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Management of groups of parents with children with intellectual disabilities and models of clinical intervention

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Abstract

Purpose: The objective of this research article was to analyze the management of groups of parents with children with intellectual disabilities and those models of clinical intervention. **Method/design/approach:** The methodology used was quantitative, experimental, longitudinal, descriptive and correlational, the method was hypothetical deductive and the sample consisted of 137 parents. The instruments used were a survey to determine the level of knowledge and factors associated with tolerance, affectivity and empathy of parents towards their children, and the SPSS v25 program was used to analyze the information. **Results and conclusion:** Among the results obtained in phase 1 were a low level of ignorance about forms of care and accompaniment, tolerance difficulties and a negative relationship between the factors related to knowledge about disability. In phase 2, whose result was satisfactory, the levels of knowledge increased and with it the tolerance for the management of school issues between parents and children, and the hypothesis about the problem and the effectiveness of the strategies was corroborated. **Research implications:** Through the results obtained it was possible to identify the criteria evaluated in the parents about the management of their children with intellectual disabilities in the educational environment, coming to see figures of ignorance on the subject, not knowing how to act in front of their educational needs. In addition to the little tolerance seen at the time of working with them. **Originality/value:** It is concluded that most parents do not know how to manage their children with disabilities and this study demonstrates the importance of proposing improvement actions to contribute to the families.

Keywords: intervention, disability, knowledge, support, education.

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Introduction

Intellectual disability refers to an individual who presents mental limitations, preventing him/her from having a development similar to the rest in different skills such as self-care, communication and social relationships. In cases of infants who present this type of disability, it usually manifests itself in the learning (Huquiquián & Arriagada, 2018).. Complications are evident when they must learn to speak, walk, dress or eat on their own. However, this does not mean that they may not be able to learn to have self-sufficiency, they will, but slower and with skills that may be impossible.

The Special Education law used the term intellectual disability defining it as a general intellectual functioning that is significantly lower than average. (Bizama & Martinez, 2021).. Concurrently, there are deficits in adaptive behaviors and it is manifested in the infant's developmental period; thus, the academic performance of the infant with this type of disability is affected.

According to statistics, it is estimated that at least 6.4 million people have an intellectual disability (Janicki & Fortea, 2018). Of these numbers, at least 580 thousand infants and young people in the age range of 6 to 21 years, present various levels of intellectual disability and require special education service or other types of support. Other studies even reflect statistics that at least 1 in 10 children require special and adapted education because they present some type of intellectual disability.

87% of children with an intellectual disability may only exhibit considerable slowness to the average, in the case of learning information or new skills (Gironi & Felizola, 2018).. Therefore, there is a possibility that the limitations may not be apparent or very visible in the early childhood stage and a timely and appropriate diagnosis may not be given until they begin to present major complications in the school formative process. However, it is important to recognize that every infant with intellectual disabilities has the capacities for learning, development, and growth (Ruiz, 2019). With appropriate and timely help, they can achieve a satisfactory and quality life.

Author Martinez (2017) indicates that the various causes that give rise to intellectual disability are usually, for the most part, of genetic pathways (p. 47); that is, they are inherited in the children, abnormal genes on the part of the parents; it can also be mentioned by conflicts in pregnancy, conflicts at birth or other health problems that can derive an intellectual disability.

Intellectual disability to be diagnosed must comply with several factors, such as: observing the brain's ability to learn, problem solving, thinking and intellectual functioning, and observing skills such as adaptive behavior having conflicts in these areas. The author Arango (2017) indicates that professionals study mental abilities such as intelligence, comparative skills and what the infant can do or learn in comparison to other children of the same age.

Brain intellectual functioning, also known as IQ or intelligence quotient, is measured with IQ tests or batteries adapted to each individual's age range and under certain specific criteria. The average

mean corresponds to a score of 100, but according to these standards, those who score below 70 or 75 are related to an intellectual disability. (Laseca & Olabarrieta, 2017)..

Authors Restrepo and Gómez (2021) express that the measurement of adaptive behavior, on the other hand, corresponds to the evaluation and study of the professional, which has a range of aspects of comparison with the stages that an individual should meet according to a certain age (p. 34). Vital skills for day-to-day living, socialization skills and communication skills are covered in the evaluation.

It is necessary to clarify that mental disability does not correspond to a disease, therefore, there is no specific cure. Parents with children with this condition can provide them with the necessary help so that they do not have a life full of complications; that is to say, they teach them to do the various things that other people learn quickly.

PCA is a dimensionality reduction technique invented by Karl Pearson in 1901.(Atzrodt & Lange, 2022).. It is a dimensional reduction technique that, it is a dimensional reduction technique that is often used to reduce features from large data sets to smaller features that contain most of the information in a large data set. PCA is an orthogonal statistical technique that converts a set of observations of related variables into a set of related values in a nonlinear fashion (Ramirez-Figueroa, Martin-Barreiro, Nieto-Librero, Leiva, & Galindo-Villardón, 2021)..

Theoretical framework or literature review

Clinical Intervention Models

Intervention models allow information to be organized, facilitate communication and can be used as a guide to orient research or clinical decision making (Bados, 2008). (Bados, 2008). Having a reference model can be very useful as long as it can be complemented by other points of view. Therefore, there is a great variety of types of therapeutic orientations. Avila (1994) mentioned that "multidisciplinary teams will always be a central axis in the process, as they broaden the theoretical frames of reference, case analysis, adjustments in intervention strategies and encourage active work in the patient and family participants" (p. 39).

One approach from a psychosocial view of DI is to include studies of significant relationships. (Armas, 2017). This as a way to understand the capabilities that are preserved, are ameliorated by relational dysfunctions. Medical models, are useful for the identification and treatment of diseases, but many behavioral problems are not a direct consequence of pathology.

The psychiatric medical model is not incompatible for these cases, according to Montes (2015); and it is because it can complement the evaluations of psychological studies from the perspective in which the professional is trained. This type of intervention model reads the pathology from a relationship of systems with which the patient is in constant contact, these formulated hypotheses

can be confirmed or refuted in the therapeutic process.

Family therapies are supported by a concept of circular organization and regulation (Arellano & Peralta, 2017).. Despite the possible cognitive deficiencies in the individual, addressing emotions that may arise in the individual and his family, can facilitate a relevant change and give possibilities to override abnormal behaviors, such as communicative ones.

In the systemic therapy model, the symptom of behavioral problems is studied, where the aim is to build relational maps to help decipher dysfunctional patterns that perpetuate the symptom. However, it is recommended to use contextual and ecological models for intellectual disability, since it is essential to integrate both the individual and the context.

The study and intervention of intellectual disability from an ecological model is proposed by many researches. They are based on the proposal of Bronfenbrenner (1993) who defines the model as a set of structures of different levels that contain another; the microsystem, referring to a nearby environment, mesosystem coordinating various roles, exosystem as an intangible context, macrosystem encompassing beliefs, values and ideology.

In this way, the systemic ecological conception is based on the fact that the family is the one that builds and maintains a network of relationships to satisfy needs. By studying and observing all the members of the family, more is learned compared to the study of an isolated individual. For the authors Bountix and Luckasson (2006) the members of the nuclear family are completely linked to human development and behavior. Communication in the family is an interactional process of expressing and sharing expectations, feelings, thoughts, desires and needs.

Management of parents with children with intellectual disabilities

Children with intellectual disabilities tend to need help with adaptive skills, these being those needed to live, play in the community, or work (Villavicencio, 2019). The family nucleus is one of the largest and most significant referential groups for every individual, it is for this very reason that they should not skip on initiatives, efforts or any opportunity to grant the child the greatest amount of strategies and tools, same that will allow the parent to perform, in the best possible way, the actions that ensure the fulfillment of their initiative.

It is worth mentioning that parents throughout the process will require a network of guidance, support and orientation; for the theory and complexity that the role will have, also as a space where parents can express the difficulties or doubts that will arise throughout the time in which they learn to manage the intellectual disability of the infant.

Author Acuña (2016) expresses that infants with intellectual disabilities could perform well in school, especially when they have not only educational or psycho-pedagogical support, but mainly from their parents. Special emphasis is given to the unique needs of this type of family; since parents

should have the knowledge that allows them to help their child who presents this disability and provide him/her with a good quality of life.

Among the main strategies for parent groups to help their children with intellectual disabilities, it is highlighted above all that responsible adults learn more about that disability (Beighton & Wills, 2019, p. 330). Most parents have a great lack of knowledge regarding the special needs associated or not with the disability, and especially when there are intellectual limitations. Therefore, the more the guardian knows, the more he or she will be able to help both his or her child and family in general and him or herself.

It is mainly due to the fact that there is evidence of a need in parents who have a child with ID (Fantova, 2017); as they primarily require support and guidance due to the lack of knowledge they initially have about the disability and how important it is to face the various aspects that must be considered such as adaptation, the impact on the family, the commitment and care that the child with intellectual disabilities will require.

Of course, the intervention of a parent as an educating agent of their children will be a source of great importance for their development; however, it is essential that for it to be a quality intervention, the training, awareness and learning of parents is a voluntary educational action and activity; being their main interest to assume their parental responsibilities. Contributing greatly in the formation of optimal models and tools with which the family faces and resolves conflicts and obstacles. (Contreras, 2017).

Garces (2021) mentions that, in the first place, parents should have full knowledge of the case presented by the infant with intellectual disabilities; that is, they should know the real possibilities of evolution so as not to create false expectations or disappointments that can be avoided. They should also be informed about physical therapies (if required), for example, to improve muscle strength, balance, flexibility or motor skills. Likewise, they need to be constantly updated on any strategy or tool that can be used in favor of the infant and his or her quality of life.

Macias (2022) indicates that these children should be encouraged to be independent; that is, they can be taught as many times as necessary to learn daily care skills such as dressing, toileting, eating alone, and others, but encouraged to begin to perform them on their own and thus strengthen such learning. This type of strategy can be encouraged by providing feedback on what the infant is learning at school; for example, if the infant is learning about addition and subtraction, the child can accompany his or her tutor to the store and allow the tutor to do the mathematical calculations with the amounts of money.

Guzman (2021) proposes to keep a record of the duties that they consider that their children and themselves should fulfill. From the first record, they can share with each other what has been achieved and what still needs to be achieved. Thus, little by little, they should keep a daily record,

where not only tasks are raised, but also the importance of knowing and understanding the responsibilities linked to each role, providing factors favoring the balance and welfare of the child with intellectual disabilities and the family.

Likewise, under the strategy of the registers, they can be used in such a way that activities are assigned under color codes of home or school activities, which must be performed individually, those that can be performed together with any of the parents are assigned a different color, and the child can mark with a special color those that present a difficulty and cannot be performed. The author Solís (2022) recommends that at the end of the week, parents can make a feedback where they review the needs, weaknesses, strengths or achievements with the child who presents an ID.

Cordoba (2019) suggests the strategy of sharing common spaces with all the members of the family nucleus, thus allowing the identification of the actions that have been carried out and those that have been effective. Likewise, it is important to promote and generate spaces and activities in which the family in general can participate. Such as enrolling in a sport, doing activities together such as going to the movies or museums; in this way they can strengthen family ties, encourage the development and development of the child with ID.

Among the various tools and strategies within the external aspect, the following should be considered (Diaz, 2021) Educational institutions can provide programs that are oriented to parents or family members with topics such as disability and management in cases like these; which can be useful to expand the network of strategies or tools available to them.

To go to support programs, which can be fundamental in the informative and educational aspect, in this way, it will be a constant and essential information tool for the parent. These programs have a professional who can provide advice in relation to doubts, needs or professional evaluation of the evolution of the infant. (Gavilanes, 2018).

Another option for parents to consider in order to handle these cases of children with intellectual disabilities in the best possible way, is to consider associations or groups of other parents who are going through similar cases. This focused on moral support, especially in the early years where it is usually more complex acceptance for parents. In addition, being surrounded by other people who are going through the same situation or who have experienced it before, will allow the infant with ID to relate to other infants who have the same disability; creating in this, environments of comfort and confidence.

Often, when an infant with intellectual disabilities has few friendships, this may affect the emotional aspect in the child. Munir and Rubaca (2021) propose to cover this need as well, going to clubs or centers where activities are offered that are intended for recreational or sporting activity in infants according to the preferences of each one. This not only influences their individual development,

but also helps their self-esteem and security; it also allows the infant to meet other children in similar situations with whom they can have more confidence and even feel understood.

If you have the disposition and the possibilities, a highly recommended strategy is to have pets. Cepeda (2019) mentions that, animals are an alternative that can be enormously effective; due to the fact that, including a pet in the infant's life can help to complement the needs of friendship, happiness and company. Above all, it can encourage responsibility, development, empathy and others, by attributing responsibilities that the infant can and feels that he/she will be able to fulfill without many complications, thus promoting independence in the child and fostering attention and skills.

Methodology

For the present study, the type of quantitative research was defined as quantitative, given that instruments were used that allowed statistical figures on the variables of study to be evidenced. With respect to the research design, it was descriptive in nature as it was able to provide details of the particularities found in the results, experimental in evaluating the variable behavior of the study subjects through the application of strategies, it was also longitudinal in nature as the surveys were implemented twice, in order to test the development of the sample with the process provided. The design was also correlational since the statistically significant relationship of the investigated criteria was evidenced and the research hypotheses were contrasted.

With respect to the materials used, a questionnaire was designed to measure the knowledge and management of parents in terms of care for children with intellectual disabilities, the instrument consisted of 10 multiple choice items categorized by the Likert scale to determine the response alternatives, and factors such as: knowledge, tolerance, affectivity, and empathy were also designed. With respect to the intellectual disability variable, there is a database of students who have already been diagnosed by the Inclusion Attention Unit (UDAI).

As for the sample was chosen parents of children with intellectual disabilities in the area of the canton Milagro, for this process was determined the type of non-probabilistic sample for convenience since the interest of the researchers was to evaluate families in this type of particular cases, this as a criterion of interest in the investigation, Therefore, the number of subjects was 137 representatives of the students, where the majority of those evaluated are between 30 and 40 years old, followed by young parents between 20 and 30 years old, and finally the older ones between 40 and 50, and in terms of sex, 51.1% are mothers and 48.9% are fathers.

Descriptive statistics were used to represent the sociodemographic data of the subjects surveyed, as well as to determine the parameters of parental care. Inferential techniques such as Spearman's correlation were used to demonstrate the relationship between the research variables, and to contrast the subsequent differences, the Mc Nemar test was used, whose objective is to measure

the degree of change that has occurred in the evaluated subjects according to the improvements presented.

The process of elaboration of the results was established as follows: in the first instance, the parents were evaluated with the questionnaire developed by the authors with the objective of knowing the parameters related to the management and care of children with intellectual disabilities, after which the results were reviewed to know the degree of weakness that are presented in the representatives, this in order to implement a strategic program to improve the conditions identified as difficulties in the care. After a period of 3 months from the implementation of the intervention, a second evaluation was carried out using the same instrument to determine the statistical differences once they had received the appropriate training. In this sense, it was possible to observe the changes that occurred throughout the psychoeducational process.

Results

These results are part of the first cohort conducted to identify the difficulties of the study variables:

Table 1.

Knowledge

	Frequency	Percentage	Valid percentage	Cumulative percentage
High	10	7,3	7,3	7,3
Medium	14	10,2	10,2	17,5
Under	50	36,5	36,5	54,0
Insufficient	63	46,0	46,0	100,0
Total	137	100,0	100,0	

This table analyzes the level of knowledge that parents have regarding the management of children with intellectual disabilities, where the majority of subjects report having insufficient knowledge, another considerable percentage retains a low knowledge, in terms of medium and high the percentage does not exceed 30%, these results highlight the lack of parents in terms of strategies for their children.

Table 2.

Care criteria

	Frequency	Percentage	Valid percentage	Cumulative percentage
Knowledge	13	9,5	9,5	9,5
Tolerance	22	16,1	16,1	25,5
Affectivity	54	39,4	39,4	65,0
Empathy	48	35,0	35,0	100,0
Total	137	100,0	100,0	

Care was considered as a factor linked to the support that parents represent in the school development of their children, where it was evidenced that there is a low percentage in terms of knowledge and of course tolerance, not knowing is evident that they are stressed by the helplessness of not being able to collaborate with their children, however, there is presence of affection and empathy, which are essential elements to cope with the children's situation.

Table 3.

Correlations

		Intellectual disability
Spearman's Rho	Knowledge	-,199 ,020 137
	Tolerance	-,072 ,400 137
	Affectivity	-,162 ,059 137
	Empathy	-,128 ,136 137

In the correlational analysis it can be seen that the greater the lack of knowledge about child management, the lower the support for their disability, as well as the factor of tolerance, affection and empathy, which means that working together with the children does not represent a great contribution since the parents are not properly prepared for the challenge.

Table 4.

Crosstabulation of knowledge and sex of participants

			Sex of participants		
			Male	Female	Total
Knowledge	High	Count	3	7	10
		of total	2,2%	5,1%	7,3%
	Medium	Count	7	7	14
		of total	5,1%	5,1%	10,2%
	Under	Count	24	26	50
		of total	17,5%	19,0%	36,5%
	Insufficient	Count	33	30	63
		of total	24,1%	21,9%	46,0%
Total	Count	67	70	137	
	of total	48,9%	51,1%	100,0%	

Among other substantial elements of analysis is the cross table with the data collected on the level of knowledge and sex of the participants, where it can be seen that in the high level of knowledge women have the highest frequency, in the medium level the index is equal for both sexes, in the low level more women, unlike the insufficient level where the highest frequency goes to men.

Table 5.

Crosstabulation Knowledge and age of participants

			Age of participants			Total
			Between 20 and 30	Between 30 and 40	Between 40 and 50	
Knowledge	High	Count	6	4	0	10
		of total	4,4%	2,9%	0,0%	7,3%
	Medium	Count	5	7	2	14
		of total	3,6%	5,1%	1,5%	10,2%
	Under	Count	12	24	14	50
		of total	8,8%	17,5%	10,2%	36,5%
	Insufficient	Count	20	26	17	63
		of total	14,6%	19,0%	12,4%	46,0%
Total	Count	43	61	33	137	
	of total	31,4%	44,5%	24,1%	100,0%	

Regarding the knowledge and age of the participants, it can be seen that the highest level is for parents between 30 and 40 years of age, and the highest frequency for the medium, low and high levels is similar to that of the other ranges

Table 6.

Strategies for parents

Strategy	Target
Receive information about disability	That parents know about their children's
Tolerance during the process of schoolcondition.	
accompaniment	That parents develop patience with their
Motivation of parents towards their children inchildren's schooling.	
each activity carried out	That parents encourage their children for each
	achievement
Playing with your children while learning every	That parents accompany their children in their
day	schooling process through play.

The following table presents the strategies selected to implement with parents of children with intellectual disabilities, for this purpose, the evaluated criteria were taken from the knowledge factor, given that they have low levels, tolerance, given that they could not contribute because they did not know and that generates impotence, the motivation that children require and above all the support of their parents and sharing through play, accompaniment and learning.

After having applied the strategies described in the previous section, a second evaluation was carried out with the objective of perceiving whether differences in favor of the parents had been achieved:

Table 7.

Knowledge

	Frequency	Percentage	Valid percentage	Cumulative percentage
High	53	38,7	38,7	38,7
Medium	41	29,9	29,9	68,6
Under	31	22,6	22,6	91,2
Insufficient	12	8,8	8,8	100,0
Total	137	100,0	100,0	

In terms of the level of knowledge compared to the initial results, a significant increase can be seen for the high and medium levels, which in total exceed 50%, while the low and insufficient levels have decreased substantially. These data reflect the effectiveness of the implementation of strategies to deal with their children's educational difficulties.

Similarly, in the results subsequent to the care factors, an increase in knowledge was identified, and of course tolerance was also reinforced by knowing the ways in which they can approach their children.

Table 9.

McNemar-Bowker test

	Value glAsymptotic significance (bilateral)
McNemar-Bowker test	55,6316 ,000
N of valid cases	137

The present test was carried out with the purpose of perceiving statistical differences between the knowledge before and after the respective assessment and intervention, in the present values a value of 000 of significance can be evidenced, which means that there are differences between the variables analyzed in the two segments evaluated, therefore the author's hypothesis is accepted, which states that the knowledge has increased through the strategies implemented, and that this allows parents to know how to better manage their children in relation to support in education.

To define the behavior of strategies and create a fully traceable data set. This allows a complete control of the variability and the factors influencing the fluctuations of the data. The objective of PCA is to find an optimal position for the best variance of the information and dimensional characteristics of the information vector and the dimensional characteristics. PCA is an unsupervised learning technique that reduces the dimensionality of the data (Parhizkar, Rafieipour, & Parhizkar, 2021)..

Table 10.

PCA test Correlation/ Probability matrix

<u>WITH</u>	<u>TOL</u>	<u>AFE</u>	<u>EMP</u>
WIT	H		
TOL<0.		0001	
AFE<0	.0001<0.		0001
		EMP<0,	0001<0,0001<0,0001

The concept is to reduce the dimensionality of the data while preserving the maximum "variance". The covariance matrix in Table 10, is singular, i.e. <0.0001, so its SVD factorization runs smoothly, providing the eigenvectors and eigenvalues in Table 11.

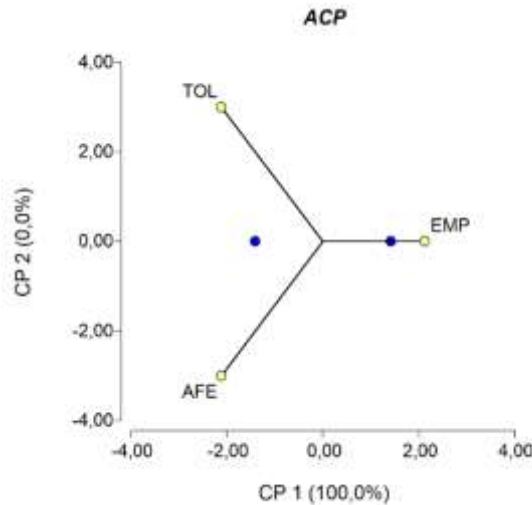
Table 11.

Eigenvalues

Lambda	Value	Proportion	Prop Acum
1	4,00	1,00	1,00
2	0,00	0,00	1,00
3	0,00	0,00	1,00
4	0,00	0,00	1,00

Figure 1.

Principal Component Analysis



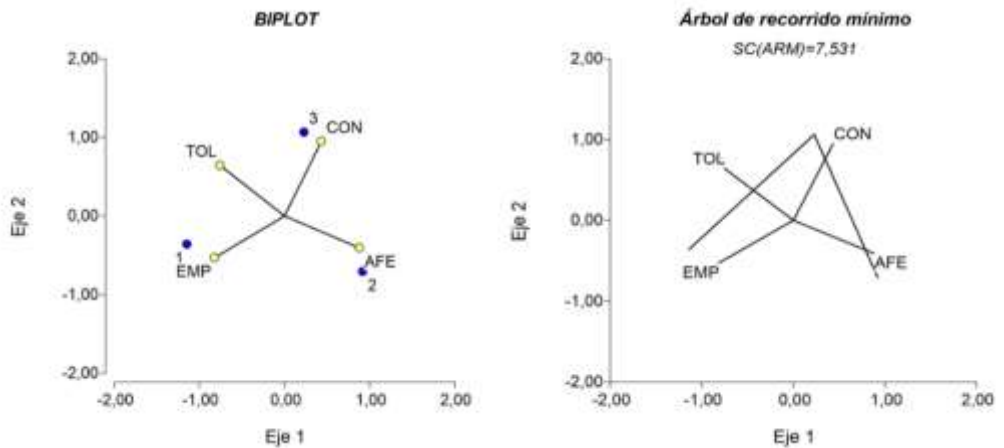
Principal component analysis was performed based on the caregiving factors, it was possible to identify an increase in knowledge and of course tolerance was also reinforced, this by knowing the ways in which they can approach their children, In the summary of Table 11, the first principal component captures the total variance of CP1 100%; therefore, it represents well the varcov of the original layers. Furthermore, all the weights of the first eigenvector are positive, which means that the component has all positive values and provides an indicator on each value in blue that is defined by sex. Furthermore, by calculating the correlation with the initial layers, it can be seen that it is mainly formed by the components TOL, AFE, EMP.

Let \mathbf{X} be a data matrix (centered and/or standardized) containing the measurements of n individuals on p variables. A biplot in dimension q is a graphical representation using markers $\mathbf{A}_{n \times q}$ and $\mathbf{B}_{p \times q}$ (points or vectors) for the rows and columns respectively, such that the product \mathbf{AB}' approximates \mathbf{X} as well as possible.

Where \mathbf{E} is a matrix of residuals. The factorization is not unique, that is, there are infinite biplots that approximate the matrix in the same way. To make the representation unique, the columns of \mathbf{A} or \mathbf{B} are taken to be orthonormal.

Figure 2.

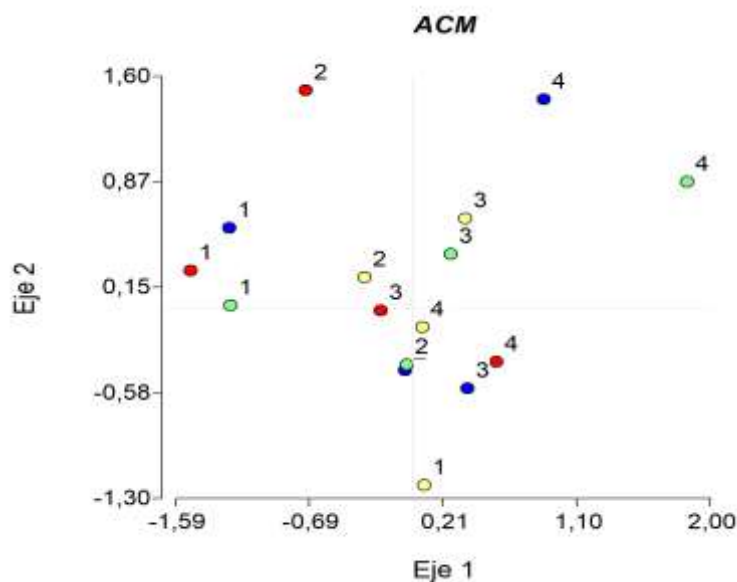
Biplot



Observing the figures it can be concluded that the coordinate system on the right is achieved after two movements of the point cloud (CON, TOL, AFE, EMP): the first movement corresponds to a translation that allows locating the new origin in the center of gravity of the cloud. The second movement on the centered cloud is a rotation, using the center of gravity as a pivot point. This indicates that it is desired to find a new coordinate system that is established by the 3 age groups, which best represents the data without causing distortions, whose form of the problem is equivalent to find the new variables of the reduced space with a minimum loss of information, and also to find an ellipsoid of concentration that allows to enclose the original data.

Figure 3.

ACM



The point clouds are to represent the scores of the observations on the principal components and their vectors to represent the coefficients of the variables on the principal components, the relative location of the points can be interpreted. Dots that are close together correspond to observations that have similar scores on the components shown in plot 3. To the extent that these components fit the data well, the dots also correspond to observations that have similar values on the variables. Both the direction and length of the vectors can be interpreted. The vectors point away from the origin in some direction.

Table 12.

Acm

Contribution to Chi-square

	<i>Eigenvalue</i>		<i>Inertias</i>	<i>Chi-Square</i>		<i>(%)</i>	<i>% Cumulative % (%)</i>
1	0,62	0,38	228,1512	,68	12,68		
2	0,59	0,35	210,6711	,71	24,39		

In the multiple correspondence analysis, the communalities are the diagonal elements of the matrix analyzed (the correlation or covariance matrix); in the chi-square analysis the other variables as

predictors (see Table 12). This indicates, in the case of the correlation matrix, that the communality is the percentage of variance explained by the principal components of the original variable determined have inertia loadings of 0.38 and 0.35.

Conclusions

Through the results obtained it was possible to identify the criteria evaluated in the parents about the management of their children with intellectual disabilities in the educational environment, coming to see figures of ignorance on the subject, not knowing how to act in front of their educational needs. In addition to the little tolerance seen at the time of working with them.

We were able to select the appropriate strategies according to the results obtained to enhance those weaknesses presented in the study sample, the process was carried out during 3 months where parents received all the necessary support in order to know and better manage that condition of their children.

According to the eigenvector matrix, the first principal component associates the variables TOL, AFE and EMP, explaining 100% of the total variability, explained by the two components

After the application of the strategies, a second evaluation was carried out, where highly satisfactory results were obtained, in contrast to phase 1, where the figures were worrying. This demonstrated the effectiveness of the strategies implemented through the statistical test presented, thus corroborating the researcher's hypothesis, in addition to being able to count on the predisposition of the parents to work together for the well-being of their children.

As a recommendation, it can be indicated that this type of research should be continued and directed to other types of needs, given that parents do not usually know how to handle this type of problems, which is why in the context presented it was possible to establish improvement actions that allow for a more complementary teaching.

Bibliographic references

- Acuña, A. (2016). Family and school needs in the education of children with intellectual disabilities. *Revista de Investigaciones*, 9(1), 126-137.
- Arango, J. (2017). *Child neuropsychology*. Bogotá: Manual Moderno.
- Arellano, A., & Peralta, F. (2017). *Positive impact of disability on the family*. Madrid: Salamanca.
- Armas, B. (2017). *Intervention Projects in Families with Children with Intellectual Disabilities*. Las Palmas: University of Las Palmas de Gran Canaria.
- Avila, A. (1994). *Manual de técnicas de psicoterapia: Un enfoque psicoanalítico*. Madrid: Siglo XXI.
- Atzrodt, V., & Lange, H. (2022). Principal component analysis as a method for suicide investigation

- with Auger electron spectroscopy. In *Volume 79, Number 2 October 16* (pp. 489-497). De Gruyter.
- Bados, A. (2008). Psychological Intervention: Characteristics and models. *Universitat de Barcelona*, 42, 3-48.
- Beighton, C., & Wills, J. (2019). Are parents identifying positive aspects to parenting their child with an intellectual disability or are they just coping? A qualitative exploration. *Journal of Intellectual Disabilities*, 21(4), 325-341.
- Bizama, M., & Martínez, J. (2021). Evaluative practices of teachers of special education for students with intellectual disabilities integrated into regular schools. *Educare Electronic Journal*, 25(3), 400-414.
- Bountinx, W., & Luckasson, R. (2006). The construct of Intellectual Disability and its feedback on human functioning. *Century Zero*, 11(6), 11-14.
- Bronfenbrenner (1993). Bronfenbrenner's Ecological Theory. *Journal on equality and quality of life*, 8-9.
- Cepeda, Á. (2019). The Parental Challenge of Having a Child with a Disability. *Andes pediátrica*(23), 53-76.
- Contreras, V. (2017). Parental Competence and Intellectual Disability: a comparative study of families. *Support Guide for the Improvement of Parental Competence*(1), 5-73.
- Cordoba, L. (2019). Quality of life in persons with intellectual and multiple disability from 4 to 21 years old. *Psychologia. Advances in the Discipline*, 13(2), 79-93.
- Diaz, M. (2021). Parental Resources in Families with Deaf Children. *The USB Agora*, 21(1), 237-254.
- Fantova, F. (2017). Working with families of persons with disabilities. *Inter-American Children's Institute*, 23, 5-24.
- Garces, A. (2021). Strategy for the Education Inclusion of Students with Intellectual Disabilities in Primary Education. *Opuntia Brava*, 13, 23-96.
- Gavilanes, B. (2018). The educational inclusion of children with autism spectrum disorder in the Republic of Ecuador. *Contemporary Dilemmas: Education, Politics and Values*(21), 1-27.
- Girondi, J., & Felizola, F. (2018). Idosos com deficiência intelectual: características sociodemográficas, condições clínicas e dependência funcional. *Revista Enfermagem*, 26, 22-28.
- Guzmán, L. (2021). Adaptaciones curriculares para mejorar el rendimiento académico en niños con NEE de Educación Básica: Curricular adaptations to improve academic performance in children with SEN in elementary school. *South Florida Journal of Development*, 2(5), 8145-8163.

- Huaiquián, C., & Arriagada, C. (2018). Affective manifestations in young people with intellectual disabilities. *Interdisciplinaria*, 35(1), 70-86.
- Janicki, M., & Fortea, J. (2018). Main conclusions agreed during the summit on intellectual disability and dementia. *Century Zero*, 49(2), 115-122.
- Laseca, G., & Olabarrieta, L. (2017). Neurodevelopmental disorders and neuropsychology. In J. Arango, *Child neuropsychology* (p. 372). Bogotá: Manual Moderno.
- Macías, P. (2022). Training, based on Montessori theory, to attend to mild intellectual disability in children of Basic General. *South Florida Journal of Development*, 3(1), 194-210.
- Martinez, M. (2017). Neuropsychology of learning disorders. In J. Arango, *Neuropsychología Infantil* (p. 372). Bogotá: Manual Moderno.
- Montes, J. (2015). Intervention in intellectual disability and associated mental disorder in adults: from systemic intervention, interdisciplinary team and coherence of interventions. *Rev. Asoc. esp. neuropsiq.*, 35(125), 23-42.
- Munir, M., & Rubaca, U. (2021). An analysis of families experiences with young children with intellectual and developmental disabilities (IDDs) during COVID-19 lockdown in Pakistan. *International and Multidisciplinary Journal of Social Sciences*, 10(1), 81-103.
- Parhizkar, T., Rafeipour, E., & Parhizkar, A. (2021). Evaluation and improvement of energy consumption prediction models using principal component analysis based feature reduction. *Journal of Cleaner Production*, 279, 123866.
- Ramirez-Figueroa, J. A., Martin-Barreiro, C., Nieto-Librero, A. B., Leiva, V., & Galindo-Villardón, M. P. (2021). A new principal component analysis by particle swarm optimization with an environmental application for data science. *Stochastic Environmental Research and Risk Assessment*, 35(10), 1969-1984.
- Restrepo, J., & Gómez, M. (2021). Factorial structure of neuropsychological functioning in mild intellectual disability in children. *Revista Ecuatoriana de Neurología*, 30(1), 33-42.
- Ruiz, S. (2019). Personal assistance in promoting independent living for people with intellectual disabilities: a basic and applied research. *Siglo Cero*, 50(2), 19-38.
- Solis, P. (2022). People with Intellectual Disabilities Facing COVID-19: A Systematic Review. *In-Keys of Thought*, 16(31), 50-55.
- Villavicencio, C. (2019). Family functioning and coping strategies of mothers and fathers of preschoolers with intellectual disabilities. *Revista Ciencia UNEMI*, 12(31), 140-153.