INSERM Clinical and Public Health Network

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PSYCHOTHERAPY PRACTICE-BASED RESEARCH NETWORK

PROGRESS REPORT at 4 years

AUTISM Section – March 2013

Practice-based research network in psychotherapy

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http://www.techniques-psychotherapiquesorg/Reseau/

I INTRODUCTION

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Here is the second progress report of the Network of Practice-Based Research in Psychotherapy (RRFPP). It is based on the *experience of studies already completed on courses of psychotherapy in the ASD (autism spectrum disorders) section* and based on 2 themes: *the construction and modalities of working in a network,* and the research in the strict sense of the term — the methodology of the studies, data analysis, and initial results. Although these 2 themes can be distinguished theoretically, they are very closely linked because they are mutually connected in the performance of a new generation of research, which we present here.

The March 2010 report presented the network's establishment and its earliest accomplishments, that is, the first case studies completed in each section as described at the first feedback conference on January 22, 2010.

Since then, substantially more clinicians are conducting psychotherapy within the ASD section, and they have included many more cases. Currently, 23 peer groups are operating, and 79 children are in treatment. Inclusions remain open. Recently, one new peer group was set up, focused on adults with ASD, and new requests for participation have come from both clinicians and institutions.

Since 2010, the plan of analysis of the process has become more detailed. The growing number of completed cases has made it possible to analyze the course of each child participating in the study. With the conclusion of each case at the end of its study year, we have been able to conduct several grouped or pooled case studies (at 12, 26, 41, and finally 50 cases), as well as a comparative study of "similar"[3] cases. We have used mixed data analysis, combining both quantitative and qualitative methods.

Reflections on the construction of the network and the studies previously conducted call attention to 5 particular points:

- The first is *the appropriateness of the methodology chosen to the conditions and objectives of both the clinical practice and the research.* It has allowed the network to involve numerous therapists and led to tangible changes in their positions about publicly presenting and assessing their practices.

  These are individual case studies conducted under natural conditions, with the measurement and analysis of both the changes seen during the course of 1 year of psychotherapy and the characteristics of the internal process, based on indicators concerning the child, the therapist, and their interaction. These cases were subsequently regrouped in a database, which made it possible to study them as a group and to conduct comparative studies. The intensive individual studies routinely included an initial and final case formulation, completion of the ICD diagnosis, and the initial work-ups. Repeated assessments of both autistic behaviors and the development of psychosocial skills enabled us to use these different indicators to follow the course of this disorder and the acquisition

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[3] Le contenu de ce terme sera précisé à partir des critères utilisés pour réunir les patients et de ceux issus de classifications et d'analyses factorielles.

of the new individual and psychosocial skills that play a role in mental health. At the same time, a description of the internal process of the psychotherapy has allowed us to describe its most characteristic elements and the principal mediators that intervene in the changes in the child.

Work in peer groups plays a central role in this methodology. It simultaneously makes it possible to strengthen the quality of the scoring for assessments (3 individual scores plus 1 meeting for comparison, discussion, and validation) and to conduct clinical discussions based on the data collected, discussions the therapists appreciated highly. With the use of new information and communication technologies, training and meetings can take place remotely, at a distance.
The organization as a network and the active collaboration of researchers and clinicians that underlies it have served as an essential support throughout for conducting rigorous, controlled studies that simultaneously provide clinical and cognitive benefits to the children who participate. The work on assessment instruments and the data analysis also benefited from this collaboration.

- The second aspect concerns *the effectiveness of psychotherapy in children on the autistic spectrum* conducted by experienced professionals, 80% of whom currently use a psychoanalytic approach, 10% a cognitive-behavioral approach, and 10% some different approach (e.g., psychomotor or play therapy). The overall effect sizes are significant (2.1 for the reduction of autistic behaviors and 1.3 for the developmental gains). Their clinical translation, both in terms of behavior and new skills, shows the importance of the changes obtained.
- The third aspect completes the second. It concerns *the possibility of describing accurately and specifically the diversity of the cases and the response to psychosocial interventions in ASD*; both factors are often stressed but rarely approached systematically. This diversity was examined according to different criteria (such as age at study entry, and at diagnosis, years of psychotherapy, and severity of disorders) and related to the children's different trajectories. The common features and differences in these trajectories, associated with a specific definition of the mediators and environmental factors likely to explain them, made it possible to go beyond the standard before-and-after studies and to consider different hypotheses about the causation of changes (mediators and mechanisms) and the impact of moderators on the treatment effects.
- The fourth aspect, underlined by the clinicians who participated in this research, concerned *the theoretical questions to which it gave rise and the impact it had on the quality of their work*. Participating therapists have stressed these aspects during numerous feedback meetings, in surveys we conducted on this subject[4], and in the report by the Italian group coordinators[5]. These effects appear to be a consequence of the design of the research, which goes far beyond the observation of a result. This design continually asks questions of the participants, not only about the nature of the changes, but about what underlies them. Kazdin[6] and many others highlighted the general importance of this process and its potential effects on practices several years ago.
- The fifth aspect involves the *processes of change and the different levels by which they can be approached*. The precise definition, developed in this research, of the mediators and moderators that play a role in these treatments provides knowledge of the modes of action and the mechanisms

[4] Thurin JM, Thurin M & Midgley N. Does participation in research lead to changes in attitudes among clinicians? Report on a survey of those involved in a French practice research network. Counselling and Psychotherapy Research 2012; 12(3): 187-193.
[5] Amenta M & Messeca S. Le groupe de recherche italien. *Pour la recherche* 2012 ; 73-74: 5-6.
[6] For example, Kazdin AE. Evidence-Based Treatment and Practice New Opportunities to Bridge Clinical Research and Practice, Enhance the Knowledge Base, and Improve Patient Care. *American Psychologist* 2008 ; 63 (3): 146–159.

that underlie the effects of psychosocial interventions in ASD. As Lerner et al.[7] stressed, this is the first phase of a more fundamental approach. Taking into account the diversity and complexity of the cases and considering the different markers, including perhaps those that are physiological and neuroanatomic, this approach, combined with the clinical and functional analysis, makes it possible to follow and understand the variety of these disease courses.

This network continues to function and grow. Although it was conceived in 2007 and selected for funding in 2008, its work fits perfectly within the 2012 recommendations by HAS about the development of research studies[8] and in the 4th part of the 2013 autism plan devoted to research[9].

- The case studies conducted in the network setting can be seen as research-actions. They have created a dynamic that opens clinicians up to research activities. The creation of this very rich database has enabled us to use the data and experiences collected as part of the implementation of interventions to contribute to improving our knowledge of the processes of change in these children, of their needs, and of the types of interventions and support available to them.

- This research has also allowed the assessment by very rigorous studies of the effectiveness and safety of practices not previously evaluated and for which expert opinion varies (e.g., psychodynamic psychotherapies), of consensual interventions not yet assessed by controlled studies (e.g., exchange and development therapy as well as interventions begun late in childhood or during adolescence).

- The principal effectiveness criteria were variables — both behavioral and functional — considered essential for the improvement of the child/adolescent's participation in society.

- At the same time, the subsequent follow-up of these children should provide information about the long-term effects of the interventions used. These interventions have been described very precisely from a detailed description based upon on the psychotherapeutic process questionnaire (CPQ), an instrument applicable to multiple theories that assesses the characteristics of the psychotherapy and of the therapeutic actions it includes.

In Part I, the report presents the international context and establishment of *practice-based research networks* at the beginning of this century, their objectives, methodology, and organization; it also describes this particular network, its work processes, internal activities (meetings with therapists for training, information, and operational feedback, weekly meeting of the methodology group), and public actions (interventions, conferences, communications, and publications). The second part is devoted to the studies and their analysis at 3 levels: as individual cases, pooled cases, and comparative cases, and to the initial conclusions and the prospects.

It is accompanied throughout by complementary documents, accessible as an appendix (in French) on the Internet, as well as by the spreadsheets from which the statistics were analyzed and the results determined.

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[7] Lerner MD, White SW, McPartland JC. Mechanisms of change in psychosocial interventions for autism spectrum disorders. *Dialogues Clin Neurosci* 2012; 14: 307-418.

[8] HAS et Anesm. *Actions futures : le développement des études de recherche. Recherche-action, Recherche clinique*. In Recommandations de bonne pratique pour Autisme et autres troubles envahissants du développement : interventions éducatives et thérapeutiques coordonnées chez l'enfant et l'adolescent (Méthode Recommandations par consensus formalisé), mars 2012, p 44-47.

[9] Third Autism Plan (2013-2017) presented Thursday, May 2, 2013 by Marisol Touraine, Minister of Social Affairs and Health, and Marie-Arlette Carlotti, Minister Responsible for Persons with Disabilities and the fight against exclusion.http://www.social-sante.gouv.fr/IMG/pdf/plan-autisme2013.pdf

2012 and early 2013 saw the preliminary results reported at numerous network meetings, 2 radio interviews, and 20 presentations at conferences, including 14 after acceptance for international events.

Subsequent reports will follow this one: both results from larger number of cases and a more in-depth description of the methods of statistical analysis in this simultaneously innovative and complex field.

Comments and questions are welcome.

Jean-Michel THURIN

Acknowledgments

I thank particularly

- Geneviève Haag, who energized the psychoanalytic community and participated in all the informational and training meetings and seminars with the therapists in the network, bringing to them especially her long clinical experience in the domain of ASD and her openness to multidisciplinary approaches to the children's educational and psychosocial situations

- Catherine Barthélémy, who has been present from the scientific conception of the project and who participated directly with the inclusion of cases using the exchange and development therapy (several others are currently being analyzed and still more are in the process of inclusion). Her very active presence at the Feedback Days and on the Scientific Committee nourished very fruitful discussions with the network clinicians and coordinators. Her availability to answer ad hoc or general questions was extremely helpful, as well as her very attentive review of this report and her suggestions about its enhancement and its viewpoints.

- Bruno Falissard, who committed himself to this ambitious and risky project, participated actively in its launching and its dissemination in numerous public meetings. He opened and shaped the basic discussions on the statistical and mixed analyses of the complex data, still far from complete, and participated in the basic scientific dynamics of the network.

- Monique Thurin, who has been fully involved in the network's functioning and in the relationships with therapists, in the collection, validation, and organization of the data, and in training network participants, both in meetings and by Internet. She has also provided her particular skills to the qualitative analysis of the corpus presented in the general report and in the numerous presentations she has made at national and international conferences.

- David Cohen, coordinator of the network's borderline personality adolescent section and highly involved in the research on ASD, whose support and advice have contributed greatly to the network and its perspectives.

- Bernard Golse, who supported the establishment of the ASD section and has remained involved in its promotion.

- The therapists who participated in this research with rigor, curiosity, and skill. Their (volunteer) work has been considerable, and the cases collected already comprise a very strong knowledge base. Their active participation marked a milestone in overturning the conventional wisdom that the psychotherapeutic process and the changes accompanying it cannot be presented or assessed, and that psychotherapists will refuse to do so. I should add that this work has been conducted in a highly professional and congenial atmosphere

- The different public figures and department heads who participated in discussions, convinced the clinicians they worked with to join the network and participate in the studies, fueled the dynamic around the questions raised, and invited network leaders to come talk about the project at scientific events they organized

- National Institute for Health and Medical Research, Office General for Health, and France Foundation, which have funded the establishment and leadership of the network and the performance of studies.

VI STUDY METHODS AND DATA ANALYSIS

1. Methodology concerning patient follow-up

Starting at time T0 (at either the beginning of a course of psychotherapy, or when it is already underway), the therapist takes extensive notes at the first 3 sessions; these will be the basis of the analysis. Then 3 new assessments will be conducted at 2 months, 6 months, and 12 months, when extensive notes will again be taken for 2 sessions.

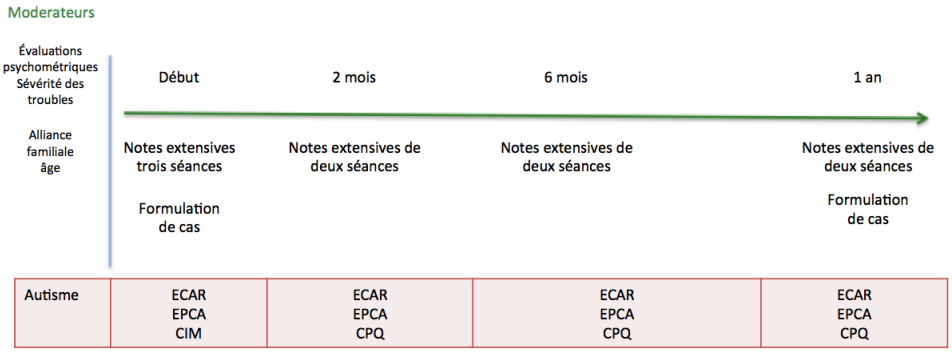

SCHÉMA CHRONOLOGIQUE DE COLLECTE DES DONNÉES PAR LES CLINICIENS

Flow Chart of Chronological Data Collection by the Clinicians

Why extensive notes? The methodology used in the network is based on pragmatic case studies, in natural (rather than trial) situations. Accordingly, the assessments must not interfere with the session; the clinician and the peers complete the scoring rubrics from the written clinical data. The final assessment then is made at the end of a roughly a dozen psychotherapy sessions at different times; only then can the changes that have occurred be apprehended, with 3 principal types of tools:

- The case formulation, the baseline assessment for the 3 diseases studied by the network. The case formulation is intended to define the patient's problems, diagnose his psychopathology, and then to formulate both the objectives of the psychotherapy and a strategy for reaching them. The network methodology lists 4 points to be covered:

  1. Patient's current problems and their place in the context of his current living situation, history, and development
  2. Stable factors that might have contributed to his problem (genetic, perinatal, social, diseases, etc.)

3. Synthetic integration of the available data that opens up an interpretation of the precipitating factors and influences that sustain the patient's problems: favorable factors; items identified as missing;
4. First definition of the aim and intermediate objectives of the psychotherapy and the strategy for attaining them (psychotherapeutic modality used).

- The tools assessing the severity of the symptoms and the patient's functioning; for the ASD section, these are the BSE-R (Barthélémy, Lelord, 1997) and the APEC rubric for identifying the progressive stages of childhood autism (Haag et al. 1995).

The functional assessment is based on indicators. The ASD section uses the following: autonomy, severity of symptoms, relational impairment, subjective malaise and distress, child's use of his capacities, especially for play, learning, and language, quality of communication, exploration of space and objects, nature and diversity of the child's interests, expression and emotional tolerance, insight, problem resolution, and capacity for adaptation.

These indicators thus make it possible to identify and understand intrapsychic and intersubjective changes and to take health indicators into account. The tools that permit their collection are very simple to use.

- A process assessment tool: the CPQ. This instrument uses 100 items to describe the process of the therapy. Each item is designed to be observable and to avoid references to a specific theory. It is intended to be in large part neutral and usable for any kind of therapy. The CPQ makes it possible to describe a range of therapeutic interactions and especially to characterize the patient-therapist interaction systematically. The study of the process of change, based on changes in the characteristic configurations of the therapy, is not only a comparison of static snapshots, but also takes into account the dynamics of their variation in their context of expression.

2. Methodology concerning the assessments

One of the important points of these studies is that the treating therapist participates in the assessments. This enables her to deepen her knowledge of the process of the psychotherapy that she is conducting and of its results. She works with 2 other clinicians, a group method that promotes clinical discussion and results in inter-rater validity: each member of the peer group independently codes the different instruments. The definitive scores are attributed by consensus at a meeting where the data are reviewed in cases of divergence. The score for each item is accordingly validated not only by the therapist treating the child but also by 2 of her peers

In summary, each peer group includes 3 clinicians. Together they have 3 patients in psychotherapy; each therapist will assess the clinical data of each patient, and these data will be validated during discussion at meetings. These meetings can be held in person or by Internet (Skype).

3. Development of the plan of analysis and statistical tools

The plan of analysis was developed during the second semester of the network's operation during weekly meetings between JM Thurin, M Thurin, and T Baroukh. It is based on the methodological sections 2 and 5 of the INSERM expert advisory group report published in 2004[25] and the publications referred to there. This analysis of the literature was completed by articles that had appeared since 2002,

[25] Inserm. Psychothérapie : trois approches évaluées. Expertise Collective (Canceil O, Cottraux J, Falissard B, Flament M, Miermont J, Swendsen J, Teherani M, Thurin JM). Paris : Inserm, 2004.

focused especially on new approaches and the necessary collaboration between clinicians and researchers. This literature review was presented in a series of articles by JM Thurin[26] and M Thurin[27]. The questions about networks have also been studied in greater depth during international conferences.

Different chapters and articles played a particularly important role in developing the plan of analysis. Among them, we must cite especially those by AE Kazdin[28], W Shadish[29], B Falissard[30], and BD McLeod[31]. Those concerning the creation and use of the *Psychotherapy Process Q-set* and the *Child Psychotherapy Process Q-set* were particularly useful. They are examined together in a literature review by M Thurin (in the online appendix to this report accompanied by a summary table). Some of these have been translated and can be found at www.techniques-psychotherapiques.org. Among the more general articles, we note special issues of *Psychotherapy Research* and of *Clinical Psychology Review*, Fishman's online journal *Pragmatic Case Studies* and in particular the issue devoted to the methods of comparative case studies, the many articles by AE Kazdin on methodological issues, and the recommendations for research associated with the study of mechanisms of change (in the appendix), as well as the article by Kraemer et al[32].

The statistical calculations were performed at the same time by programming in *R* and based on different *XLSTAT* modules developed over the past 10 years to make accessible to the largest number of users possible a data analysis and statistical tool that is simultaneously powerful, complete, and user-friendly.

4. Analysis on 3 levels

The analysis of the data from the case studies of children with ASD was performed at 3 levels, according to the following outline:

a) individual cases

The methodology used is that for controlled individual case studies.

The diagnosis is based on ICD 10 and the structured case formulation. It is completed by the various work-ups performed and the identification of the principal potential *moderators*[33].

The visible changes and their chronology are studied from 2 instruments: BSE-R[34] (autistic behaviors) and APEC (reduction in abnormal behaviors, development of psychological representations and acquisition of

[26] Publications de JM Thurin dans le domaine de la psychothérapie et de l'évaluation des psychothérapies : http://www.techniques-psychotherapiques.org/PublicationsPsychothJMTvfr.html

[27] Publications de M Thurin dans le domaine de la psychothérapie et de l'évaluation des psychothérapies http://www.techniques-psychotherapiques.org/administrationsite/CVMThurin.htm

[28] Kazdin A E. Single case Research Designs. N.Y. Oxford, Oxford University Press, 1982

[29] Shadish, W., Cook, T. & Campbell, D (2002) Experimental & Quasi-Experimental Designs for Generalized Causal Inference. Boston: Houghton Mifflin.

[30] Falissard B. Comprendre et utiliser les statistiques dans les sciences de la vie. Paris, Masson 2005.

[31] Single case studies, second, McLeod J. The role of case studies in the development of theory and practice in counselling and psychotherapy. London, SAGE bacsp, 2010.

[32] Kraemer H, Stice E, Kazdin A, Offord D, Kupfer D. How Do Risk Factors Work Together? Mediators, Moderators, and Independent, Overlapping, and Proxy Risk Factors. *Am J Psychiatry* 2001 ; 6:158:6.

[33] Modérateurs : Âge de l'enfant et genre, Sévérité de l'autisme, Début manifestations et de la prise en charge, Comorbidités somatiques ?, Plateau technique (type de psychothérapie, nombre de séances/semaine, autres médiations thérapeutiques), Psychotropes ?, Soutien de l'enfant par sa famille, Collaboration avec la famille, Scolarisation ?, Contextes (événements de vie, familial et psychosocial) et autres éléments.

skills). They are rounded out by 3 indicators from the CPQ, concerning insight, emotional status, expression and development of defenses (affect and defenses, AAD), and relation to the world and others (RWO).

The process is analyzed with the *Child Psychotherapy Q-set* (CPQ). It includes 100 items with scores of -4 to +4 that must fit a standardized distribution

a. Selection of the *most characteristic items*, at 2 months, 6 months, 12 months, and averaged over the year, the items that *remained stable at the central values* (-2 and +2), and finally those that maintained *a neutral value* (-1, 0 and +1).

b. Definition of the weights of the potential factors of change (*mediators*). These mediators come from a preconstructed set of CPQ items and from an emerging set.

c. The visible changes, their intensity, and their chronology are studied in relation to the mediators of change and the moderators (see presentation in Pour La Recherche issues 60 (pp 7-8) and 63. A statistical analysis examines the reciprocal relations between the clinical picture, the activated mediators (that is, those that are active and at work) and the chronology of their activation.

d. A summary report is written for each patient.

b) The pooled cases

We present the visible changes in all of the *n* cases combined between T0 and T12 and their chronology.

The general profile of the internal psychotherapy process of the *n* pooled cases is described from their 20 most characteristic items and the related mediators, and the items that remained stable at central or neutral values.

Trajectories are classified based on the initial situation and the effects observed at 12 months in the domains of behavior and development (BSE-R and APEC scores) generally.

The specific extreme initial clinical situations are distinguished (for example, whether the disorders are severe or moderate, important deficit of emotional regulation, impairments in relations and engagement, deficit in skills.). Their incidence is studied simultaneously in terms of the results and the therapist's accommodation (adjustment or adaptation to the patient), compared with the group around the center (mean scores), which serves as a control group.

The specificities of the process corresponding to clinical specificities are sought and described (accommodation of therapy to these specificities).

c) Compared cases

Comparison of individual variations to those of the group for all 3 periods and for all dimensions

The similar cases are grouped and their trajectories compared. Factors that might be involved in atypical trajectories are systematically sought.

These 3 stages are specified in the plan of analysis described in the appendix. They are also presented in detail in the corresponding sections of the report.

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[34] Barthélémy C., Roux S., Adrien J.L., Hameury L., Guérin P., Garreau B.,Fermanian J., Lelord G. (1997). Validation of the Revised Behavior Summarized Evaluation Scale. Journal of Autism and Developmental Disorders, 27, 2, 139-153.

VII SAMPLE OF SINGLE-CASE STUDY: MERLIN

1. Baseline assessment

a) Introduction to Merlin

Merlin is study patient Y001; his parents, very worried about his atypical development, contacted the psychotherapist directly. They had refused to have him be hospitalized 40 km away from their home; they also refused psychotropic medication recommended for his agitation. Merlin was diagnosed with moderate autism. He also had a serious physical illness that required several hospitalizations. His mother had been suddenly hospitalized when he was 15 days old.

During the first session, he spent his time attaching and detaching labels that he then stacked on his hand. His gaze did not cross that of the psychotherapist. He brushed against the walls and clung to them, as if glued there; he induced visual stimulation by pressing on his eyeballs. He threw many objects and attacked his mother — biting, hitting, and scratching her. He was very agitated and could not be included in a group with children his age.

Merlin was 4 years old when he was included in the study, and had been in psychotherapy for 2 years (2 sessions a week, 45 min each). It was noted that he had almost no language, no autonomy, disorders of eating and conduct (aggression, agitation, stereotyped, repetitive behaviors), and a substantial withdrawal from the relationship with the therapist.

b) Moderators of psychotherapy

Merlin had started psychotherapy at age 2 and a half. He had excellent family support, and his parents got along very well. He also had access to very good facilities and services (including school, therapist, and speech therapist). All worked well together and with his parents. His early life was difficult: his mother had to be hospitalized when he was 15 days old, and then he was diagnosed with a serious kidney disease that required regular hospitalization. The therapist's work with the parents had been very positive and aimed at relieving their anxieties associated with his disease (meeting with the pediatrician) and skill acquisition, etc. The therapist also met with the siblings when they had problems with Merlin.

The contextual severity index (SI) was rated at 2/10 (difficult early setting and somatic comorbidity).

c) Initial case formulation

1. Current symptoms and problems

Lack of autonomy, very limited language, eating disorders, behavioral problems (aggression, agitation, stereotyped repetitive behaviors), withdrawal from relationships with someone else.
Stressful events: physical disease leading to numerous hospitalizations and fractures.
Favorable factors: speech therapy, school (2 mornings/week), parental support for the psychotherapy, and good collaboration with the others working with the child.

2. Stable factors

Mother hospitalized 15 days after his birth, when he was cared for by his depressive grandmother.
Kidney and bone disease.

3. Hypotheses associated with the child's current and general problems

Impact of early medical problems, abrupt weaning, recurrent hospitalization, and frequent separations.

4. Objectives

Raise his overall level of communication by modeling it, to enable development and autonomy (body image, toilet training, language, play, and relationship activities).

5. Initial strategy

Water play (decanting, working on emotional containment, and evolving towards imitation of household activities, for example). Ball games that work on communication quality.
Psychodynamic approach (2 sessions of 45 min/week). Quarterly meetings with parents.

2. Assessment of visible changes between 0, 2, 6, and 12 months

a) Measures

1. Instruments

Merlin's course is described in 3 dimensions: symptomatic and behavioral (BSE-R), developmental (APEC), and according to characteristics of his psychological functioning (CPQ).

The BSE-R (Behavioral Summary Evaluation of ASD behaviors) includes 29 items coded from 0 to 4 according to their frequency. They make it possible to explore children with ASD in different behavioral domains: social withdrawal, verbal and nonverbal communication disorders, adaptation to environmental situations, muscle tone disorders (floppy, lifeless), psychomotor deficits (bizarre posture and gait), affective reactions, disorders of major instinctive functions, disorders of attention, perceptions and intellectual functions. The scores on these items indicate spontaneous variations in the different behaviors observed over time and improvements induced by treatment and physical and speech therapy. The quantitative data collected with this scale can also be used as clinical variables to look for possible relations with other variables. It is thus possible to follow the course of relational impairment (RI) and inadequate affective modulation (IAM) from specific summary scores that complete the global behavior score (GB).

The APEC (Autism Psychodynamic Evaluation of Changes) scale makes it possible to follow the development of children with ASD in 7 dimensions through 5 progressive stages: emotional expression in the relationship, eye contact, body image, verbal language, exploration of space and objects, time perception, and manifestations of aggression. The underlying theoretical basis is that the construction of body image is at the heart of the subjective situation and of its symbolization. Relations to the environment and to others can be approached through changes in eye contact, language, exploration, and manifestations of aggression. The 147 items are distributed according to 3 aspects: pathology (P), development (D) and transitory development (TD).

The CPQ (Child Psychotherapy Process Q-set) (ranked questionnaire of configurations of the child psychotherapy process) *constitutes a common language* to describe and classify the psychotherapeutic process from 100 items. Each item is designed to be observable and to avoid references to a specific theory. It is intended to be in large part neutral and usable for any kind of therapy. The CPQ makes it possible to describe a range of therapeutic interactions and especially to characterize the patient-therapist interaction systematically.

The assessment is based on entire sessions (extensive notes, possibly completed by audio recordings), which make it possible to pinpoint the important elements and to assess their effects in the process more accurately. The instrument's general aim is to provide a significant index of the therapeutic process that can be used in comparative analyses or for assessments before and after therapy.

The CPQ uses the methodology of forced or mandatory sorting, which requires placing a number of defined items in one of 9 categories, which run from extremely characteristic (+4) through extremely uncharacteristic (-4) and including in the middle a neutral or unimportant category (0).

2. Baseline (T0) measurement of autistic symptoms and behaviors (BSE-R)

CP	age	GB00				RI00				IAM00			
Y001	5	52				50				67			
DM		15				7				30			

GB00: general behavior score at T0, RI00: relational impairment at T00, IAM00: inadequate affective modulation
DM: deviation from the mean calculated for the group of 50 children

3. Measurement at T0 of development and skills acquired (APEC)

CP	age	Dev00								Sk00			
Y001	5	40								7			
DM		5								3			

Dev00: development score at T0, Sk00: skills at T0.

b) Changes

1. Symptoms and autistic behaviors (BSE-R)

CP	Age	GB00	GB02	GB06	GB12	RI00	RI02	RI06	RI12	IAM00	IAM02	IAM06	IAM12
Y001	5	52	29	22	8	50	23	17	0	67	25	17	25
DM		15	3	-1	-11	7	-8	-9	-23	30	-1	-7	5

The longitudinal follow-up from baseline to 12 months shows regular improvement, at the global level (52, 29, 22, 8), for inadequate affective modulation (67, 25, 17, 25) and for relational impairment (50, 23, 17, 0). His (simple) deviation from the mean of the entire set of 50 children, initially higher than that of the others, dropped gradually and even reversed in the direction of improvement for the global score and for relational impairment. This improvement was also found, but with the reversal unstable, for inadequate affective modulation.

The variations and effect sizes between baseline and 12 months were as follows:

2. Development and increased skills (APEC)

The pathology scores dropped (21, 11, 13, 6), the development scores rose (40, 38, 50, 62), and the transitory development scores were extremely variable. Relative to the mean of the 50 cases, the pathology score, by dropping, moved farther away from the mean, while the development score moved farther away from the mean by rising.

	P 00	P 02	P 06	P 12	TD00	TD02	TD06	TD12	Dev00	Dev02	Dev06	Dev12
Y001	21	11	13	6	24	14	26	15	40	38	50	62
DM	2	-4	0	-5	8	-2	9	-1	5	0	8	14

From the point of view of the acquisition of pivotal skills, we observe the following notable elements.

Acquisitions:

Developmental skills	T0	T12	Δ
16. (relations) Seeking genuine exchanges in relationships	2	3	1
33. (eye contact) Sparkling eye contact with lively exchanges	3	3	0
34. (eye contact) Seeking eye contact with the other for joint attention	2	3	1
35. (eye contact) Development of protodeclarative pointing	0	3	3
55. (body image) Toilet training acquired or integrated	0	3	3
62. (body image) Mirror stage is confirmed	0	2	2
85. (verbal language) Appearance of gestural language for social niceties (to indicate "well done", "goodbye" etc.)	3	3	0
67. (verbal language) Verbal language exists	3	3	0
80. (verbal language) Appearance of No	0	2	2
85. (verbal language) Improvement of prosody (melody, intonation, and accents)	3	3	0
87. (graphic production) Graphic production exists	0	3	3
99. (graphic production) Closed circles.	0	3	3
124. (stereotyped behavior) Almost complete disappearance of stereotyped (repetitive) behaviors and appearance of symbolic play	1	2	1
138. (perception of time) Awareness that time passes. Better tolerance for separation	2	2	0

At 1 year, the 14 pivotal skills have been (score 3) or were very close to acquired (score 2).

3. Psychological functioning and relation to reality (CPQ)

Insight increased (10, 25, 25), and Merlin became at ease with his feeling and with expressing them. He did not resort to major defense mechanisms (36, 33, 36). He was confident, tranquil, and curious (29, 48, 37).

	INS02	INS06	INS12	EAD02	EAD06	EAD12	RWO02	RWO06	RWO12	INSvar	EADvar	RWOvar
Y001	10	25	25	36	33	36	29	48	38	15	0	8
DM	25	37	32	23	15	18	21	36	21	8	5	8

The variations and effect sizes between baseline and 12 months were as follows:

4. Global change (GC) and skills gained (Δ Sk)

The global change score is the sum of the reduction of autistic behaviors and the increase in the development score

For Merlin, the GC = 66 (mean 31, sd 16) and Δ Sk = 7 (mean 4, sd 3)

3. What has happened in the psychotherapy process?

a) The 10 most characteristic items concerning the child, the therapist, and their interaction (mean of scores ≤ -3 and ≥3)

item	Statement	MsY001
9	(R. The therapist was affectively engaged).	-3.00
24	(R. the therapist refrained from responding personally to provocation or disturbing material)	-3.67
40	(R. the child's communications were affect-laden).	-3.00
41	(R. The child conveyed the sense that the therapist understood his experiences or feelings).	-3.00
44	(R. the child felt trusting and secure).	-3.00
45	The therapist tolerated the child's strong affects or impulses.	3.67
46	The therapist interpreted the meaning of the child's play.	3.67
61	(R. The child did not seem embarrassed. but rather assured. at ease and certain of himself).	-3.00
64	The child included the therapist in his play.	3.33
71	The child engaged in make-believe play.	3.67
81	The therapist emphasized the child's feelings to help the child experience them more deeply	3.33

The statements between parentheses and preceded by R correspond to the definition of the item when the score was negative

At the level of the process, the items most characteristic during the year concerned the therapist's actions and the child's expression of his relationship with her or his affects, feelings, and play.

The therapist was responsive and affectively engaged, she did not respond personally to the child's provocation, but tolerated his strong affects or impulses; she interpreted the meaning of his play and emphasized his feelings to help him experience them more deeply.

The child conveyed his sense that the therapist understood his experience or feelings, and he communicated with affect; he felt confident, secure, and fairly assured, and played make-believe and drew the therapist into his play.

Among these 11 most characteristic items, 4 had a score ≥3 or ≤ -3 at each assessment (2, 6, and 12 months): items 24, 45, 46, and 71.

b) The stable items (2 or -2)

Three items characterized Merlin stably at an intermediate level during the year:

49	He expressed mixed or conflicting feelings about the therapist	2.00
73	He seemed calm, brave and at ease, even when facing something frightening or disconcerting.	2.00
84	(R. The child deliberately avoided expressing consequent angry or aggressive feelings).	-2.00

c) The preconstructed mediators and their change over time

1. The therapeutic alliance and the specific mediators

	EP	PP	TP	AL	ET	AT	IT	AEM	CLV	IM	AB
Y001	30	20	41	28	39	37	15	24	13	27	-25
Mean	14	3	41	19	46	26	4	18	17	7	-6
DM	16	17	0	10	-7	10	11	6	-4	19	-19

EP = Engagement by patient; PP = Patient participation; TP = Transference by patient AL = Global alliance; ET = Engagement by therapist; AT= Accommodation by therapist; IT: Interaction patient/therapist; AEM= Affective expression and modulation; CVL=Communication, verbalization, language; IM= Interpretation/meaning; AB= Advice and behavior.

The top line describes the mean scores of the different mediators of alliance and techniques at 2, 6, and 12 months. The bottom line presents, for each factor, the deviations from the simple mean (DM) of each score compared with that for all 50 pooled cases.

	EP02	EP06	EP12	PP02	PP06	PP12	TP02	TP06	TP12	ET02	ET06	ET12	AT02	AT06	AT12	IT02	IT06	IT12
Y001	30	25	35	35	20	5	31	53	39	42	54	21	40	50	20	17	15	13
DM	19	9	20	35	16	0	-9	12	-2	-3	6	-23	11	25	-6	-1	-5	-7

Merlin's scores of engagement and participation were well above the mean for the other children, as were the scores for his therapist's interaction and accommodation at 2 and 6 months.

	AEM02	AEM06	AEM12	CVL02	CVL06	CVL12	IM02	IM06	IM12	AB02	AB06	AB12
Y001	13	25	33	29	7	4	10	30	40	-43	-8	-25
DM	-1	5	14	15	-10	-15	4	22	31	-39	-3	-15

The technical interventions for Merlin with scores significantly higher than those for other children are CVL at 2 months, AEM at 6 and 12 months, and IM, with an increasing gradient at 2, 6, and 12 months. The AB interventions have negative scores.

2. Theoretical approach and general practice

	PDP 02	PDP 06	PDP 12	CBT 02	CBT 06	CBT 12	Mean PDP	Mean CBT
Y001	70	53	83	-29	-14	-24	69	-22
Mean	42	43	47	3	3	-3	44	1

The psychotherapeutic approach for Merlin is psychodynamic, with a proportion of criteria typical for this type of psychotherapy: 0.70 at 2 months, 0.53 at 6 months, and 0.83 at 12 months. It is very far from the cognitive-behavioral approach, which had scores that oscillated from -14 to -29.

3. Course of the preconstructed mediators in Merlin's therapy

Among the alliance mediators of psychotherapy, we note a reduction in his participation at 12 months, also found in his therapist's engagement and accommodation scores, and in the interaction between them. This dimension peaked at 6 months and fell thereafter. *We note at the same time that at 12 months, Merlin's affective expression and modulation (AEM), on the one hand, and his interpretation of the meaning of his experience and behavior (IM) were very strong.*

The "technical" mediators: AEM rose (12, 25, 33) as did IM (10, 30, 40), while CVL fell (29, 7, 4). AB remained negative.

The figure below represents the changes described above over time:

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CPQ preconstructed mediators

4. Moderators

Moderators are the contextual elements, pre-existing at the beginning of psychotherapy, which are likely to influence its course and its results. Some moderators are stable or fixed, such as chronic somatization or delayed diagnosis or management; others are dynamic, such as family support and harmony, or the existence of psychosocial relations outside the family (school, especially).

To assess this factor, we drew up a list of 10 items, based on both the literature and our clinical experience; they are coded 1 if present and 0 if absent. These items are: 1. delayed management, 2. somatic comorbidity; 3. difficult early developmental setting; 4. history of trauma; 5. inadequate family support; 6. absence of relationships with peers; 7. parental support of psychotherapy; 8. other services; 9. schooling; 10. psychiatric comorbidity

In Merlin's case, diagnosis and management were very early, and he had excellent family support and a good psychosocial network. On the other hand, he had been weaned abruptly at 15 days, when his mother was hospitalized and was himself hospitalized repeatedly thereafter. The moderator score is thus 2.

5. Discussion of results and conclusion.

Merlin's progress has been strong, both in terms of reduction in his pathology and progress in his development, especially given the high baseline BSE-R score (52).

The salient elements of the process were his engagement, participation, and excellent interaction with the therapist. The general approach of this psychotherapy is clearly psychodynamic, with an initial score of 0.70, which rose at 12 months to 0.83 (this child had been in psychotherapy with the same clinician for 1.5 years before the study began). This dimension is also seen in the score for the mediator Interpretation/meaning. Moreover, the specific technique was directed especially toward affective expression and modulation, in view of the initial minimal modulation of emotions.

The moderators are divergent. On the one hand, there were serious early medical problems involving both mother and child and which continued in the child. On the other hand, early screening, rapid management, strong family support, and a good psychosocial setting were major strong points for the psychoanalytic psychotherapy that developed in relation to substantial action, investment, and interaction of the child and his therapist.

In terms of the 4 emerging factors (presented below) Merlin is one of the few children with high values for the common factor (F1) and positive for the other 3 specific factors.