



СРПСКИ АРХИВ
ЗА ЦЕЛОКУПНО ЛЕКАРСТВО
SERBIAN ARCHIVES
OF MEDICINE

Address: 1 Kraljice Natalije Street, Belgrade 11000, Serbia
+381 11 4092 776, Fax: +381 11 3348 653
E-mail: office@srpskiarhiv.rs, Web address: www.srpskiarhiv.rs

Paper Accepted¹

ISSN Online 2406-0895

Original Article / Оригинални рад

Nenad Glumbić^{1,2}, Mirjana Đorđević^{1,2,*}, Jasmina Troshanska³, María Merino Martínez^{4,5,6},
Alexandra Faka⁷, Tania Garcia-Vite⁷

**Barriers in accessing healthcare systems faced by
individuals with autism – a study across four European countries**

Препреке у приступу здравственим системима са којима се суочавају особе
са аутизмом – студија у четири европске земље

¹University of Belgrade, Faculty of Special Education and Rehabilitation, Belgrade, Serbia;

²A Thousand Wishes Foundation, Belgrade, Serbia;

³Autism Macedonia Blue Firefly, Skopje, North Macedonia;

⁴Autismo Burgos Organization, Burgos, Spain;

⁵Miradas' Foundation, Burgos, Spain;

⁶University of Burgos, Burgos, Spain;

⁷CYENS Centre of Excellence, Nicosia, Cyprus

Received: July 6, 2026

Revised: September 25, 2026

Accepted: September 28, 2026

Online First: September 30, 2026

DOI: <https://doi.org/10.2298/SARH260706080G>

¹**Accepted papers** are articles in press that have gone through due peer review process and have been accepted for publication by the Editorial Board of the *Serbian Archives of Medicine*. They have not yet been copy-edited and/or formatted in the publication house style, and the text may be changed before the final publication.

Although accepted papers do not yet have all the accompanying bibliographic details available, they can already be cited using the year of online publication and the DOI, as follows: the author's last name and initial of the first name, article title, journal title, online first publication month and year, and the DOI; e.g.: Petrović P, Jovanović J. The title of the article. *Srp Arh Celok Lek*. Online First, February 2017.

When the final article is assigned to volumes/issues of the journal, the Article in Press version will be removed and the final version will appear in the associated published volumes/issues of the journal. The date the article was made available online first will be carried over.

***Correspondence to:**

Mirjana ĐORĐEVIĆ

Visokog Stevana 2, 11000 Belgrade, Serbia

e-mail: mirjana.djordjevic@fasper.bg.ac.rs; mira.djordjevic81@gmail.com

Barriers in accessing healthcare systems faced by individuals with autism: a study across four European countries

Препреке у приступу здравственим системима са којима се суочавају особе са аутизмом – студија у четири европске земље

SUMMARY

Introduction/Objective Individuals with autism face significant healthcare barriers due to communication difficulties, sensory sensitivities, and a lack of specialized training among providers, while systemic issues like inadequate infrastructure and limited support further hinder access. This study aims to identify barriers to quality and timely healthcare for individuals with autism in four European countries.

Methods Two subsamples were created: one of family members (138 participants) and another of healthcare workers (237 participants). Data was collected online from North Macedonia, Serbia, Cyprus, and Spain.

Results Significant differences were found between countries regarding healthcare barriers. Participants from Serbia and North Macedonia reported greater issues with system integration, limited consultation time and insufficient support compared to Cyprus, while Spanish participants rated phone appointment scheduling as a more significant barrier than those from Cyprus. About one-third of healthcare workers felt comfortable treating patients with autism, with Cypriot participants being more at ease with communication and those from North Macedonia being more comfortable administering and monitoring medications. Spanish healthcare workers perceived communication difficulties, sensory processing issues, and anxiety in patients with autism as greater obstacles than other countries, while they also rated insufficient training as a more significant barrier than those from Cyprus.

Conclusion This study highlights the need for autism-specific accommodations, comprehensive training for healthcare professionals, and policy reforms to improve healthcare accessibility and outcomes for individuals with autism.

Keywords: autism spectrum disorder; healthcare services; training

САЖЕТАК

Увод/Циљ Особе са аутизмом суочавају се са значајним препрекама у приступу здравственој заштити због проблема у комуникацији, сензорне осетљивости и недостатка специјализованог тренинга међу пружаоцима услуга, док системски проблеми као што су неадекватна инфраструктура и ограничена подршка додатно отежавају приступ. Циљ ове студије је да идентификује препреке за квалитетну и правовремену здравствену заштиту особа са аутизмом у четири европске земље.

Методе Формирана су два подузорка: један од чланова породица (138 учесника) и други од здравствених радника (237 учесника). Подаци су прикупљени из Северне Македоније, Србије, Кипра и Шпаније.

Резултати Пронађене су значајне разлике између земаља у вези са препрекама у здравственој заштити. Учесници из Србије и Северне Македоније пријавили су веће проблеме са увезаношћу услуга унутар система, недостатком времена лекара и недовољном подршком у поређењу са Кипром, док су учесници из Шпаније заказивање термина телефонирањем оценили као већу препреку него учесници са Кипра. Отприлике трећина здравствених радника осећала се комфортно приликом лечења пацијената са аутизмом, при чему су се учесници са Кипра осећали комфортно у комуникацији, а учесници из Северне Македоније у примени и праћењу лекова. Здравствени радници из Шпаније сматрали су тешкоће у комуникацији, проблеме са сензорним процесирањем и анксиозност код пацијената са аутизмом већим препрекама у односу на друге земље, док су такође оценили да недостатак обуке представља већу препреку него учесници са Кипра.

Закључак Ова студија истиче потребу за специфичним прилагођавањима за особе са аутизмом, свеобухватним обукама за здравствене раднике и реформама политика како би се побољшао приступ здравственој заштити и исходи за особе са аутизмом.

Кључне речи: поремећај из спектра аутизма; здравствене услуге; обука

INTRODUCTION

Autism Spectrum Disorder (ASD) is characterized by persistent deficits in initiating and maintaining communication and reciprocal social interactions, as well as restricted, stereotypical, and repetitive patterns of behavior, interests, and activities [1]. The prevalence of ASD is estimated to be around 1% [2].

Individuals with ASD are two to three times more likely to suffer from neurological and rheumatological diseases, as well as liver, kidney, and gastrointestinal disorders compared to the general population. Research indicates that diseases affecting almost all organs and organ systems are more prevalent in patients with ASD than in those without autism [3]. Furthermore, more than half of individuals with autism have at least one psychiatric diagnosis. The most common comorbid psychiatric conditions include ADHD, mood disorders, and anxiety, while schizophrenia spectrum disorders are also relatively frequent [4]. Comorbid conditions are associated with poorer outcomes. These patients require specific clinical management, good coordination between different healthcare services, and additional financial resources [5].

Unfortunately, patients with ASD face numerous barriers to accessing healthcare services. Some of these barriers are directly related to the characteristics of autism, such as difficulties in communication and sensory hypersensitivity. A lack of knowledge and specialized training for working with ASD patients are examples of barriers associated with healthcare providers. Certain obstacles are deeply rooted within the healthcare system itself, including the unavailability of support for both ASD patients and healthcare professionals, inadequate infrastructure, time constraints, and system inflexibility. Additionally, caregivers can sometimes create further barriers due to their preference for alternative treatment methods and lack of cooperation with healthcare services [6].

Research on the accessibility of healthcare systems and potential obstacles to obtaining healthcare services analyzes the opinions and perspectives of individuals with autism, their parents or caregivers, and healthcare professionals. As expected, different groups of respondents offer diverse viewpoints regarding the barriers to accessing quality healthcare. Furthermore, various European countries have different practices and past experiences in providing specialized support for ASD patients. Therefore, the aim of this study is to identify the barriers to accessing quality and timely healthcare for individuals with autism in four European countries.

METHODS

Sample

Two subsamples were created in order to assess the current situation regarding the provision of healthcare services to people with autism. The first subsample included family members of people with autism, and the second consisted of healthcare workers. Both were convenience samples.

We contacted potential participants from the first subsample through national and/or local organizations that provide support to people with autism from North Macedonia, Serbia, Cyprus, and Spain.

The first subsample included 138 participants 17–77 years of age ($M = 45.32$; $SD = 11.12$). Most participants were female (108 or 78.3%), while slightly over one-fifth were male (30 or 21.7%). The ma-

majority of the first subsample were mothers of people with autism (101 or 73.2%), while there were significantly fewer fathers (22 or 15.9%). The remaining 15 (10.9%) participants were family members of people with autism (siblings, grandmothers, and aunts) (Table 1).

Family members with autism were 3–53 years of age ($M = 15.81$; $SD = 10.56$). Most individuals with autism (55 or 39.9%) were at the second level of support needs. Thirty-seven (26.8%) individuals with autism were at the lowest level of support needs, while the remaining 46 (33.3%) were at the highest level (Table 2).

The value of Fisher's exact test (13.435; $p < 0.05$) indicates differences in the level of support needs. In Spain, participants at the highest level of support needs were predominant. In North Macedonia and Serbia, most individuals with autism from families in the first subsample were at the medium level of support needs, followed by those at the highest level, while the fewest percentage were individuals with high-functioning autism (21.6% and 16% for North Macedonia and Serbia, respectively). In the subsample of participants from Cyprus, the number of participants at the lowest and medium level of support needs was equal, while 16.7% were at the highest level.

The second, also a convenience subsample, included 237 participants 20–68 years of age ($M = 40.54$; $SD = 10.41$). Most participants were female (186 or 78.5%), while every fifth participant (47 or 19.8%) was male. Four participants (1.7%) chose not to declare their gender. Half of the participants (119 or 50.2%) were nurses and technicians. The sample also included 12 (5.1%) general practitioners, 31 (13%) doctors in residency, 47 (19.8%) specialists, six (2.5%) dentists, and 22 (9.3%) other healthcare professionals and associates, most of whom were physical therapists ($n = 8$) and radiology technicians or radiographers ($n = 6$).

Doctors in residency and specialists covered very different medical fields. The majority were pediatricians ($n = 20$). Some were subspecialists in pediatric immunology, developmental pediatrics, neuropediatrics, or pediatric gastroenterology. They were followed by specialists in family medicine ($n = 6$) and psychiatry ($n = 5$). There were three specialists in each of the following fields: transfusion, surgery, and nuclear medicine. Numerous other medical branches were represented by one or two participants each (dermatology, ophthalmology, neurology, hematology, anesthesiology, cardiology, gynecology, pathology, internal medicine, radiology, etc.). Slightly over one-third of the participants (84 or 35.4%) graduated from university. They were followed by participants who finished high school (50 or 21.1%) and a vocational college (42 or 17.7%). Forty participants (16.9%) had a Master's degree, while 21 (8.9%) had a PhD (Table 3). Given the wide age range, it is not surprising that the participants also significantly differed in work experience, ranging from one to 48 years ($M = 15.55$; $SD = 10.58$).

Most participants (83 or 35%) acquired only basic knowledge about autism during their undergraduate studies. Slightly over one-fourth of the participants (64 or 27%) have never received any education on autism. Every fifth participant (47 or 19.8%) completed some form of informal training. Significantly

fewer participants (26 or 11%) acquired basic knowledge about autism through their postgraduate studies. Only 17 participants believed that they had thorough knowledge about autism acquired either during undergraduate (5 or 2.1%) or postgraduate studies (12 or 5.1%).

Healthcare workers most often claimed that they rarely had patients with autism (103 or 43%), while 72 (30.4%) occasionally had patients with ASD. Almost one-fifth of the participants (46 or 19.4%) claimed to never have had a patient with autism, while 16 (6.8%) were in frequent professional contact with patients with autism.

Assessment instrument

This research, part of the European project HeAlth: Improving access to healthcare services for people with autism, involved creating the Barriers in Healthcare survey for healthcare workers and family members of individuals with autism. The survey, developed based on a systematic review of national and international evidence, was analyzed by a consulting group, including two people with autism and their family members. It was translated into national languages and distributed to participants. The survey had two parts: one collected participant demographics, and the other assessed healthcare barriers using a five-point Likert scale. Participation was voluntary, with informed consent provided by all.

Data analysis

The results are presented in absolute numbers and percentages. Since the conditions for parametric statistical techniques were not met (violated assumptions regarding normal distribution, variance homogeneity, and unequal subsample sizes), differences in scores of participants from different countries were examined by the Kruskal-Wallis test. In cases where statistically significant differences were found, we applied a series of Mann-Whitney U tests to determine which groups differed more precisely. The Bonferroni correction was applied in each case to avoid Type 1 errors.

RESULTS

We will first present the results obtained on the subsample of family members of people with autism and then the results of healthcare workers.

Family members of people with autism

The overall distribution of family members' ratings of barriers to healthcare access is presented in Table 4. The Kruskal-Wallis test revealed statistically significant differences between family members of people with autism in different countries on four items.

The statement that 'the doctor has no insight into the reports of other professionals because the system is not integrated' was rated differently by participants from different countries – $\chi^2(3, N = 138) = 9.374$,

$p = 0.025$. Participants from Serbia and North Macedonia had a higher median score ($Md = 5$) than participants from Spain ($Md = 4$) and Cyprus ($Md = 3$). We conducted post-hoc comparisons using a series of Mann-Whitney U tests, with Bonferroni adjustment of the alpha value, to determine which groups had significant differences. The results showed that participants from North Macedonia significantly differed from the participants from Cyprus ($p = 0.008$, $r = 0.23$), while the difference between participants from Serbia and those from Cyprus was on the borderline of statistical significance ($p = 0.012$, $r = 0.21$). According to Cohen's criteria, the effect size approaches medium values ($r > 0.2$).

The Kruskal-Wallis test also showed differences in rating the statement that doctors have no extra time to work with autistic patients – $\chi^2 (3, N = 138) = 8.857$, $p = 0.031$. Participants from Cyprus had a lower median score ($Md = 4$) than all other participants ($Md = 5$). However, post-hoc comparisons using the Mann-Whitney U test, with Bonferroni adjustment of the alpha value, found statistically significant differences only between participants from Serbia and those from Cyprus, with an effect size between small and medium values ($p = 0.008$, $r = 0.22$).

Participants from North Macedonia, Serbia, and Spain agree with the statement that doctors are not provided with adequate stimulation for working with autistic patients ($Md = 5$) much more than participants from Cyprus ($Md = 4$) – $\chi^2 (3, N = 138) = 14.026$, $p = 0.003$. Post-hoc comparisons using the Mann-Whitney U test, with Bonferroni adjustment of the alpha value, found statistically significant differences between participants from North Macedonia and participants from Cyprus ($p < 0.001$, $r = 0.31$), as well as between participants from Serbia and those from Cyprus ($p = 0.004$, $r = 0.25$), with a medium effect size.

Significant differences were also found in rating the statement that making an appointment over the phone is an obstacle to healthcare system accessibility – $\chi^2 (3, N = 138) = 8.489$, $p = 0.037$. Participants from Cyprus had the lowest median ($Md = 3$), followed by participants from North Macedonia and Serbia ($Md = 4$), and, finally, participants from Spain ($Md = 4.5$). After conducting the Mann-Whitney U tests, with Bonferroni adjustment, the only significant difference was determined between participants from Cyprus and those from Spain ($p = 0.007$, $r = 0.23$), with an effect size that, according to Cohen's criteria, falls between small and medium values.

Healthcare workers

The results shown in Table 5 indicate that about one-third of the participants felt comfortable or completely comfortable when examining patients with autism and communicating with them, discussing a medical plan, using pictures to communicate, determining communication needs, giving medications and monitoring their effects. About half of the healthcare workers felt comfortable or very comfortable in cooperating with parents and other healthcare professionals, as well as in finding adequate information about autism. An initial analysis using the Kruskal–Wallis test indicated possible differences in the ratings of three items by participants from different countries. However, post-hoc comparisons using

the Mann–Whitney U test found statistically significant differences only in individual cases on two items. Participants from Cyprus were more comfortable in communicating with autistic patients than participants from Spain ($p = 0.004$; $r = 0.19$), while participants from North Macedonia felt more comfortable in giving medications to autistic patients and monitoring their effects ($p = 0.002$; $r = 0.2$). In both cases, the effect size falls between small and medium values.

Healthcare workers' ratings of barriers to healthcare access are presented in Table 6. Healthcare workers' assessment of the obstacles faced by people with autism in the healthcare system determined significant differences in four items between different countries. Three items refer to obstacles related to the symptoms of autism, while one item is related to healthcare workers. Since the median values were almost identical, in examining potential differences, we relied on Mean Ranks and post-hoc comparisons using the Mann-Whitney U test, with Bonferroni adjustment of the alpha value. The Mean Ranks values were the highest among participants from Spain on all four items, while they were relatively uniform among participants from other countries.

Participants from different countries differently assessed the extent to which difficulties in communication of people with ASD (e.g., identifying and communicating symptoms) represented an obstacle to accessing the healthcare system – $\chi^2 (3, N = 237) = 15.267, p = 0.002$. The Mann-Whitney U test showed that participants from Spain rated this item significantly higher than participants from Serbia ($p < 0.001, r = 0.31$) and those from Cyprus ($p = 0.002, r = 0.26$), with a medium effect size.

Participants from different countries also differently assessed the extent to which difficulties in sensory processing of people with autism posed an obstacle to accessing the healthcare system – $\chi^2 (3, N = 237) = 11.277, p = 0.01$. Participants from Spain rated this item significantly higher than participants from North Macedonia ($p = 0.013, r = 0.21$), Serbia ($p = 0.002, r = 0.26$), and Cyprus ($p = 0.012, r = 0.21$). According to Cohen's criteria, the effect size is between small and medium.

Statistically significant differences between participants from different countries were also found regarding the extent to which anxiety, fear, and refusal of cooperation during the examination of people with autism posed an obstacle to accessing the healthcare system – $\chi^2 (3, N = 237) = 9.445, p = 0.024$. The Mann–Whitney U test showed that participants from Spain rated this item higher than participants from Serbia ($p = 0.009, r = 0.22$) and those from Cyprus ($p = 0.005, r = 0.24$), with the effect size approaching medium values.

The Kruskal–Wallis test indicated differences between participants from different countries regarding the opinion that insufficient training of healthcare workers represented an obstacle to people with autism – $\chi^2 (3, N = 237) = 7.858, p = 0.049$. However, post-hoc comparisons found statistically significant differences only between participants from Spain and those from Cyprus ($p = 0.007, r = 0.23$).

DISCUSSION

Family members and medical professionals report notable differences in perceived healthcare barriers for people with autism, highlighting the systemic and cultural impacts across nations. The findings align with previous studies that show significant obstacles in healthcare access, particularly due to the challenges of navigating healthcare systems and the inadequacy of traditional communication methods for autistic patients.

This study supports findings from other research [7], which identified poor communication between patients and doctors as a source of misinterpretations, incorrect diagnoses, and frustration. The study confirms that communication remains a significant barrier in many nations, particularly when providers are not trained in autism-specific communication. Additionally, previous studies [8,9] have highlighted sensory problems in healthcare settings, and this study demonstrates the continued unmet need for sensory adjustments worldwide.

Recent evidence indicates that autistic adults experience multiple barriers to accessing healthcare, including systemic and organizational obstacles that contribute to unmet needs and difficulties in navigating services, underscoring disparities in care even within public health systems [10].

Research highlights the importance of support networks in improving healthcare access. Mazurek et al. [11] found that individuals with strong family and community support face fewer healthcare barriers, which aligns with this study. It shows how these networks vary between nations, with better results in countries with stronger autism advocacy and support.

The effectiveness of current autism training programs is also a key issue. Previous studies, including a recent systematic review, have shown that many healthcare professionals feel insufficiently prepared to care for autistic patients, largely due to limited autism-specific training during medical education and clinical practice [12]. Building on research by Crane et al. [13], this study emphasizes that current training programs often address general disabilities rather than autism-specific needs. It underscores the necessity for training healthcare providers on challenges specific to autism, such as sensory sensitivities and alternative communication methods, to improve care for autistic patients.

Prior studies have emphasized the need for structured, comprehensive autism training within healthcare programs. This study builds on those recommendations by highlighting the specific training needs identified by healthcare workers, such as communication techniques and sensory accommodations. It stresses the global need for standardized autism training focused on practical skills rather than just theoretical knowledge, supporting findings from other studies [14]. Research on cultural competence training further suggests that such training may improve professionals' preparedness to work with diverse populations and some patient-reported aspects of care, although evidence of direct effects on health outcomes remains inconclusive [15, 16].

The analysis revealed several country-specific differences in the perceived barriers to healthcare access for autistic individuals, although the pattern differed between family members and healthcare workers.

Among family members, participants from Serbia and North Macedonia reported higher ratings of several organizational barriers, particularly limited integration between healthcare professionals, insufficient time for physicians, and insufficient incentives for working with autistic patients, whereas participants from Cyprus generally reported lower ratings of these barriers. In contrast, healthcare workers from Spain reported higher ratings of autism-specific barriers, including communication and sensory difficulties and anxiety or refusal to cooperate during examinations. These differences may reflect variations in the organization and integration of healthcare services, the availability of specialized autism services, professional education and training, exposure to autistic patients, and cultural expectations regarding healthcare, although these factors were not directly assessed in the present study. The higher ratings reported by Spanish healthcare workers may, for example, reflect greater recognition of autism-specific challenges rather than necessarily greater barriers in the healthcare system itself. However, this interpretation should be considered hypothetical. The differing patterns reported by family members and healthcare workers further suggest that healthcare accessibility is multidimensional and may be influenced by both system-level characteristics and the recognition of autism-specific needs. Future comparative research should therefore examine country-level differences in service organization, autism-specific training, national policies, and the availability of specialized services.

These findings have several practical implications for improving healthcare accessibility for autistic individuals. First, healthcare professionals should receive standardized autism-specific training that includes practical skills in communication, recognition of sensory needs, and adaptation of healthcare procedures to individual needs. Second, healthcare settings should consider sensory-friendly adaptations, such as reducing unnecessary sensory stimuli and providing appropriate communication supports. Third, healthcare services should consider more flexible appointment procedures and longer consultation times when needed, as well as better integration and exchange of information between professionals. Together, these measures could contribute to more accessible and responsive healthcare for autistic individuals.

Limitations

There are several limitations that should be considered when interpreting the findings. First, the use of convenience sampling and relatively small samples within individual countries limits the generalizability of the results and may have affected the comparability of the country groups. Differences in sample composition across countries, including participants' professional or family roles and their experience with autistic individuals, may also have contributed to the observed cross-country differences. Second, the study relied on self-reported data, which may be influenced by participants' individual experiences, expectations, and perceptions of autism and healthcare services. Third, the study did not systematically assess potentially important country-level factors, such as differences in healthcare organization, availability of specialized autism services, autism-specific professional training, national policies, or clinical

guidelines. In addition, differences in the way autism is perceived, diagnosed, and supported across countries may have influenced participants' responses and may partly account for the observed cross-country differences. These factors should therefore be considered when interpreting the findings, particularly when making international comparisons. Future comparative studies should include more representative and comparable samples and incorporate systematic measures of healthcare systems, professional training, and national autism policies.

CONCLUSION

This study highlights the barriers autistic individuals face in accessing healthcare and identifies differences in the perceived barriers across the four countries included in the study. The findings indicate the importance of addressing autism-specific needs within healthcare services, particularly in relation to communication, sensory needs, healthcare professionals' training, and the organisation and integration of services. Practical measures may include standardized autism-specific training for healthcare professionals, sensory-friendly adaptations of healthcare environments, appropriate communication supports, flexible appointment procedures, and improved coordination and information sharing between professionals. These measures may contribute to more accessible and responsive healthcare for autistic individuals. Further comparative research is needed to examine how healthcare organisation, professional training, national policies, and the availability of specialized autism services influence healthcare accessibility across countries.

ACKNOWLEDGMENT

We thank: 1) Erasmus+ project Improving access to health care services for people with autism (2023-1-RS01-KA220-ADU-000160919), and 2) the Ministry of Science, Technological Development and Innovation, Serbia (451-03-34/2026-03/200096).

All authors meet the conditions for authorship. All authors contributed to the conception and design, the analysis and interpretation of the data. All authors have intellectually conceived of and critically reviewed the manuscript, and agree with the final version of the manuscript.

Ethics: Approval for this research was obtained from the Research Ethics Review Committee at the Faculty of Special Education and Rehabilitation.

Conflict of interest: None declared.

REFERENCES

1. World Health Organization. Clinical descriptions and diagnostic requirements for ICD-11 mental, behavioural and neurodevelopmental disorders. Geneva: World Health Organization; 2024.
2. Zeidan J, Fombonne E, Scora J, Ibrahim A, Durkin MS, Saxena S, et al. Global prevalence of autism: a systematic review update. *Autism Res.* 2022;15(5):778–90. [DOI: 10.1002/aur.2696] [PMID: 35238171]
3. Ward JH, Weir E, Allison C, Baron-Cohen S. Increased rates of chronic physical health conditions across all organ systems in autistic adolescents and adults. *Mol Autism.* 2023;14(1):35. [DOI: 10.1186/s13229-023-00565-2] [PMID: 37730651]
4. Fucà E, Guerrera S, Valeri G, Casula L, Novello RL, Menghini D, et al. Psychiatric comorbidities in children and adolescents with high-functioning autism spectrum disorder: a study on prevalence, distribution and clinical features in an Italian sample. *J Clin Med.* 2023;12(2):677. [DOI: 10.3390/jcm12020677] [PMID: 36675606]
5. Casanova MF, Frye RE, Gillberg C, Casanova EL. Editorial: comorbidity and autism spectrum disorder. *Front Psychiatry.* 2020;11:617395. [DOI: 10.3389/fpsyt.2020.617395] [PMID: 33329163]
6. Walsh C, Lydon S, O'Dowd E, O'Connor P. Barriers to healthcare for persons with autism: a systematic review of the literature and development of a taxonomy. *Dev Neurorehabil.* 2020;23(7):413–30. [DOI: 10.1080/17518423.2020.1716868] [PMID: 36112897]
7. Davenport SCG, Alshawsh M, Lee C, Garrick A, Brignell A, Ure A, et al. The meaning of autism friendly in hospital settings: a scoping review of the autism community's perspectives. *J Autism Dev Disord.* 2026;56(8):3055–70. [DOI: 10.1007/s10803-025-06781-4] [PMID: 40106125]
8. Strömberg M, Liman L, Bang P, Igelström K. Experiences of sensory overload and communication barriers by autistic adults in health care settings. *Autism Adulthood.* 2022;4(1):66–75. [DOI: 10.1089/aut.2020.0074] [PMID: 36600905]
9. Hedlund Å, Andersson A, Lindberg M, Jordal M. Experiences and perceptions of physical healthcare among adult autistic patients: a scoping review. *Int J Nurs Stud Adv.* 2025;9:100366. [DOI: 10.1016/j.ijnsa.2025.100366] [PMID: 40585436]
10. Arnold SRC, Bruce G, Weise J, Mills CJ, Trollor JN, Coxon K. Barriers to healthcare for Australian autistic adults. *Autism.* 2024;28(2):301–15. [DOI: 10.1177/13623613231168444] [PMID: 37161777]
11. Mazurek MO, Sadikova E, Cheak-Zamora N, Hardin A, Sohl K, Malow BA. Health care needs, experiences, and perspectives of autistic adults. *Autism Adulthood.* 2023;5(1):51–62. [DOI: 10.1089/aut.2021.0069] [PMID: 36941853]
12. Clarke L, Fung LK. The impact of autism-related training programs on physician knowledge, self-efficacy, and practice behavior: a systematic review. *Autism.* 2022;26(7):1626–40. [DOI: 10.1177/13623613221102016] [PMID: 35698749]
13. Crane L, Adams F, Harper G, Welch J, Pellicano E. 'Something needs to change': mental health experiences of young autistic adults in England. *Autism.* 2019;23(2):477–93. [DOI: 10.1177/1362361318757048] [PMID: 29415558]
14. Maddox BB, Crabbe S, Beidas RS, Brookman-Frazee L, Cannuscio CC, Miller JS, et al. "I wouldn't know where to start": perspectives from clinicians, agency leaders, and autistic adults on improving community mental health services for autistic adults. *Autism.* 2020;24(4):919–30. [DOI: 10.1177/1362361319882227] [PMID: 31674198]
15. Pecukonis E, Doyle O, Bliss DL. Reducing barriers to interprofessional training: promoting interprofessional cultural competence. *J Interprof Care.* 2008;22(4):417–28. [DOI: 10.1080/13561820802190442] [PMID: 18800282]
16. Vella E, White VM, Livingston P. Does cultural competence training for health professionals impact culturally and linguistically diverse patient outcomes? A systematic review of the literature. *Nurse Educ Today.* 2022;118:105500. [DOI: 10.1016/j.nedt.2022.105500] [PMID: 35964378]

Table 1. Sample characteristics – family members (N = 138)

Country	N	Age M (SD)	Sex		Family member		
			female	male	mother	father	other
			N	N	N	N	N
North Macedonia	37	42.68 (6.79)	31	6	27	5	5
Serbia	25	52.4 (12.28)	22	3	20	3	2
Cyprus	24	43.42 (10.39)	17	7	15	6	3
Spain	52	44.67 (12.17)	38	14	39	8	5

Table 2. Family members with autism spectrum disorder (N = 138)

Country	N	Age M (SD)	Level of support		
			I (N)	II (N)	III (N)
North Macedonia	37	12.14 (5.46)	8	19	10
Serbia	25	22.48 (9.56)	4	13	8
Cyprus	24	14.29 (9.93)	10	10	4
Spain	52	15.92 (10.56)	15	13	24

Table 3. Age and education level of healthcare workers (N = 237)

Country	N	Age M (SD)	Education level		
			high school	college/university	master/PhD
North Macedonia	49	39.88 (8.28)	5	36	8
Serbia	102	40.33 (10.77)	45	45	12
Cyprus	26	36.69 (7.72)	0	9	17
Spain	60	42.73 (11.91)	0	36	24

Table 4. Obstacles in accessing healthcare services – assessment by family members of people with autism (percentage values)

Item	Not an obstacle	Not an important obstacle	Neutral	Somewhat of an obstacle	A very important obstacle
Difficulties in communication of people with ASD	6.5	8	3.6	33.3	48.6
Difficulties in sensory processing	9.4	11.6	8.7	30.4	39.9
Anxiety, fear, and refusal of cooperation during the examination	8	9.4	8.7	26.1	47.8
Self-harm and aggression	31.9	8	11.6	18.8	29.7
Insufficient training of healthcare workers for working with individuals with autism.	5.8	8.7	5.8	27.5	52.2
Inflexibility of healthcare staff in approaching a person with autism.	8	8.7	11.6	27.5	44.2
Insufficient motivation of healthcare workers to help a person with autism.	7.2	13	9.4	26.8	43.5
Neglecting attitudes and suggestions of persons with autism and/or their family members.	9.4	10.9	9.4	32.6	37.7
The doctor has no insight into the reports of other professionals because the system is not integrated.	8	8	13	23.2	47.8
No extra time to work with an autistic patient.	5.1	8	7.2	20.3	59.4
Adequate stimulation is not provided for working with an autistic patient.	3.6	7.2	10.9	24.6	53.6
The family cannot cover all health needs of a person with ASD based on the medical insurance they have.	8.7	9.4	8	15.9	58
A person with ASD or their family member has difficulty with the appointment system online or over the phone.	6.5	12.3	14.5	26.8	39.9

Table 5. Level of comfort in working with people with autism

How comfortable do you feel in	Completely uncomfortable		Uncomfortable		Neutral		Comfortable		Completely comfortable	
	N	%	N	%	N	%	N	%	N	%
Examining a patient	23	9.7	56	23.6	68	28.7	73	30.8	17	7.2
Communicating with a patient	25	10.5	68	28.7	59	24.9	67	28.3	18	7.6
Discussing the medical plan	27	11.4	60	25.3	80	33.8	57	24.1	13	5.5
Using pictures to communicate	26	11	46	19.4	93	39.2	54	22.8	18	7.6
Inquiring about communication needs	16	6.8	61	25.7	84	35.4	59	24.9	17	7.2
Determining medications and monitoring effects	28	11.8	57	24.1	82	34.6	55	23.2	15	6.3
Cooperating with parents	17	7.2	40	16.9	61	25.7	76	32.1	43	18.1
Cooperating with other professionals	15	6.3	37	15.6	61	25.7	83	35	41	17.3
Finding adequate information about autism	13	5.5	41	17.3	75	31.6	79	33.3	29	12.2

Table 6. Obstacles to accessing healthcare services – assessment by healthcare workers (percentage values)

Item	Not an obstacle	Not an important obstacle	Neutral	Somewhat of an obstacle	A very important obstacle
Difficulties in communication of people with ASD	4.2	16.5	9.3	41.8	28
Difficulties in sensory processing	4.2	13.9	12.7	40.9	28.3
Anxiety, fear, and refusal of cooperation during the examination	4.2	12.2	10.5	32.1	40.9
Self-harm and aggression	4.2	13.9	16	27.8	38
Insufficient training of healthcare workers for working with individuals with autism.	4.6	11.8	12.2	30.4	40.9
Inflexibility of healthcare staff in approaching a person with autism.	6.3	12.2	16.9	34.2	30.4
Insufficient motivation of healthcare workers to help a person with autism.	9.3	11.8	22.4	32.1	25
Neglecting attitudes and suggestions of persons with autism and/or their family members.	7.6	10.1	21.9	32.5	37.9
The doctor has no insight into the reports of other professionals because the system is not integrated.	8	13.5	18.1	29.1	31.2
No extra time to work with an autistic patient.	7.6	9.3	15.2	30	38
Adequate stimulation is not provided for working with an autistic patient.	7.2	12.7	19.8	28.3	32.1
The family cannot cover all health needs of a person with ASD based on the medical insurance they have.	5.9	10.5	18.6	25.7	39.2
A person with ASD or their family member has difficulty with the appointment system online or over the phone.	9.3	13.1	17.3	33.3	27