

Perception of Parents of Children with Communication Disorders about Barriers in the Application of Augmentative and Alternative Communication: Gender Differences

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Abstract

Augmentative and alternative communication (AAC) encompasses various devices, systems, and strategies that support or replace spoken language. Although AAC methods have proven effective in working with children with communication disorders, their implementation depends largely on the engagement of parents, who often face multiple barriers. The aim of this study was to examine parents' perceptions of barriers to the use of AAC, with a specific focus on gender differences between mothers and fathers. The sample included 30 parents (15 mothers and 15 fathers) of children with communication disorders. The study used the subscale "Barriers to the Use of AAC" ($\alpha = .76$), from an original instrument designed to assess parental attitudes toward AAC. Data were analyzed using the Mann-Whitney U test. Results indicated that mothers perceived significantly more barriers than fathers ($U = 55.50, p = .01$). The most prominent barrier for both groups was uncertainty about where to begin learning about AAC methods.

The findings highlight the importance of a gender-sensitive approach in parent education and the need to adapt support programs to improve accessibility and effectiveness in AAC implementation.

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Introduction

Augmentative and alternative communication (AAC) refers to a wide range of communication devices, systems, tools, and strategies that support spoken language (Anwar & Barnett, 2024). AAC methods may be non-technological (e.g., gestures, pictures) or technology assisted (e.g., communication devices, applications) and are used to supplement or replace speech. Numerous studies have demonstrated the effectiveness of AAC methods in working with children with communication disorders, showing improvements in functional communication, social interaction, and, in some cases, speech development (Crowe et al., 2022; Collette et al., 2019; Light & McNaughton, 2012; Srinivasan, 2022, Caldwell et al., 2024). Recent research on AAC not only recognizes the benefits of these methods but also emphasizes that barriers to their use are not merely individual or technical in nature, they are deeply rooted in social, institutional, and cultural structures. Light and colleagues (2025) point out that individuals who use AAC are often exposed to multiple layers of marginalization due to inadequate policies, inaccessible technologies, limited professional training, and negative societal attitudes. Their study combines users' lived experiences with empirical findings, showing that effective implementation of AAC requires systemic change, not only at the technological level but also in the way society enables or restricts communication.

This broader perspective on barriers provides a framework for considering the family's role, particularly that of parents, in introducing and using AAC systems. Parents serve as key communication partners and are often those who recognize, bear, and overcome various obstacles. Understanding their experiences is therefore essential, not only for individual practice but also for wider strategic interventions in education and community support. Complementing this perspective, Blasko (2025) discusses different forms of systemic isolation, manifested in simplified systems that limit emotional expression, rigid privacy regulations that constrain support, and neglect of the importance of interdependence within the community. Instead of viewing speech as the ultimate goal, the author advocates for a perspective in which communication is understood as a means of connection, belonging, and social participation. This view further underscores the need to approach AAC implementation not only through a technical or individual lens but also through the lens of family, institutional, and societal support.

Access to AAC systems is further complicated by numerous external factors that influence language development and communication in children who use these methods. Holyfield and colleagues (2025) identified four key external barriers: delays in introducing AAC systems, a lack of competent professionals, inadequate adaptation of systems to the individual needs of users, and limited opportunities for social interaction. The authors emphasize that difficulties in language learning among AAC users cannot be attributed solely to their individual abilities, but rather to environmental conditions and systemic limitations. In addition, professionals providing services to children with communication disorders often lack sufficient knowledge and experience to offer appropriate support (Arsenić et al., 2022), which further exacerbates the challenges faced by both the child and the family. Consequently, parents often find themselves acting as "translators" and advocates for their child's needs, perceiving various obstacles in the everyday use of AAC. These findings reinforce the importance of exploring parents' perspectives, as they are often the ones who most directly experience the consequences of institutional shortcomings. Examining gender differences in parents' perceptions of barriers adds an important dimension to understanding this

issue, as gender may shape access to resources, available time, emotional engagement, and the way parental roles are experienced.

The role of parents in the implementation of AAC systems is crucial, as they serve as their children's primary communication partners in everyday situations. Marshall and Goldbart (2008), through a qualitative study, explored the experiences of parents of children who use AAC and found that they often struggle with feelings of inadequacy, overload, and insufficient support. Their findings highlighted that parents identify practical barriers such as a lack of time and information, as well as emotional barriers such as fear of making mistakes or feelings of isolation in the process of AAC implementation. Parents also emphasized the importance of continuous and accessible education, while noting that access to information and support is not always equitable or well organized.

Similar findings were reported by Schladant and Dowling (2020), who focused on mothers of children with Fragile X syndrome. These mothers often learn independently how to apply AAC methods, with little professional guidance, and take on most of the responsibility for integrating AAC systems into family routines. Although this study did not explicitly examine gender differences, it clearly demonstrates the pivotal role of mothers in carrying out communication strategies.

While numerous individual studies highlight the importance of parental involvement in AAC implementation, a broader perspective was presented by Crowe et al. (2022), who analyzed 84 systematic reviews on AAC use among children with intellectual and developmental disabilities. One of the key findings was the underrepresentation of parents as active participants in interventions, only 9 of the 84 reviews included parents as communication partners. Likewise, only 31 reviews reported participants' gender, and just 4 included data on ethnicity (Barton et al., 2017; Chung et al., 2012; Ganz et al., 2014; Shire & Jones, 2015). These findings indicate that gender, ethnicity, and other sociodemographic characteristics of parents and children have been largely overlooked in previous research. The authors therefore recommend that future studies focus on including diverse demographic groups, particularly natural communication partners such as parents and family members and systematically collect data on their characteristics. These insights further justify the need for studies that explore gender differences among parents, as such factors can significantly influence perceptions, engagement, and the effectiveness of AAC implementation.

Previous research consistently confirms that parents supporting their children in using AAC systems encounter multiple challenges that hinder consistent and effective application in daily life. Although the literature increasingly addresses institutional and systemic barriers, the parental role remains insufficiently explored, especially regarding personal capacities and time constraints. Several studies emphasize that lack of time is one of the main barriers preventing parents from engaging in the learning and application of AAC (Berenguer et al., 2022; Joginder Singh et al., 2023; Zlatić et al., 2025). Parents often balance numerous obligations, which limits their availability for training and active participation in the therapeutic process. Therefore, research focusing on parental attitudes, perceptions, and perceived barriers to AAC use remains essential for both scientific inquiry and practical application.

The aim of this study was to examine parents' perceptions of barriers to the use of AAC for children with communication disorders, with particular attention to differences in how these barriers are experienced based on the parent's gender.

Methods

Sample

The study included 30 parents of children with communication disorders (50% male). The distribution of participants by gender and age is presented in Table 1. Among the participants, 15 (50%) had completed higher education, 11 had secondary education, and 4 held a college degree.

Table 1

Age distribution of participants by gender

Gender	N	Min	Max	M	SD
Male	15	31	47	40.73	5.10
Female	15	28	49	40.53	6.54

Data Collection Techniques

This study utilized the subscale "Barriers to the Use of AAC" from the instrument developed within the research of Zlatić and colleagues (Zlatić et al., 2025), designed to examine the attitudes of parents of children with communication disorders toward AAC. The complete instrument encompasses multiple dimensions of parental attitudes; however, for the purposes of this study, only the subscale related to the perception of barriers was selected and applied, as it directly corresponded to the research focus.

The subscale is a five point Likert-type scale consisting of statements addressing various aspects of obstacles in AAC use. Participants indicated their level of agreement with each statement (1 - strongly disagree to 5 - strongly agree). Average scores from 1 to 2 were interpreted as negative, from 2 to 3 as moderately negative, from 3 to 4 as moderately positive, and from 4 to 5 as positive. The internal consistency reliability of the subscale "Barriers to the Use of AAC" was $\alpha = .76$, which is considered an acceptable level of internal consistency (Nunnally & Bernstein, 1994).

Research Procedure and Data Analysis

The study was conducted in April 2025. Parents' responses were collected via a Google Forms questionnaire, which was distributed through mobile applications to parents whose children were receiving speech and language therapy or special education services in private practices across the city of Belgrade. Appropriate methods of descriptive statistics and inferential statistical tests were used to process the data. To compare parents' perceptions of individual barriers, the Mann - Whitney U test was applied as a nonparametric alternative to the *t*-test for independent samples, due to deviations from normal distribution.

All analyses were conducted using the JASP statistical software (version 0.19.3.0). Results were presented in both tabular and textual form, and all statistical tests were performed at a significance level of $p < .05$.

Results

The results of the Mann - Whitney U test, along with the mean values (M) and standard deviations (SD) for each statement, are presented below. Higher mean scores indicate a greater level of agreement with the statements included in the subscale.

The results shown in Table 2 reveal a statistically significant difference between male and female participants in their perception of the statement “Lack of time prevents me from further educating myself on the use of AAC methods” ($U = 50.500$, $p < .007$). Female participants rated this statement significantly higher than male participants, suggesting that mothers perceive lack of time as a more pronounced barrier to AAC implementation. Conversely, male participants in this sample did not generally identify time constraints as a major obstacle, indicating that gender may be an important factor influencing access to AAC related education.

This difference was also confirmed at the level of the overall subscale “Barriers to the Use of AAC,” where a statistically significant difference between genders was observed ($U = 55.500$, $p < .019$). This finding further indicates that female participants identified barriers as more relevant and prevalent in practice compared to their male counterparts.

Table 2

Differences in perceived barriers to AAC use between male and female parents

Statement	U	p
Lack of time prevents me from further educating myself on the use of AAC methods.	50.50	.007
Using AAC may require technical knowledge that is unfamiliar to me.	75.50	.119
Using AAC would complicate everyday family activities.	88.50	.303
I believe that using AAC would be too complicated for my child.	93.50	.420
I am not sure where I would start learning about AAC.	76.50	.125
Barriers to AAC use (overall score)	55.50	.019

Table 3 presents the descriptive statistics of participants' responses to the statements comprising the subscale "Barriers to the Use of AAC." The results indicate that the statement "I am not sure where I would start learning about AAC" had the highest mean score. Although this result was not statistically significant (see Table 2), it suggests that parents of both genders perceive this as the greatest barrier to the implementation of AAC.

Table 3

Gender Differences in the Perception of Barriers to the Use of AAC

	Group	N	M	SD
Lack of time prevents me from further educating myself on AAC methods.	Male	15	2.66	1.49
	Female	15	4.13	1.06
Using AAC may require technical knowledge unfamiliar to me.	Male	15	2.26	1.38
	Female	15	3.13	1.50
Using AAC would complicate everyday family activities.	Male	15	2.26	1.10
	Female	15	2.66	0.90
I believe that using AAC would be too complicated for my child.	Male	15	2.06	1.38
	Female	15	2.40	1.29
I am not sure where I would start learning about AAC.	Male	15	3.40	1.29
	Female	15	4.00	1.40
Barriers to AAC use (overall)	Male	15	2.53	0.74
	Female	15	3.26	0.78

Discussion

The aim of this study was to examine parents' perceptions of barriers to the use of AAC, with a particular focus on gender differences. The findings provide important insights into how mothers and fathers differently experience obstacles in the implementation of AAC systems.

The findings of this study indicate that parents of children with communication disorders perceive specific barriers related to understanding and implementing AAC in different ways. The statement "I am not sure where to begin with AAC education" emerged as the most prominent barrier for both male and female participants ($M = 3.4$; $M = 4.0$). In contrast, the perception of lack of time as an obstacle to AAC education was considerably stronger among female participants ($M = 4.0$; $M = 2.53$). This result is consistent with previous AAC research, which demonstrates that parents often experience substantial daily demands that limit their opportunities for additional learning and consistent implementation of communication interventions (Berenguer et al., 2022; Moorcroft et al., 2019; Mutiah et al., 2022; Singh et al., 2023, Zlatić et al., 2025). Given that AAC systems require continuous learning and sustained engagement, time represents a critical resource for empowering parents to support their child's communication effectively.

A particularly noteworthy finding is that female participants, compared to males, more strongly endorsed the lack of time as a barrier to AAC education. This difference was statistically significant both at the level of the individual item and the “Barriers to AAC Use” subscale. Such patterns are not unique to AAC but are well documented across the international literature: mothers commonly assume a larger share of caregiving responsibilities, including coordination of therapy, educational activities, and communication related support, while fathers tend to be less involved in daily developmental routines (Craig & Mullan, 2011). Gendered caregiving patterns have been observed across diverse cultural contexts, suggesting that responsibilities related to treatment, education, and developmental support are frequently distributed unevenly within families (Desai & Andrist, 2010). In families of children with developmental disabilities, these demands may be even more pronounced, as mothers often serve as the primary coordinators of services, interactions with professionals, and treatment related decision making (Plantin & Daneback, 2009). These findings highlight the importance of incorporating gender sensitive perspectives into the design of parent training and AAC support programs.

Another important pattern concerns the differences in overall response profiles between genders. Female participants, on average, endorsed nearly all statements as meaningful obstacles to AAC implementation, whereas male participants expressed substantially lower agreement with most barriers. The only item that both groups evaluated as a relevant obstacle was the statement referring to uncertainty about where to begin with AAC education. Male participants did not perceive the remaining items as notable barriers. Although most individual differences did not reach statistical significance, the descriptive trends clearly show that mothers consistently perceive a broader range and greater intensity of obstacles compared to fathers.

Taken together, these findings underscore the need for clear, accessible, and flexible models of parent education to ensure that AAC implementation can be sustained in everyday family contexts. Recent studies similarly emphasize the value of brief interactive modules, digital tutorials, hybrid online in person formats, and ongoing mentoring that can be integrated into parents’ daily routines (Moes & Frea, 2002; Dunst et al., 2007). Such flexible educational approaches are particularly beneficial for mothers, who often face increased caregiving demands, while simultaneously offering opportunities to encourage greater involvement and more active participation from fathers.

Ultimately, the results of this study highlight the importance of developing gender sensitive, accessible, and family centered AAC support programs that consider the actual circumstances in which families live and function. This conclusion aligns with previous research suggesting that effective parent training must account for parents’ time constraints, varying levels of prior knowledge, and the need for clear, practical guidance (Ingersoll et al., 2016). Tailoring educational materials and support strategies to the specific needs of parents, particularly with regard to time availability, clarity of information, and practical feasibility, may enhance both acceptance and everyday implementation of AAC strategies in children’s lives.

Conclusion

The present study aimed to examine parents' perceptions of barriers to the use of AAC, with a particular focus on gender differences. The results showed that female participants perceived lack of time as a barrier to further education about AAC methods significantly more than male participants. This finding points to the potential influence of gender roles within the family context, where mothers are more likely to assume responsibility for their child's communication and therapy. Although most other statements within the "Barriers to the Use of AAC" subscale did not show statistically significant gender differences, high mean scores suggest that some barriers are shared by both mothers and fathers. For instance, uncertainty about where to begin learning about AAC methods was perceived as a major barrier by all participants, regardless of gender. This indicates that certain obstacles are not gender specific but systemic in nature, highlighting the need for clearer guidance and consistent support for all parents.

Overall, the findings emphasize that AAC education and implementation must be both gender sensitive and systemically structured, ensuring access to clear, practical, and flexible resources. The statistically significant difference observed at the overall subscale level further supports the need to consider these factors when designing family centered support programs.

However, the study has several limitations. The small sample size ($N = 30$) limits the generalizability of the findings. Additionally, the use of an online questionnaire may have introduced response bias. Future research should therefore include larger and more diverse samples of parents from different sociodemographic backgrounds, enrich quantitative findings with qualitative data (e.g., interviews), and consider a longitudinal approach to better understand changes in parents' perceptions and behaviors over time. Studies such as this can contribute to the development of more effective and accessible models of family support, encouraging greater parental involvement in the implementation of AAC systems.

Conflict of interest

None

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