142 (8.3)
II, Intermediate	108 (16.5)	57 (18.3)	37 (12.3)	47 (23.6)	86 (36.6)	335 (19.7)
IIIN, Skilled non-manual	101 (15.4)	50 (16.0)	78 (26.0)	14 (7.0)	9 (3.8)	252 (14.8)
IIIM, Skilled manual	112 (17.1)	33 (10.6)	5 (1.7)	42 (21.1)	10 (4.3)	202 (11.9)

IV, Partly skilled manual	4 (.6)	3 (1.0)	68 (22.7)	8 (4.0)	0 (.0)	83 (4.9)
V, Unskilled manual	10 (1.5)	4 (1.3)	59 (19.7)	3 (1.5)	0 (.0)	76 (4.5)
VI, unemployed and students;	265 (40.5)	149 (47.8)	42 (14.0)	27 (13.6)	76 (32.3)	559 (32.9)
VII, Retired.	24 (3.7)	1 (.3)	0 (.0)	27 (13.6)	0 (.0)	52 (3.1)
Education:						
Masters/PhD	7 (1.1)	1 (.3)	0 (.0)	92 (46.2)	0 (.0)	100 (5.8)
Bachelors	119 (18.2)	77 (24.7)	84 (28.0)	33 (16.6)	9 (3.8)	278 (16.3)
High school	489 (74.7)	232 (74.4)	175 (58.3)	73 (36.7)	123 (52.3)	1091 (64.1)
Primary	40 (6.1)	2 (.6)	84 (28)	1 (.5)	104 (44.3)	231 (13.6)

Knowleadge about dyslexia. The results showed that 53,79% of respondents in the whole sample had heard of DD. Among the whole sample, 42,50% of participants had basic knowledge about DD. Most respondents chose a "reading problems, reading slowly or making errors when reading aloud" as the major feature (80.11%) and 62.30% chose "specific genes" as the cause. Interestingly, about 20% of the sample connected impaired intelligence as the main feature and cause of DD.

Table 2. Numbers (and percentages) of those who have heard of dyslexia and those with basic knowledge.

	B&H	Montenegro	Kosovo	Croatia	Bulgaria	Total
Heard of dyslexia (%)	314 (47.9)	190 (60.9)	68 (22.7)	175 (87.9)	168 (71.5)	915 (53.79)
Basic knowledge (%)	228 (34.8)	139 (44.6)	55 (18.3)	145 (72.9)	156 (66.4)	723 (42.50)

Table 3. The answers given to questions by those who said they had heard of dyslexia about the basic features of dyslexia in percentages (incorrect answers are in bold).

Percentages of those surveyed						
Symptoms of dyslexia	B&H	Montenegro	Kosovo	Croatia	Bulgaria	Total
Reading problems, reading slowly or making errors when reading aloud	88.22	88.95	72.06	92.57	45.56	80.11

writing problems, slow, non-automatic handwriting that is difficult to read	58.28	53.68	33.82	62.86	48.21	54.43
letter or number reversals, guesses based on shape of word or context, ignores suffixes, can't sound out unknown words	62.42	43.68	25.00	85.71	51.19	58.03
problems with thinking or general intelligence	19.11	20.53	14.71	8.00	22.62	17.60
"mental" health problems	16.24	16.84	8.82	4.57	7.74	11.91
Talented in art, drama, music, designing	35.67	22.11	7.35	51.43	47.62	35.96
When speaking, difficulty finding the correct word	43.31	43.16	7.35	38.86	19.05	35.23
Poor grades in many classes	33.44	14.74	11.76	45.71	42.26	31.91

Table 4. Answers (in percentages) given to questions about etiology of dyslexia by those who said they had heard of dyslexia (incorrect answers are in bold).

Percentages of those surveyed						
Etiology	B&H	Montenegro	Kosovo	Croatia	Bulgaria	Total
Specific genes	59.87	68.95	39.71	44.00	69.05	58.80
Different brains function	60.51	45.26	47.06	69.71	44.05	54.86
Emotional problems	35.31	30.53	19.12	38.29	10.12	28.85
Impaired intelligence	24.20	27.37	33.82	21.71	5.36	21.55
Mental problems	37.58	27.89	27.94	19.43	10.12	26.18
Stroke	42.99	23.68	17.65	40.80	2.98	29.35

The respondents were also asked if anything could be done for people with DD. They mostly mentioned professional support including SLPs, special educators, psychologists or doctors (BIH; 41.08%; KOS 25.0%; BUL 27.38%; CRO 53.38%, MNE 41.05%), SS (KOS 14.71%; BUL 12.5%; MNE 6.32%), developing of artistic capacity (Ba 54.76%), more exercise (BIH 11.15%; CRO 9.56%; MNE 9.47%), accomodations in school (CRO 17.65%; BIH 10.83%), public awareness (BIH 3.50%), giving a more attention to this problem (BIH 3.18%), more reading (MNE 12.11%). Only 2.94% from KOS, 0.65% from BIH, and 1.58% respondents from MNE believed that nothing could be done for people with DD.

Table 5. Sources of awareness of dyslexia

	Percentages of those surveyed					
	B&H	Montenegro	Kosovo	Croatia	Bulgaria	Total
Relative/friend has/had dyslexia	5.73	8.95	8.82	37.22	9.52	12.31
On TV/radio	56.37	41.05	38.24	34.31	19.64	40.94
Newspapers/magazine	8.92	23.68	8.82	10.95	13.69	13.34
Through my work	11.15	15.79	16.18	2.92	5.36	10.15
Other	17.83	10.53	27.94	14.60	51.79	23.26

Discussion

The aim was to assess the level of public awareness of DD in BIH, KOS, BUL, CRO and MNE. There were significant differences in age and sex between those who said they had heard of DD and those who had not. Younger generation and females were more likely to hear about DD, and females had better basic knowledge than males.

S-E status was found to be important factor. Those with a higher S-E status were more likely to have heard of DD. The highest S-E group and unskilled manual workers with the biggest percentage had some basic knowledge of DD. Reason for such results can be possibility that other groups had more self-confidence and reported to heard of DD but failed to show basic knowledge, but respondents from group of unskilled manual workers stated to heard about DD only if they really had basic knowledge about it. Also, it was group with at least participants, so results could be skewed.

The results showed that 53.79% of respondents in all five Balkan countries had heard of DD. This is much lower level than it is found in the United States of America (USA). The National Center for Learning Disabilities (NCLD) (2012) collected data from a random sampling of 1.980 adults in the USA. Most people (91%) were familiar with dyslexia.

Among the whole sample in this study, 42.5% of participants had basic knowledge of DD. The majority of the respondents correctly associated the "reading problems, reading slowly or making errors when reading aloud" (Davies, Cuetos & Giez-Seijas, 2007; Landerl, Wimmer & Frith, 1997; Serrano & Defior, 2008) as the major feature and "specific genes" (Williams & O'Donovan, 2006) as the cause of DD. Nearly eight in ten people (76%) correctly say that genetics can be a cause of learning disabilities in the USA (NCLD, 2012), what is similar to results in this study (58.8%). Contrary to this view, in the study conducted by Wadlington and Wadlington (2005), more than half of the respondents (51.2%) noted that dyslexia is not hereditary.

About 20% of the total sample link impaired intelligence (IQ) as a feature and cause of DD. This is much lower than it is found in the USA where 43% respondents wrongly correlated learning disabilities with IQ (NCLD, 2012).

There is a lack of awareness and a significant number of misperceptions about DD (NCLD, 2012; Wadlington & Wadlington, 2005). Word reversal was identified in 69.6% of respondents as major criterion in the identification of DD, and 58.03%

of respondents noted letter or number reversals, guessing based on shape of word or context, ignoring suffixes, problem with sounding out unknown words, as feature of DD (Wadlington & Wadlington, 2005). Misconceptions surrounding this disorder are very important because it can lead to wrong or delayed diagnosis if child fails to demonstrate the presumed "symptoms" (Shaywitz, 2003).

Most respondents had heard of DD through the media. As a possible support for people with DD, most respondents reported involment with professionals such as SLPs, special educators, psychologists or doctors and with accomodations in schools. Accomodations represent the bridge that connects dyslexics to their strengths, and allows them to reach their potentional. Increasing of public awareness, giving a more attention to this problem were also noted as possible support (Shaywitz, 2003). In BUL, 54.76% of respondents identified possibility for development of artistic talents in dyslexics, what indicates that they are informed about phenomenon of artistic talents observed in the creative people like Leonardo da Vinci and Albert Einstein who were most probably affected with DD (Chakravarty, 2009).

Resulting from the previous system and concept of segregration that existed for years in the Balkan countries, respondents noted that children with DD should be placed in SS. Also, the need for more exercise and reading were noted, which are among the most common myths regarding DD (Kavkler et al., 2010).

We examined how five Balkan countries differ in the context of avalibility of information about DD and the existence of formal education in this field. The lowest level of awareness was found in KOS, where formal education of DD is not organized. The levels found in CRO, BUL, BIH and MNE were significantly higher than in KOS for those who had heard of DD. In KOS, only 22,7% of respondents heard of DD and among them only 18,3% had basic knowledge. Therefore, a lack of recognition of the needs of students with DD in the legislature of KOS, lack of funds, DD professional associations, formal education, and research studies about DD, are obviously due to a lack of interest and recognition of DD by stakeholders who lead the educational system. This negatively impacts teacher training and curriculum development, which place children with DD in a vulnerable position.

The highest level of awareness of DD was found in CRO and BUL. The levels found in these countries were significantly higher than in KOS, BIH and MNE. This was not unexpected as both CRO and BUL are member countries of the European Union in contrast to other three Balkan countries included in this research. During preparation for and embarking on EU membership, reform in disability policy and practice had to prove a major change. In preparation for EU accession, CRO and BUL lawmakers worked to bring legislation in line with European equality standards and small-scale advancements have been made in extending equal rights to persons with disabilities.

It is noted that public awareness of DD is lower in countries where raising of knowledge about DD came later. Higher level was found in MNE than in BIH, altho-

ugh formal education about DD has been possible from 2013 in Montenegro and from 1993 in BIH. It can be explained by the fact that participants from MNE were mostly university students and had more possibility to be informed about DD. Also Bosnian sample had more than half participants than MNE sample what influenced on variety of respondents and on possibility for getting better information of awareness among general public. Future research should better balance participants included in the sample in these two countries.

Although BUL was one of the countries with the highest number of respondents who had heard of DD and had basic knowledge of the disorder it was not the case when the knowledge about basic features of DD was analyzed. More than half of respondents did not mark "reading problems, reading slowly or making errors when reading aloud" as a basic feature of DD. Thus, whereas many respondents reported that they had heard of DD, knew that it is connected with reading difficulties, when asked about common characteristics, the majority failed to provide sufficient evidence that they knew what the condition is.

The general public has insufficient knowledge of DD in most Balkan countries, its causes and support that could be organized. Among respondents who had heard about DD many lacked basic knowledge and knowledge about features and cause of DD. Significant variability in levels of knowledge exist throughout the Balkan countries. This variability appears to be associated with S-E status, educational levels, gender and age.

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