# Perception of Inclusion and Attention to Diversity in Initial Teacher Training

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Received: January 10, 2024 Accepted: March 10, 2024 Online Published: April 19, 2024

doi:10.5430/jct.v13n2p1 URL: https://doi.org/10.5430/jct.v13n2p1

#### **Abstract**

The objective of the study was to determine the perception that undergraduate students have about inclusion and attention to diversity. A non-experimental design research of comparative descriptive level was carried out with a sample of 203 students of the professional career of Education. Data collection was obtained through the application of the scale of perceptions about inclusion and attention to diversity, taken from Cardona and Paz, 2012 version, which has validity and reliability. The results obtained indicate that students have a favorable perception of inclusion and attention to diversity; they agree with the approaches to inclusion but consider that the formative content they have been receiving in their initial training is insufficient. It is concluded that it is necessary to strengthen the curricula of the study programs with respect to inclusion and attention to diversity from an integral and transversal approach.

**Keywords:** perception, training, education, inclusive education

## 1. Introduction

Inclusive education is conceived as an educational process that welcomes and attends to the diversity of students, guaranteeing quality learning that helps them to develop autonomously throughout their lives. From this point of view, individual differences are assumed as a value that enriches the entire educational community. In this line, different authors such as Delgado et al., 2021; Muntaner-Guasp et al., 2022; and United Nations Educational, Scientific and Cultural Organization (UNESCO, 2017) define inclusive education as a process oriented to the attention of all students. That is, with respect for their uniqueness, based on a dynamic participation in the various school activities, guaranteeing learning achievements that consider their characteristics and needs.

The great challenge is to eradicate barriers to participation, to articulate with equity to all students in three actions: to welcome them all in the common school; to coexist and have a well-being in accordance with their dignity and to progress academically to achieve a quality adult life (Echeita, 2017; Alcaraz and Arnaiz, 2020).

Within the framework of the SDGs, Sustainable Development Goal 4 of the 2030 Agenda, approved by the United Nations General Assembly in 2015, indicates that inclusive, equitable and quality education must be ensured, and lifelong learning opportunities must be promoted (UNESCO, 2016). Inclusive education, being part of the SDGs, denotes the importance that is being given to it, in addition to being understood as a symbiosis between equity and quality. UNESCO, with the publication of the Guide to Ensure Inclusion and Equity in Education, provides greater support to inclusive education (Opertti, 2019).

Regarding initial teacher training, Rodríguez (2019) states that future teachers are of great significance for improving the quality of teaching in schools. For its part, UNESCO (2016) highlights the great role of teachers in certifying quality in education, so teachers must be empowered, motivated and professionally qualified.

Initial teacher training should have inclusion and equity as pillars, and use teaching methodologies that respond to

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the heterogeneity of all students. This training should include understanding and empathy in the face of student diversity (Rodríguez, 2019., UNESCO, 2016).

The Ministry of Education (2012) and Valcazar (2020) motivate teachers to self-reflect on their work in order to improve their pedagogical practice, which also requires collective work in planning, execution, evaluation, reflection of their practice and commitment to the institutional educational project, becoming an agent of change.

UNESCO (2017) has recognized four major values that underpin teachers' competence in developing inclusive practice, which consist of appreciating the diversity of students, supporting the student body without distinction, working articulately with other students, commitment to personal and professional development.

Along these lines, Sánchez - Serrano et al. (2021) conducted an analysis of the curricula and teaching guides. They indicated that it is necessary for universities that train teachers to commit to training in inclusion from the curricula with mandatory courses, since it is essential for their teaching performance. For their part, Otondo et al. (2022) prepared a documentary analysis of the graduate profiles and components of inclusive education, from which they obtained as a result that the training programs are still in the initial phase, which is insufficient for an adequate inclusive training proposal.

Pegalajar and Colmenero (2017) showed that teachers of Compulsory Secondary Education feel dissatisfied with the initial training they received on inclusive education; they also identified that female teachers show greater predisposition to attend students with special needs, and better attitude to continue training, with respect to male teachers.

Within the framework of educational inclusion, there are favorable and unfavorable perceptions. León et al. (2023) identified that 58.3 % have a positive perception of inclusive care and management; 41.3 %, a regular level; and 4 %, a negative perception. For their part, Garcías and Durán (2023) found a very favorable perception of the dimension of inclusive practices. These studies reaffirm the importance of a favorable perception of inclusion.

At the local level, there are universities in the Lambayeque region that have professional careers in Education, whose curricula have limited subjects that allow the acquisition of competencies for pedagogical work in intercultural and inclusive contexts. By not having the necessary competencies, the undergraduate student will have difficulty in the pre-professional practice and also when exercising his/her profession, since he/she will not have developed attitudes and values that favor inclusion and will also have limitations in the use of methods and strategies to achieve meaningful learning combining innovation and creativity.

To respond to the inconsistencies observed, it is appropriate to question the object mentioned, formulating the problem as follows: How do college students perceive inclusion and attention to diversity? In this line, to answer this question, it has been proposed as an objective to determine the perception that undergraduate students have about inclusion and attention to diversity. In order to achieve the aforementioned objective, the following specific objectives were formulated: a) to identify the perception of inclusion and attention to diversity, according to the year of study; b) to measure the perception of undergraduate students about the approaches to inclusion and attention to diversity; c) to identify the perception of the formative contents on attention to diversity and inclusion in the curriculum; and d) to measure the perception of the competencies necessary for the attention to diversity of the student body. Therefore, the research is justified in a legal framework, since inclusive education has a normative framework, both at international and national level; on the other hand, it is relevant at the theoretical level, it has a solid epistemological and anthropological foundation, also, it allows solving a problem in the initial training of teachers regarding inclusive education. Finally, it is founded at the methodological level, to the extent that it has a highly reliable instrument to continue researching in this line in the national space.

# 2. Method

## 2.1 Type and Design of Research

The present research is of a basic type, its main characteristic lies in starting from a theoretical framework to formulate new theories or modify existing ones, increasing scientific knowledge (Méndez, 2021). In this way, we sought to identify the perceptions of education students with different careers on inclusion and attention to diversity (Barriga, 1974). The research is descriptive level, since it allowed detailing the variable studied in relation to the year of studies taken by Education students (Hernández-Sampieri & Mendoza, 2018).

#### 2.2 Sample

According to the National Superintendence of University Higher Education (NSUHE, 2021), the university

population in Peru is 1,379,593 students. The study participants were chosen non-probabilistically, by convenience; this sampling technique allows the researcher to select samples based on subjective judgment rather than random selection, due to its speed, cost-effectiveness and ease of sample availability (Otzen & Manterola, 2017). A link to the study questionnaire was shared in the study, which allowed the participation of 203 students from the Education major in different specialties (Hernández-Sampieri & Mendoza, 2018).

**Table 1.** Characteristics of the Study Population

		Frequency	Percentage
Sex	Man	27	13,30%
	Woman	176	86,70%
Professional Career	Primary Education	53	26,11%
	Initial Education	103	50,74%
	Philosophy and Theology	12	5,91%
	Language and Literature	14	6,90%
	Others	21	10,35%
Years of study	2nd year	58	28,57%
	3rd year	39	19,21%
	4th year	54	26,60%
	5th year	42	20,69%
	Another	10	4,93%

Source: Research database. Own elaboration

Table 1. It can be specified as to the characteristics of the study sample that women reached 86.70 %, compared to men, who only participated 13.30 %. With regard to the specialties of the degree program in Education, it can be observed that the greatest participation is in Initial Education 50.74 %, followed by Primary Education with 26.11 %; Philosophy and Theology with 5.91 %; others, with 10.35 %; and Language and Literature, 6.90 %. Finally, about the year of studies, it can be specified that 28.57 % participated in the second year; 19.21 % in the third year; 26.60 % in the fourth year; 20.69 % in the fifth year; and 4.93 % in others, referring to those students who are taking courses in different cycles.

## 2.3 Instrument

The instrument used was the Perceptions Scale about Inclusion and Attention to Diversity (PIAD) by Cardona and Paz (2012), (as cited in Tigrero, 2018). The tool has three dimensions: approaches (1-9); formative content (1-6) and competencies needed (1-8).

Likewise, in the present research, internal reliability was calculated using Cronbach's Alpha (0.919), allowing us to verify that the instrument is reliable for the present research in the population studied.

### 2.4 Data Analysis

The Statistical Package for Social Sciences (SPSS V. 25.0) and Microsoft Excel (2019) were used for data analysis. Likewise, statistical results were processed by calculating the variables and dimensions, as well as the cut-off points to establish the levels. Finally, Cronbach's Alpha reliability analysis and inter-test validity of the instrument's items were used.

### 3. Results

Table 2. Perceptions of Inclusion and Attention to Diversity by Year of Study

		Unfa	nvorable	Favorable		
		Frequency	Percentage	Frequency	Percentage	
Years of study	2nd year	1	1,72%	57	98,28%	
	3rd year	0	0,00%	39	100,00%	
	4th year	0	0,00%	54	100,00%	
	5th year	0	0,00%	42	100,00%	
	Other (Specify)	0	0,00%	10	100,00%	

Source: Research database. Own elaboration.

Table 2 shows that the students of Education according to the years of study present a 100% favorable perception, unlike the students of the second year, of which only 1.72% considered an unfavorable opinion.

Table 3. Perceptions about Approaches to Inclusion and Attention to Diversity According to Year of Study

		No agreement		Little a	Little agreement		Agreement	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	
Years of study	2nd year	3	5,17%	1	1,72%	54	93,10%	
•	3rd year	0	0,00%	0	0,00%	39	100,00%	
	4th year	1	1,85%	1	1,85%	52	96,30%	
	5th year	1	2,38%	2	4,76%	39	92,86%	
Othe	Other	0	0,00%	0	0,00%	10	100,00%	
	(Specify)							

Source: Research database. Own elaboration.

Table 3 shows that the perception of the students in relation to the approaches to inclusion and attention to diversity, 5.17% of second year students do not agree at all, followed by fifth year students with 2.38%, and fourth-year students with 1.85%. Likewise, students in the fifth year indicate little agreement, with 4.76 %; followed by 1.85 % in the fourth year; and 1.72 % for the second year. Finally, all years are above 90 % with a favorable opinion.

**Table 4.** Perceptions about the Formative Contents on Attention to Diversity and Inclusion of the Curriculum According to Year of Study

		Nothing		Little		Much	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
3rd yea	2nd year	0	0,00%	46	79,31%	12	20,69%
	3rd year	0	0,00%	30	76,92%	9	23,08%
	4th year	0	0,00%	40	74,07%	14	25,93%
	5th year	0	0,00%	35	83,33%	7	16,67%
	Other	0	0,00%	8	80,00%	2	20,00%
	(Specify)						

Source: Research database. Own elaboration.

Table 4 shows the perceptions that students have regarding the formative content on attention to diversity and inclusion of the curriculum in Education under the different specialties, it can be observed that, unlike the other

dimensions, all students above 74 % perceive that there is little formative content for this problem. Likewise, another percentage is found in much where almost all the years are above 20 %, except for the fifth year where only 16.67 % perceive that there is a lot of formative content on inclusion and diversity.

Table 5. Perceptions about the Competencies Necessary for the Attention to the Diversity of All Students

	Average
1. Ability to value student diversity as a resource and a benefit of education.	8,75
2. Ability to design and implement strategies for educational attention in diverse cultural and social contexts.	8,81
3. Ability to design and implement curricular adaptations as a measure of attention to the diversity of all learners.	8,58
4. Ability to make instructional adaptations (adapt the way the teacher teaches in the classroom to promote learning for all learners).	8,72
5. Ability to implement organizational strategies (flexible grouping, cooperative learning, peer tutoring) to promote cooperation and learning.	8,66
6. Ability to develop collaborative processes with other teachers (co-teaching).	8,64
7. Ability to implement authentic evaluation strategies and resources (evaluation based on pedagogical criteria) to improve the learning process.	8,74
8. Ability to critically reflect on the values, attitudes and actions related to the attention to the diversity of learners in order to propose improvement purposes.	8,89

Regarding the results obtained, it can be evidenced that the students perceive that they have the necessary competences for the attention to the diversity of all the students, the estimated averages (the average value of the group data) correspond to an estimated value between 0 and 10, specifying that in all the sections they are above the average of 8.5, a value that is very close to 10.

## 4. Discussion

Inclusive education seeks the maximum learning of all students, taking into account their characteristics, abilities and potential, with the physical presence and active participation of all in the various learning activities and situations (Muntaner-Guasp et al., 2022). In this regard, research has focused on the initial teacher training, which has a favorable influence on their professional performance. In this sense, the main objective of this study was to determine the perception that undergraduate students have about inclusion and attention to diversity. In order to fulfill the objective, a questionnaire was applied to answer the four specific objectives, generating results about perceptions.

The results of the research made it possible to identify the perceptions of undergraduate education students of a public and private university in relation to inclusion and attention to diversity. Those in the third, fourth and fifth year of studies have a favorable perception and only the second year 1.72% considered an unfavorable opinion. The implementation of an inclusive, quality and sustainable education requires committed, enthusiastic and consistent teachers, who have positive attitudes towards inclusion (Falla et al., 2022).

Regarding the perception of undergraduate students of Education, in relation to the approaches of inclusion and attention to diversity, it was identified that more than 90% agree. Saona et al. (2022) in their study with teachers found favorable results regarding this dimension; since 56% responded that they agreed with diversity in the classroom and that it is important to incorporate subjects related to inclusion and attention to diversity in the curricula. Rodriguez et al. (2021) identified that the attitudes of undergraduate students about inclusive education (perception, feelings, and predisposition) are acceptable, which reflects a more positive perception of inclusion and adequate feelings about people with disabilities.

Regarding the perception of undergraduate education students in relation to the training content on attention to diversity and inclusion in the curriculum, it was identified that 74% perceive that there is little training content on this topic (curricular adaptations, organizational strategies, teaching, and evaluation strategies). Saona et al. (2022) identified an unfavorable perception, stating that teachers do not have training related to attention to diversity, since 63% responded that they had no knowledge of the contents proposed.

Valencia-Peris et al. (2020) in their study found that 30% include aspects of content related to inclusion in their teaching guides, and 75% develop professional competencies related to inclusion. They point out that it is necessary to specify in the teaching guides, contents that guide how to address attention to diversity and even to offer subjects about it. It is necessary that universities that train teachers through their curricula consider mandatory courses on inclusive education for a better professional performance (Sánchez - Serrano et al., 2021).

Finally, this study identified that the perception of the undergraduate students of the professional career of Education in relation to the necessary competencies for the attention to the diversity of all students is favorable, since they indicated that they do possess the skills for the attention to diversity (ability to value diversity, design and apply organizational strategies, make curricular adaptations, carry out authentic evaluation and reflection on pedagogical practice), and they also assigned a high significance.

Initial teacher training in attention to diversity and inclusion has become a necessity, due to the fact that there are quite heterogeneous classrooms. This leads training institutions to orient their curricula to the achievement of competencies in this field (Paz, 2014). Teacher training programs should incorporate inclusion and equity as basic components, recognizing the teacher as an indispensable agent for strengthening inclusion (Rodríguez, 2019).

The Ministry of Education (2012) presents the vision of the teacher required for Peru and considers the competencies that every well-prepared teacher should possess. In this sense, there are performances that are directly related to the attention to diversity that must be taken into account in their pedagogical work. The implementation of inclusion in regular schools requires continuous preparation and willingness of teachers to act from the perspectives proposed by inclusive education and thus provide them with theoretical and methodological tools (Sierra-Socorro and García-Reyes, 2020, Larrota Medrano and Uribe Rodriguez, 2023). Therefore, good initial teacher training on attention to diversity is necessary, as well as continuous training, in order to ensure quality inclusive education.

#### 5. Conclusions

This study described the positive or negative perceptions of undergraduate students of the professional career of Education, regarding inclusion and attention to diversity according to different areas to be measured: approaches to inclusion and attention to diversity, training content and competencies necessary for the attention to diversity of all students, which have been related to the personal and social experiences of the students that influence their perceptions.

The students presented a favorable perception of the approaches to inclusion and attention to diversity, and they perceive themselves as having the capacity to attend to diversity. It should be noted that a good initial training predicts better results in the professional practice, since it empowers them, and they can exercise leadership to achieve a favorable change in the educational environment.

Regarding the students' perception of the educational content, they receive within the framework of the development of their curricula, the students consider that it is insufficient. In view of this, it is necessary to redesign the curricula, considering subjects related to educational inclusion.

Regarding the implications of this research, it can be mentioned that the study started from a theoretical review, which allowed for the expansion of information regarding the description and comparison of the variable, in order to be able to collect the perceptions they have about this research, which will serve as a basis for the implementation of intervention programs related to inclusion in the development of the undergraduate program. This work will be of great help to solve this problem in reference to the acquisition of competencies that could be included in the undergraduate curriculum. It can also serve as a source of background for future research.

#### 6. Limitations of the Study

As all research work is susceptible to improvement, among the limitations are the following. First, the instrument is focused only on identifying students' perception of the training they receive, so the information may suffer some biases. Secondly, the number of undergraduate students who participated in the research is relatively small, and it is necessary to expand it to give it greater significance. Thirdly, the participation of teachers involved in the training of undergraduate students has not been considered in this study, which limits the triangulation of information.

#### References

Alcaraz, S., & Arnaiz, P. (2020). The schooling of students with special educational needs in Spain: a longitudinal

- study. Revista Colombiana de Educación, 78, 299-320. http://doi.org/10.17227/rce.num78-10357
- Barriga, C. (1974). Manual autoinformativo metodología de la investigación. Lima: Universidad Continental.
- Cardona, M. C., & Paz, C. (2012). Escala de Percepciones acerca de la Inclusión y la Atención a la Diversidad. Universidad de Alicante.
- Delgado, K., Vivas, D. A., Sanchez, J., & Carrión, B. (2021). Inclusive education in higher education: Proposal for a model of care in Ecuador. *Revista de Ciencias Sociales*, 23(3), 14-27. Retrieved from https://produccioncientificaluz.org/index.php/rcs/article/view/36485/39187
- Echeita, G. (2017). Inclusive education. Smiles and tears. *Aula Abierta*, 46, 17-24. Retrieved from https://reunido.uniovi.es/index.php/AA/article/view/11982/11044.
- Falla, D., Alejandres Gómez, C., & Gil del Pino, C. (2022). Engagement in teacher training as a driver of inclusive attitudes. *Educación XXI*, 25(1), 251-271.https://doi.org/10.5944/educXX1.30369
- Garcías, V. V., & Durán, L. C. (2023). Inclusive education; Perception of an educational community. *International Journal of Humanities*, 17(2). https://doi.org/10.37467/revhuman.v12.4726
- Hernández-Sampieri, R., & Mendoza, C. (2018). Research Methodology: Las rutas cuantitativa. Cualitativa y Mixta: Mc Graw-Hill Interamericana.
- Larrota Medrano, D., & Uribe Rodríguez, A. (2023). Challenges and realities of the teaching role in functional diversity: Colombian school contexts, challenges in inclusive education and teacher training. *International Journal of Humanities*, 16(3), 1-12. https://doi.org/10.37467/revhuman.v16.4977
- León, K., Villafuerte, C., Llanos, E., Abarca, V., & Zapata, J. (2023). Teachers' perspectives on inclusive education. *Horizontes Revista de Investigación en Ciencias de la Educación*, 7(27), 49-61. https://doi.org/10.33996/revistahorizontes.v7i27.496
- Méndez, C. E. (2001). Metodología: diseño y desarrollo del proceso de investigación. Mc Graw Hill.
- Ministry of Education (2012). Good teacher performance framework: To improve your practice as a teacher and guide your students' learning. Peru. Retrieved from http://www.minedu.gob.pe/pdf/ed/marco-de-buen-desempeno-docente.pdf
- Muntaner-Guasp, J., Mut-Amengual, B., & Pinya-Medina, M. (2022). Active methodologies for the implementation of inclusive education. *Educare Electronic Journal*, 26(2). https://doi.org/10.15359/ree.26-2.5
- National Superintendence of University Higher Education (NSUHE, 2021). *III biennial report on the university reality in Peru*. National Superintendence of Higher University Education.
- Opertti, R. (2019). Convergence of policy perspectives on inclusive education. *Publications*, 49(3), 267-282. Retrieved from https://revistaseug.ugr.es/index.php/publicaciones/article/view/11413/9427
- Otzen, T., & Manterola, C. (2017). Técnicas de Muestreo sobre una Población a Estudio. *International journal of morphology*, 35(1), 227-232.
- Otondo, M., Espinoza, C., Oyarzo, X., & Castro, A. (2022). Initial mathematics teacher education in educational inclusion: analysis of training profiles in Chilean universities. *Revista Formación Universitaria*, *15*(3), 133-142. http://dx.doi.org/10.4067/S0718-50062022000300133.
- Paz, C. (2014). Competencias docentes para la atención a la diversidad: Investigación acción en la Universidad Pedagógica Nacional Francisco Morazán de Honduras [Doctoral thesis]. University of Alicante.
- Pegalajar, M., & Colmenero, M. (2017). Attitudes and teacher training towards inclusion in Compulsory Secondary Education. *Electronic Journal of Educational Research*, 19(1), 84-97. http://dx.doi.org/10.24320/redie.2017.19.1.765
- Rodriguez, H. J. (2019). Initial teacher education for inclusion. An urgent challenge that needs to be addressed. *Publications*, 49(3), 211-225. https://doi.org/10.30827/publicaciones.v49i3.11410
- Rodríguez Fuentes, A., Gallego Ortega, J. L., Navarro Rincón, A., & Caurcel Cara, M. J. (2021). Attitudinal perspectives of practicing and trainee teachers toward inclusive education. *Revista Psicoperspectivas*, 20(1). https://dx.doi.org/10.5027/psicoperspectivas-vol20-issue1-fulltext-1892
- Sánchez Serrano, J. M., Alba-Pastor, C., & Del Rio, A. (2021). Training for inclusive education in initial training programs for primary education teachers in Spanish universities. *Revista de Educación*, 2021(393), 321-352.

- Saona, R., Tigrero, J., & Santillán, V. (2022). Teachers' perceptions towards educational inclusion at the Universidad de Las Artes de Guayaquil. *Yachana Revista Científica*, 11(1), 67-78. Retrieved from http://revistas.ulvr.edu.ec/index.php/yachana/article/view/707
- Sierra-Socorro, J. J., & García-Reyes, O. (2020). Inclusive education. Its normative component from international agencies and national public policies. *MENDIVE*, *18*(1), 134-154. Retrieved from http://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/1642
- Tigrero, J. (2018). *Inclusion, teaching competencies and student participation*. Case study in a higher technological institute of Guayaquil-Ecuador. Doctoral dissertation, University of Vigo, Spain.
- United Nations Educational, Scientific and Sport Organization, UNESCO (2016). Incheon Declaration and Framework for Action for the realization of Sustainable Development Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000245656 spa
- United Nations Educational, Scientific and Cultural Organization. UNESCO (2017). Guide to ensuring inclusion and equity in education. Retrieved from https://down21chile.cl/cont/cont/2017/336\_2\_guia\_para\_asegurar\_la\_inclusion\_y\_la\_equidad\_en\_la\_educacion\_pdf
- Valcazar, G. (2020). Teacher performance and inclusive practice at the higher education level. *Desde el Sur, 12*(2), 437-452. https://doi.org/10.21142/DES-1202-2020-0025
- Valencia-Peris, A., Mínguez-Alfaro, P., & Martos-García, D. (2020). The initial training of Physical Education teachers: a look from the attention to diversity. *Retos*, *37*, 597-604.

#### Acknowledgments

The authors would like to thank each institution that represents them as an affiliate.

#### **Authors contributions**

The authors ECSR and LEGO were responsible for the design and review of the study. OACU and RMH were in charge of the methodological review and theoretical support. MASL and XMCR wrote the discussion and conclusions of the manuscript. All authors read and approved the final manuscript.

### **Funding**

Not applicable

#### **Competing interests**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

#### **Informed consent**

Obtained.

#### **Ethics** approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

## Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

## Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

## Data sharing statement

No additional data are available.

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