



## RESEARCH ARTICLE

### Develop standards to ensure the quality of educational programs and services provided for people with autism spectrum disorder in Libya

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#### ABSTRACT

**Background:** Autism spectrum disorder is a construct used to describe individuals with a specific combination of impairments in social communication and repetitive behaviours, highly restricted interests and/or sensory behaviours beginning early in life. The worldwide prevalence of autism is just under 1%, but estimates are higher in high-income countries.

**Objectives:** The study aimed to develop standards for quality assurance of the educational programs provided to students with children with autism spectrum disorders in the centres of the three cities (Misurata, Zlatan and Elkhoms).

**Methodology:** The study focused on the following problem: To what extent are educational programs and services provided to children with autism committed to quality standards? The study sample consists of (22) centres for Autism Spectrum Disorder in the three cities of Misurata, Zliten and Elkhoms). In order to achieve the study objectives, a scale was developed to assess the quality assurance of the educational programs provided to students with children with Autism Spectrum. This scale consists of (9) dimensions, which cover eighty-seven sub-indicators

**Results:** The study results concluded the following: A Proposed Model to develop standards for quality assurance of educational programs provided to children with autism spectrum disorder was built. This proposed model consists of (9) Criteria (Strategic Planning, Management and personnel, The educational environment, Methods and Strategies of Teaching, Services and Programs, professional ethics, family participation and support, Merger and Transition Services, measurement and evaluation. The level of applicability of all quality standards was found to be low, with a relative weight of 47%. The standard of management and employees has obtained the highest level of applicability with a relative weight (55%) (Medium), and the standard of Strategic Planning was found to be the lowest one among all the educational programs and services provided to children with autism spectrum disorder with a relative weight (32%).

**Conclusion:** Standards have been proposed to ensure the quality of educational programs and services provided to people with autism spectrum disorder in Libya, represented in nine dimensions, which are (strategic planning, management and personnel, educational environment, teaching methods and strategies, services and programs, professional practice, family participation and support, integration and transitional services, measurement and evaluation It covers (87) sub-indicators. The level of applicability of all criteria as a whole was low, with a relative weight of (50%)

**Recommendations:** Directing the attention of officials to the need to adopt standards to control the quality of educational programs and services provided to people with autism spectrum disorder. Coordination between the agencies that supervise the services provided to the autism spectrum disorder category at the level of Libya. Finding specialized supervisory oversight bodies and working on training and developing them to supervise and follow up in the field.

**Keywords:** Autism spectrum, quality assurance, qualitative standards and indicators, educational programs.



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## INTRODUCTION

The world pays great attention to children with autism to provide them with educational, social, psychological, health and rehabilitation services necessary to develop their personal, psychological, social and professional abilities, as this is one of their human rights recognized by many in the world and global national and international conventions and standards (Braconnier, M. & Siper, P.,2021).

Today, the field of education and integration of special groups is considered one of the most developed educational fields. Libya has witnessed remarkable development from countries and great progress in the field of providing diagnostic, health, educational, rehabilitative and social services for individuals with autism spectrum. This progress has accelerated over the past few years, culminating in the issuance of Minister of Education Resolution No. (134) of 2012 regarding approving the organizational structure and terms of reference of the Ministry of Education and organizing its administrative apparatus under the name of coordination units for education and integration of special groups at the level of the regions of Libya (Li, Z., Yang, et al.,2022). It was followed by many training and awareness programs supported by the most recent issuance of Delegated Minister of Education Decision No. (441) of 2020 regarding enabling people with special needs to learn (Lord, C. et al.,2020).

In addition, electronic games and addiction to them increased the prevalence of the autism spectrum, according to a study conducted in 2020 in the city of Mosul (Ibrahim et al.,2020).

As for educational programs and services provided to children with autism in general, It is presented in the traditional way of creating separate societies, associations and institutions and do not direct a clear strategy for these contestations and institutions to integrate those who join them into normal schools, as far as some attempts that you do with some of them are made. Although there is an increase in the number of children with mental disabilities and autism who are provided with educational programs and services, there are legitimate questions about the quality of programs and services provided to them by special rehabilitation centres and institutions (Ludwig, N. et al.,2022).

The application of quality for the development of education programs and their outputs is one of the directions that are receiving increasing attention among leading researchers and educational officials, and the application of quality standards in programs to integrate students with autism spectrum in regular schools is one of the modern educational concepts in educational policies in education systems. As for Libya, the directives of the Libyan Ministry of Education came to develop

a national strategy for this sector in 2020 to meet the rights of children with disabilities in a more comprehensive and highly qualified manner and their needs and aspirations (Manoli, D. & State, M.2021). Some studies have proven that there is a relationship between autism spectrum disorder and hearing impairment, as in a study (Al-Saeed, H. & Al-dobooni, R.,2020).

## METHOD

**Design of the study** The study used the field descriptive approach in this study. This approach is appropriate for the objectives of this study. It is the approach that aims to describe the phenomenon as it is in reality and then analyze and interpret it, and link it to other phenomena in order to reach accurate knowledge about the problem of the study and to achieve a better and more accurate understanding of the phenomena related to it and to find out its implications.

**The study** sample consisted of 22 centres for autism spectrum disorders in Libya in three cities (Misrata - Zliten - Al-Khums).

**Sample of study** The study population amounted to (241) individuals, according to the data obtained from the administrations of the operating centres in the cities (Misrata - Zliten - Al-Khums), and due to the smallness of the community, a comprehensive enumeration was used, and therefore the questionnaires were distributed to the study sample of (241), and a number (241) were recovered. Two hundred thirty-eight individuals and (6) questionnaires that did not meet the conditions of analysis were excluded. Therefore, the questionnaires subject to analysis are (232), with a representation percentage that fulfils the conditions of analysis, i.e. (96.27%).

**Data collection** data collected from 22 centres for autism spectrum disorder centres.

**Data analysis:** The application of descriptive statistical data analysis methods such as frequency, percentage, mean, standard deviation, mean of scores, total of scores, and ranges, as well as inferential statistical data analysis methods such as multiple linear regression and analysis of variance is used to analyse data.

**Study instruments:** The researchers used the questionnaire to collect data from the respondents. A questionnaire consisting of nine criteria was developed, and through reviewing previous studies and literature related to the subject of the study, The researchers benefited from recording some of the indicators that are more frequent in previous studies and are in line with the local study environment.

**RESULTS**

**Table (1) Cronbach's alpha coefficient test e 1 Scale internal coordination coefficients using**

N	Paragraph	The number of indicators	Alpha Cronbach
1.	Strategic planning	9	0.691
2.	Management and employees	14	0.702
3.	The educational environment	15	08104
4.	Teaching methods and strategies	7	0.912
5.	Educational programs and curricula	9	0.899
6.	Professional ethics	7	0.873
7.	Family participation and support	9	0819
8.	Merger and Transition Services	9	0.680
9.	Measurement and evaluation	8	0.726
<b>Total</b>		<b>87</b>	<b>0.912</b>

**Table 2: Table 1: Arithmetic means and standard deviations for the strategic planning criterion**

N	Questions	Mean	Sig.	Per.%	Rank
.1	The centre has a vision and philosophy for the services and programs provided to children with autism spectrum disorder.	0.92	0.845	31%	5
.2	The centre has a clear message and programs for children with autism spectrum disorder.	0.75	0.845	25%	7
.3	The management of the centres has main and sub-objectives commensurate with programs for children with autism spectrum disorder.	1.12	0.901	37%	4
.4	The management of the centre has a clear understanding of the characteristics of the autism spectrum disorder category.	1.30	0.94	43%	2
.5	The management of the centre benefits from the approved instructions and programs for autism spectrum disorder in setting its message.	1.32	0.791	44%	1
.6	The administration, staff, and children's families participate in setting goals in order to achieve the program's mission within the educational institution.	1.25	0.731	42%	3
.7	There are clear procedural plans to achieve and implement the goals set in the program.	0.88	0.953	29%	6
.8	The program philosophy is reviewed periodically in light of educational developments in autism spectrum disorder programs.	0.69	0.900	23%	8
.9	The management of the centre keeps pace with recent issues and trends in the education of children, transitional services, and assistive technology.	0.45	0.93	15%	9
<b>Total mean</b>		<b>0.96</b>		<b>%32</b>	

The study population amounted to (241) individuals, according to the data obtained from the administrations of the operating centres in the cities (Misrata - Zliten - Al-Khums), and due to the smallness of the community, a comprehensive enumeration was used, and therefore, the questionnaires were distributed to the study sample of (241), and a number (241) were

recovered. Two hundred thirty-eight individuals and (6) questionnaires that did not meet the conditions of analysis were excluded. Therefore, the questionnaires subject to analysis are (232), with a representation percentage that fulfils the conditions of analysis, i.e. (96.27%).

It is clear from the results of Table (1) that the study sample confirmed that the level of applicability of the strategic planning criterion was low, Where the general arithmetic mean was (0.96) with a standard deviation ranging between (0.731-0.990), which is less than the correct one, which indicates the convergence of the respondents' answers on the strategic planning

criterion; The rankings of the indicators for the strategic planning criterion were as follows: The fifth indicator (the management of the centre benefits from the approved instructions and programs related to autism spectrum disorder in developing its message) ranked first with a relative weight (44%) and low verification.

**Table 3: The arithmetic means and standard deviations for the standard of management and workers**

N	Question	Mean	S.D	Per%	Rank
.1	The management of the centre is keen to provide services to maintain the level of quality of services provided	1.68	0.795	56%	6
.2	The centre has a clear plan for quality and confirms adherence to it	1.43	0.997	48%	12
.3	The management of the centre is constantly developing knowledge of the quality of the programs and services provided.	1.66	0.811	55%	8
.4	The centre's management works to spread the culture of quality in all departments and administrative levels.	1.29	0.635	43%	14
.5	The centre's management works hard to make the centre's services unique.	1.75	0.912	58%	2
.6	The administration supports the proposals that are submitted in order to improve the level of programs and services provided.	1.69	0.897	56%	5
.7	The program is delivered by teachers who hold university degrees in the speciality and have extensive experience in the field of autism spectrum disorder.	1.75	0.799	58%	2
.8	The program is monitored and supervised by professionals with sufficient experience in the field of autism spectrum disorder who hold specialized certificates.	1.68	0.845	56%	6
.9	The working cadres are trained during the service to qualify them, train them, and develop their professional growth in the field of autism spectrum disorder.	2.04	0.635	68%	1
10	The centre has a speech and language specialist who has experience in dealing with autism spectrum disorder.	1.71	0.805	57%	4
11	The centre has a physiotherapist who has experience dealing with autism spectrum disorder.	1.66	0.791	55%	8
12	The centre has an occupational therapist who has experience dealing with autism spectrum disorder.	1.30	0.781	43%	13
13	Teachers use various self-assessment methods to determine their effectiveness in improving their professional practices.	1.49	0.953	50%	11
14	The centre has a specialist in psychological counselling who has experience in dealing with an autism spectrum disorder.	1.61	0.937	54%	10
Total mean		<b>1.66</b>		<b>%55</b>	

Table 3 shows the results of Table (2) that the study sample confirmed that the level of applicability of the management and worker's criterion was medium, Where the general arithmetic mean was (1.66) with a standard deviation ranging between (0.635-0.997), which is less than the correct one, which indicates the convergence of the respondents' answers on this

criterion. The rankings of the indicators for the management and worker indicators were as follows: The ninth indicator (training of working cadres during the service to rehabilitate, train and develop their professional growth in the field of autism spectrum disorder) came in first place with a relative weight (68%) and an average achievement.

**Table 4: Means and standard deviations for the educational environment standard**

ت	Question	Mean	S.D	Per%	rank
.1	The centre has a variety of educational pictures that achieve educational goals.	2.29	0.795	76%	3
.2	Various educational tools and means are available in the centre.	1.69	0.917	56%	4
.3	The centre has a room for individual training.	1.34	0.811	45%	12
.4	The centre has enough room for administrators and educational supervisors.	2.31	0.719	77%	2
.5	The centre has sufficient and suitable toilets for students and workers.	1.41	0.912	47%	6
.6	The centre has a section for vocational rehabilitation.	1.34	0.897	45%	12
.7	The centre has large outdoor yards and playgrounds.	1.40	0.799	47%	7
.8	The centre has a multi-purpose meeting room.	1.39	0.475	46%	8
.9	The centre has indoor playrooms.	2.32	0.781	78%	1
10	The centre has a physiotherapy room.	1.10	0.992	37%	15
11	The centre has a room for evaluation and diagnosis.	1.37	0.844	46%	10
12	There are pictorial signs and signs indicating the places and the water cycle.	1.53	0.749	51%	5
13	The centre has a sensory integration room.	1.34	0.741	45%	12
14	The centre has a computer lab.	1.37	0.678	46%	10
15	The centre has modern equipment for training students, such as a smart board, projector, and others.	1.38	0.611	46%	9
Total mean		<b>1.47</b>		<b>%49</b>	

Table 4: The results of the study sample confirmed that the level of applicability of the educational environment criterion was medium, Where the general arithmetic mean was (1.79) with a standard deviation ranging between (0.457 - 0.917), which is less than the correct one, which indicates the convergence of the respondents' answers on this criterion. The rankings of the indicators for the educational environment criterion were as follows: the ninth indicator (the

centre has indoor play halls) came in first place with a relative weight of (78%) and a high achievement, followed by the fourth indicator (the centre has enough room for administrators and educational supervisors) in the second place with a weight Relative (77%) with medium achievement. As for the lowest indicator, the tenth indicator came (a physical therapy room is available in the centre) with relative weight (37%) and low achievement.

**Table 5: Arithmetic means and standard deviations for the criterion of integration and transitional services**

N	Question	Mean	S.D	Per%	Rank
.1	It is ensured that the child is well prepared for the transition through frequent visits to the child.	1.71	0.724	57%	1
.2	The student's program includes his participation in local community activities.	1.64	0.737	55%	2
.3	The centre continues to supervise the integration programs for children with autism spectrum disorders and their annual programs and plans on a regular basis.	1.08	0.764	36%	8
.4	The child program includes training in areas and topics, including (daily and social life skills, self-organization and management, time management, health and physical exercise, vocational preparation stage, and job study stage).	1.35	0.884	45%	4
.5	The centre will evaluate the schools in which it will be integrated before the merger process.	1.19	0.427	40%	7
.6	The centre holds training courses and awareness programs for normal children to facilitate their interaction with children with autism.	1.07	0.347	36%	9
.7	The centre provides an opportunity for autistic children and their families to learn about integration and transitional places.	1.37	0.476	46%	3
8	The centre conducts continuous communications and correspondence and coordinates with schools to follow up on the child's performance after the merger.	1.29	0.947	43%	6
9	The child shall be provided with appropriate vocational and transitional skills to achieve independence and independent living.	1.31	0.922	44%	5
Total mean		<b>1.33</b>		<b>%44</b>	

Table 5 described that the study sample confirmed that the level of applicability of the criterion of integration and transitional services

was low. The general arithmetic mean was (1.33) with a standard deviation ranging between (0.347 - 0.947), which is less than the correct one, which



indicates the convergence of the respondents' answers on this criterion, where the indicators

were arranged in relation to the criterion of integration and transitional services.

**Table 6: Means, standard deviations, and applicability to the dimensions of the programs used**

Standards	Mean	Per. %	consistency level	Ranking
1. Strategic planning	0.96	%32	low	9
2. Management and employees	1.66	%55	Middle	1
3. The educational environment	1.47	%49	low	5
4. Teaching methods and strategies	1.35	%45	low	7
5. Educational programs and curricula	1.38	%46	low	6
6. Professional ethics	1.54	%51	low	3
7. Family participation and support	1.50	%50	low	4
8. Merger and Transition Services	1.33	%44	low	8
9. Measurement and evaluation	1.63	%53	low	2

Table (6) shows that the level of applicability of all criteria as a whole was low, with the exception of the management and employee standard, which was medium with a relative weight of (55%). The criteria were arranged according to importance and degree of applicability as follows: In the first place is the criterion of management and employees, with a relative weight of (55%) and a medium degree of applicability. In the second place is the measurement and evaluation

Criterion with a relative weight (55%) and a low degree of applicability. - The third place is the standard of professional ethics, with a relative weight (51%) and a low degree of applicability. In the fourth place is the standard of family participation and support, with a relative weight of (50%) and a low degree of applicability. - In the fifth place is the educational environment standard, with a relative weight of (49%) and a low degree of applicability.

## DISCUSSION

The results of data analysis show that 84% of those surveyed are female, while the male category is 16%. This indicates that most of the workers in private rehabilitation centres are female. The second Table indicated that, in

In General, the relative weight of all paragraphs of the strategic planning index was (32%), which indicates a low level of applicability to ensure the quality of educational programs and services provided to people with autism spectrum disorder working in the cities (Misrata - Zliten - Al-Khums). These results were consistent with the study of Motegi M et al. (2019), which concluded that there was a medium level of applicability in some quality standards and low in others, as well as high applicability in the indicators of the dimension of management and workers for people with disabilities. The current study also agreed with the study of Rylaarsdam, L., & Guemez-Gamboa, A. (2019), whose results resulted in problems in the following axes: diagnosis and evaluation of children with autism, educational programmes, teachers and staff, strategies and teaching methods, integration and support services, family guidance, support and empowerment, educational evaluation, Where the results concluded that there were no statistically significant differences in the degree of commitment of special education programs in early childhood in the dimensions of global qualitative indicators due to the variables of the type of program, the year of its establishment,

and the category of beneficiary disability. This study also coincided with the study of Solmi, M. et. al (2022), which dealt with the study of quality indicators that should be available in autism programs and the evaluation and improvement of qualitative counselling for programs offered to students with autism spectrum disorder (for individual assessment, individual educational plan, and curriculum). Educational activities, teaching methods, educational environment, reviewing and monitoring progress and outputs.

## CONCLUSIONS

Standards have been proposed to ensure the quality of educational programs and services provided to people with autism spectrum disorder in Libya, represented in nine dimensions, which are (strategic planning, management and personnel, educational environment, teaching methods and strategies, services and programs, professional practice, family participation and support, integration and transitional services, measurement and evaluation. It covers (87) sub-indicators. The level of applicability of all criteria as a whole was low, with a relative weight of (50%). And that the management and employee criterion had the highest level of applicability (average), with a degree of applicability (55%). The criterion of strategic planning was the lowest level of applicability (low) with a degree of applicability (32%), which means that there is no clear vision among autism centres in Libya of the quality of educational programs and services provided to people with autism spectrum disorder.

## RECOMMENDATIONS

Directing the attention of officials to the need to adopt standards to control the quality of educational programs and services provided to people with autism spectrum disorder. Coordination between the agencies that supervise the services provided to the autism spectrum disorder category at the level of Libya. Finding specialized supervisory oversight bodies and working on training and developing them to supervise and follow up in the field. Provide teachers of children with autism with training courses on methods and means of teaching children with autism. Strengthening autism centers with modern devices and programs for training and rehabilitating children with autism.

## Ethical Approval Statement

This research study, titled " **Develop standards to ensure the quality of educational programs and services provided for people with autism spectrum disorder in Libya** " conducted by [Mustafa Ahmed Benhkoma <sup>1</sup>, Hawa Ibrahim Iblish <sup>2</sup> \*Hana A. Alsaeed <sup>3</sup>], has received ethical approval from the Collegiate Committee For Medical Research Ethics] at [University of Mosul].

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## AUTHOR'S CONTRIBUTIONS

All authors contributed equally to the conception and design of the study, data collection, and analysis, and drafted the initial manuscript. All authors critically reviewed and edited the manuscript. All authors approved the final version of the manuscript for submission.

## DISCLOSURE STATEMENT:

The authors report no conflict of interest.

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