Research Article ISSN: 2996-4377

International Journal of Research in Physical Medicine & Rehabilitation

'Total Quality' and the Treatment of People with Autism Spectrum Disorder: The Importance of Evaluating the Work of Therapists

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Received: 24 Nov 2025; **Accepted:** 22 Dec 2025; **Published:** 31 Dec 2025

Citation: Giovanni Maria Guazzo, Consiglia Nappo. 'Total Quality' and the Treatment of People with Autism Spectrum Disorder: The Importance of Evaluating the Work of Therapists. Int J Res Phys Med Rehabil. 2025; 3(1): 1-5.

ABSTRACT

Total quality (TQ) is a management approach in which managers and employees work cooperatively to ensure productivity and quality improvement. Three components are necessary for total quality management to be promoted in any company: participatory management, continuous process improvement, and teamwork.

This study was conducted to identify and describe the set of TQM practices to be implemented in rehabilitation facilities (top management commitment, teamwork, process management, customer satisfaction), with particular attention to those dealing with individuals with autism spectrum disorder. In addition, a scale for evaluating the therapist's work was introduced, taking into account certain indicators (individualised and environmental programming, educational-rehabilitative intervention, evaluation, interaction, etc.) with the aim of ensuring greater professional training and treatment that is more responsive to patients' needs, improving their quality of life.

QT therefore enables a seamless monitoring and documentation process for the analysis and improvement of rehabilitation processes and methods.

Keywords
Total Quality, Rehabilitation, Evaluation of therapists' work, Autism Spectrum Disorder (ASD).

Introduction

Good rehabilitation practice, without being constrained by rigid schemes that would cause the user to lose sight of the big picture, should be aimed not only at clinical effectiveness in the strict sense, but also at the constant use of rigorous methodologies, based increasingly on evidence, less and less on consensus among experts, and almost never on anecdotal evidence. While this principle applies to all clinical practice, it takes on even greater, almost categorical, importance for educational and rehabilitation procedures, which must be as uniform and scientifically controllable as possible [1,2].

The same scientific rigour should also be applied to the organisational models of the structures that provide rehabilitation services; in fact, without an adequate organisational model, the mere application of treatment, however rigorous, would risk producing unreliable results in terms of quality. Therefore, the continuous improvement of technical, scientific and organisational quality is an essential and priority prerequisite for any health policy, particularly when the "disorder" to be treated may be chronic over time, with specific objectives represented by slowing down and/or maintaining its evolution, reducing the incidence of complications and improving quality of life [3].

According to these considerations, the living environment that welcomes people with disabilities must be organised in a manner appropriate to the different syndromes and/or pathologies, and must therefore provide for numerous and diversified activities, a well-structured daily routine, clear and visualised communication, a constant relationship between the adult of reference and the person, and above all, it must be a truly "family-like" environment for those who frequent it. Particular attention must be paid to the individual needs of each user, respecting their self-determination, creating conditions that allow them to live in an environment

that is always comfortable and at the same time rich in stimuli for effective personal growth, the aims of which are to develop, through activities inside and outside the community, levels of individual autonomy and group socialisation. These processes involve the need to conceive, build and organise environments that can therefore meet different needs [4-6]:

1. *social needs*, improving living conditions and breaking the stigma of diversity, which often represents a prejudice that is difficult to eradicate, encouraging people with atypical development to live in community spaces and use the services available;
2. *health needs*, one of the indicators of quality of life is mental and physical health; unfortunately, however, psychopathologies (anxiety, depression, low self-esteem, etc.) are factors that increasingly burden the condition of people who are already very distressed by their "diversity". If physical suffering (respiratory, cardiac, motor problems, etc.), which often coexist in syndromic conditions, then the gap becomes unbridgeable: the person with atypical development finds themselves alone, vegetating and facing a "hostile" world;
3. *Care needs*: when we talk about caring for people with autism, we often immediately think of a person who needs to be looked after in every way, but this is not actually the case. even if we help them physically to get dressed, wash or do other things, this is not the most important help we are giving them at that moment; in fact, along with care, we communicate feelings, emotions, etc., which are essential for the maturation of any person;
4. *Educational and rehabilitation needs*, to achieve specific objectives relating to skills that have not been fully mastered and to encourage generalisation in contexts other than the original ones.

All these needs require the rehabilitation facility to be organised according to Total Quality criteria.

Total Quality (TQ)

The fundamental prerequisite for the proper functioning of any rehabilitation facility, regardless of the model, is organisation that can be defined as a system of different but interdependent elements that contribute to the implementation of processes intentionally oriented towards achieving a goal. The need for a targeted organisation stems from a set of factors (needs, institutional goals, environment, etc.) that define its raison d'être, from objectives to be achieved or problems to be solved.

To achieve these objectives, the organisation should set up specific technical processes (service provision) which, through appropriate support procedures (administrative, financial, logistical, etc.), produce the final result (rehabilitation services and the ultimate outcomes derived from them), such as behavioural change, reduction of problems, real effect on health in terms of reduction of functional limitations, improvement in quality of life, etc. [1]. Each of these processes requires managerial, regulatory and control actions, both in terms of the purely technical component (operators) and the support component (logistics, administration, etc.), in order to verify, on the one hand, the achievement of the organisation's objectives and, on the other, the social climate, as outlined by the degree of satisfaction of the operators within the staff and users [7].

The project, therefore, through the implementation of a quality system, aims to promote change in the corporate culture and encourage the development of a management model characterised, for example, by budget management that integrates services provided, sustainability and quality of rehabilitation outcomes in an attempt to increase the efficiency, effectiveness and "quality" of treatments. The entire company must be committed to developing QT, i.e. a comprehensive system of intervention in orga- nisations with the aim of producing constantly improving goods and services that are able to respond in an increasingly satisfactory manner to customer or user requests, while keeping production costs low and improving not only the quality of the services produced but also the organisational climate [8-11].

The aspects that favour the implementation of QT in rehabilitation facilities are the same as those that apply to any other organisational structure: management, leadership, teamwork, service management, problem solving and decision making, etc.; although in the case of service facilities (such as rehabilitation facilities for the treatment of ASD), unlike product facilities, quality corresponds to the degree of satisfaction of a customer's needs, expectations and desires: that is, each user should receive treatment that achieves the best possible health outcomes, in relation to the state of scientific knowledge, at the lowest possible cost and with the least possible inconvenience. Equally important is user satisfaction with the interventions received, the outcomes achieved and the human interactions within the rehabilitation facility that treated them. Therefore, in the world of rehabilitation, the assessment of the quality of a service consists of measuring customer satisfaction: that is, the degree of satisfaction will be determined by comparing the expected quality with the service actually perceived. If the service is perceived as better than expected, then we will have high levels of customer satisfaction. If, on the other hand, the perceived service is below expectations, we will see growing dissatisfaction.

Every operator believes that they work to the best of their ability on a daily basis and, therefore, offer the best possible treatment to the customer. However, the verification of the effectiveness of working methods and their improvement when necessary are almost never included in the daily activities of the operator and/or the team. The idea of training all staff in the concept of *quality assessment* and being able to evaluate their performance is a new culture that represents a valuable tool for optimising results and measuring the real effectiveness of an intervention. But how can the technical staff of an educational-rehabilitation facility for the treatment of people with autism spectrum disorder (ASD) be evaluated? We will give an example in the next paragraph.

Evaluating the work of therapists

As we have seen, implementing Total Quality requires all

staff (administrators, specialists, operators, drivers, etc.) to be convinced that this philosophy is the most appropriate for achieving the goals for which the facility was designed and built. They must also be presented with the advantages inherent in this change, but also the inevitable disadvantages, such as an increase in conflict, an initial sense of confusion among all operators faced with the new approach, etc. Once this delicate initial situation has been overcome, it is possible to move on to the next phase, which involves, in addition to training all employees, the creation of a quality group, the reduction of the number of levels separating management from the lowest level of the organisational structure, and the introduction of a system for evaluating the work of therapists [12].

Evaluation is a fundamental process for measuring and improving individual performance, defining objectives, skills (efficiency, collaboration, problem-solving, etc.) and observable behaviours, using qualitative and quantitative numerical scales with the aim of ensuring the quality of services, especially in sectors such as education and rehabilitation, through the evaluation of the following skills (Figure 1):

- *Individualised programming*: a person-centred educational approach that adapts objectives, strategies and tools to the specific needs of each individual to ensure inclusive learning and the development of their potential;
- *Environmental programming*: aims to create accessible and inclusive environments (work, home, public spaces) through Universal Design, eliminating physical, cognitive, emotional and sensory barriers to ensure opportunities for learning and autonomy;
- *Intervention*: this is a *personalised programme that combines education and rehabilitation to help a person develop their physical, cognitive, emotional and social skills to the fullest*, improving their quality of life and autonomy, often involving various contexts of life (rehabilitation centre, school, home, etc.) to achieve specific objectives;
- *Assessment*: this is a complex process that aims to measure the effectiveness of educational and rehabilitation strategies by analysing changes in the behaviour and learning of the individual (child, adolescent, adult) to verify the achievement of the established objectives, calibrate the intervention and promote well-being and educational and social inclusion;
- *Interpersonal interaction*: this is crucial for success, based on effective communication (active listening, clarity, constructive feedback, empathy, non-verbal language, etc.), trust, respect, creating a positive, collaborative and productive working environment, where corporate culture plays a key role in facilitating (or hindering) these relationships;
- *Flexibility*: the ability to adapt thoughts and behaviours to new or unexpected situations, switching from one idea to another, seeing things from different perspectives and changing one's opinions in the face of new information, which is fundamental for problem solving, resilience to stress and continuous learning, accepting change and counteracting rigidity;
- *Problem management*: this is based on a preventive, proactive and reactive approach, which includes understanding the causes (functional analysis), creating structured and predictable environments, using clear instructions and positive reinforcement, and specific crisis techniques (de-escalation, differential reinforcement, physical restraint, etc.), while always maintaining calm, professionalism and seeking the support of specialists whenever possible.

THERAPIST WORK EVALUATION FORM

Date:	Therapist:	Evaluator:							
SKILLS	ITEMS	EVALUATION					D	SO	SC
PROGRAMMING INDIVIDUALISED	1. The intervention is designed based on the assessment	0	1	2	3	4		MSO 20	
	2. The objectives are formulated correctly	0	1	2	3	4			
	3. The strategies chosen are functional to the objectives	0	1	2	3	4			
	4. The evaluation is related to the available data	0	1	2	3	4			
	5. The timing of the intervention is respected	0	1	2	3	4			
PROGRAMMING ENVIRONMENTAL	1. The environment is free from excessive stimuli	0	1	2	3	4		MSO 20	
	2. The setting is organised according to the objectives	0	1	2	3	4			
	3. The material facilitates learning	0	1	2	3	4			
	4. Natural reinforcers are easily dispensable	0	1	2	3	4			
	5. Time management is appropriate for the task	0	1	2	3	4			
INTERVENTION	1. The setting is empathetic and goal-oriented	0	1	2	3	4		MSO 20	
	2. The methodology used is BM	0	1	2	3	4			
	3. Both verbal and iconic instructions are clear	0	1	2	3	4			
	4. The correct answers are reinforced appropriately	0	1	2	3	4			
	5. Strategies are implemented according to S criteria	0	1	2	3	4			
ASSESSMENT	1. The functional assessment was carried out correctly	0	1	2	3	4		MSO 20	
	2. The description of performance is objective	0	1	2	3	4			
	3. The assessment is consistent with the programme	0	1	2	3	4			
	4. The data collected is used appropriately	0	1	2	3	4			
	5. The assessment is implemented in a functional manner	0	1	2	3	4			
INTERPERSONAL INTERACTION	1. The relationship with parents is constructive	0	1	2	3	4		MSO 20	
	2. Collaboration with colleagues is positive	0	1	2	3	4			
	3. Rules are adequately respected	0	1	2	3	4			
	4. Conflicts are well negotiated	0	1	2	3	4			
	5. Understanding of others is well structured	0	1	2	3	4			
FLEXIBILITY	1. Feedback is always provided in a timely manner	0	1	2	3	4		MSO 20	
	2. Knowledge of cognitive styles is adequate	0	1	2	3	4			
	3. Intervention is focused on strengths	0	1	2	3	4			
	4. Learning interests are known	0	1	2	3	4			
	5. Changes to the intervention are possible	0	1	2	3	4			
PROBLEM MANAGEMENT	1. Stress is easily controllable	0	1	2	3	4		MSO 20	
	2. Problematic behaviours are monitored	0	1	2	3	4			
	3. Behavioural crises are anticipated	0	1	2	3	4			
	4. Mistakes are critically evaluated	0	1	2	3	4			
	5. Obstacles to treatment are overcome	0	1	2	3	4			

Figure 1: Therapist work evaluation form.

CRITERIA	SCALE	SIGNIFICANCE
≤ 20	INADEGUATE	He does not know how to plan, is not motivated to find ways to improve himself, avoids confrontation with others and teamwork.
		Notes:
21 ≥≤ 40	POOR	The planning is poorly defined and the timelines are completely unrealistic. The choice of strategies is repetitive and not very effective in achieving the objectives.
		Notes:
41 ≥≤ 60	SUFFICIENT	Programming is not always consistent with assessment; even though it is well structured, it does not always manage to deal with any crises experienced by the user.
		Notes:
61 ≥≤ 80	GOOD	Highlights all aspects of a job and plans them appropriately, working in harmony with the team and the user's carers.
		Notes:
≥ 81	EXCELLENT	Develops a comprehensive plan, informs the team about the progress of the project, updates the treatment and resolves any issues.
		Notes:

Table 1: Criteria scale for the therapist's level of competence in relation to the chart in Figure 1.

d. analyse the rehabilitation results achieved for each individual user; performance can be measured using the following formulas (Table 2):

$$P = \left\{\frac{\Delta + GC}{AO}\right\} x\ 100$$

$$\Delta = \left[\left(OA + \frac{PAO}{2}\right) - ONA\right],$$

where P = Performance,

Table 2: Four examples of applying the calculation of Δ and P to evaluate therapist performance.

Example 1 (OA > 50%) of P calculation: a therapist sets 12 goals to be pursued, of which 7 are fully achieved, 3 are only partially achieved, and 2 are not achieved.

First, calculate the value of Δ by substituting the following numerical values OA=7, PAO=3, ONA=2, into the formula:

$$\Delta = \left[\left(OA + \frac{PAO}{2}\right) - ONA\right],$$

from which: Δ = 7 + 3/2 - 2 = 6.5; substituting the value of Δ in the formula:

$$P = \left\{\frac{\Delta + GC}{PAO}\right\} x\ 100$$

you get:

P = [(6,5 + 0) /12] x 100 = 54 %

This result should be compared with the scale in Table 2, which shows that the therapist received a rating of SUFFICIENT.

Example 2 (OA < 50%) of P calculation: a therapist sets 12 goals to pursue, of which 2 are fully achieved, 3 are only partially achieved, and 7 are not achieved.

Substituting the following values: OR = 2, PR = 3, NR = 7, in the formula for calculating Δ, we determine that Δ = -3.5 and, substituting this in the formula for calculating P (since Δ ≤ 0), we obtain P = 21%.

The result is compared with the scores on the scale in Table 2, which shows that the therapist received a POOR rating.

Example 3 (OR = 0) of calculating P: a therapist sets 12 goals to pursue, of which 0 are fully achieved, 3 are only partially achieved, and 9 are not achieved.

Substituting the following values: OA = 0, PAO = 3, ONA = 9, in the formula for calculating Δ, we determine that Δ = -7.5 and, substituting this in the formula for calculating P (since Δ ≤ 0), we obtain P = -12.5%.

The result is compared with the scores on the scale in Table 2, from which it can be seen that the score, being less than 20%, falls within the range ≤20%, therefore the Therapist received an INADEQUATE rating.

Example 4 (OA > 50%) of P calculation: a therapist sets 12 goals to be pursued, of which 10 are fully achieved, 2 are only partially achieved, and 0 are not achieved.

Substituting the following values: OA = 10, PAO = 2, ONA = 0, in the formula for calculating Δ, we determine that Δ = 11, and substituting this in the formula for calculating P, we obtain P = 92%.

The result is compared with the scores on the scale in Table 2, which shows that the score is 81%, therefore the Therapist received an EXCELLENT rating.

GC = Gravity Coefficient = 0 [ma se $\Delta \leq 0\ allora\ GC = AO/2$; se, nonostante il dimezzamento di PAO, il risultato risultasse ancora negativo significa che è stata completamente sbagliata la scelta degli obiettivi nella programmazione; quindi, Δ risulta negativo]

AO = Assigned Objective

OA = Objectives Achieved

PAO = Partially Achieved Objectives

ONA = Objectives Not Achieved

Conclusions

One of the most effective tools for certifying the qualitative improvement of rehabilitation treatment is represented by certain indices (*patient-centredness*: satisfaction, involvement, etc.; *quality of the process*: clinical effectiveness, timeliness, multidisciplinary approach, etc.; *functional outcome*: improvement in quality of life, autonomy, physical activity, reduction in symptoms, etc.) linked to the quality of professional services (*best practices*) that have been provided over a given period. Starting from the assumption that best practice is related not only to the context but also to an incremental improvement in the quality of the intervention, it is clear that good professional performance can only be delivered if the therapist's work is adequately evaluated. On the other hand, only through a mechanism of this type is it possible to translate into measurable values the dynamic process that derives from the continuous effort of the operator to improve their rehabilitation performance [13-15].

These aspects, but above all the continuous evaluation of the therapists' work, can be considered *minimal* and *indispensable* for

good rehabilitation quality, and represent the common starting point for the implementation of a “Total Quality” improvement programme.

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