Module III. 5

Pathologies at an early age:

Autism Spectrum Disorders

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e-EarlyCare-T

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Pathologies at early ages: Autism Spectrum Disorders

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4.1 Definition

The term Autism Spectrum Disorders (ASD) comprises a heterogeneous group of neurodevelopmental alterations of neurobiological origin and beginning in childhood that affect the configuration of the nervous system and brain functioning. They accompany the person throughout his/her life affecting fundamentally the development of communication and social interaction, and the flexibility of behaviour and thought (Confederación Autismo España, 2022). They present a chronic evolution, with different degrees of affectation, functional adaptation and personal development in the indicated areas according to the evolutionary moment (Hervás et al., 2017), the experiences and supports received.

4.1 Definition

They can occur in any person

There are no physical or biological markers

High rate of comorbidity

Great heterogeneity

Set of disorders that affect social relations, language and communication, and the ability to imagine, play and switch from one behaviour to another.

Difficulties present before birth, but manifest throughout early childhood (neurobiological T.)

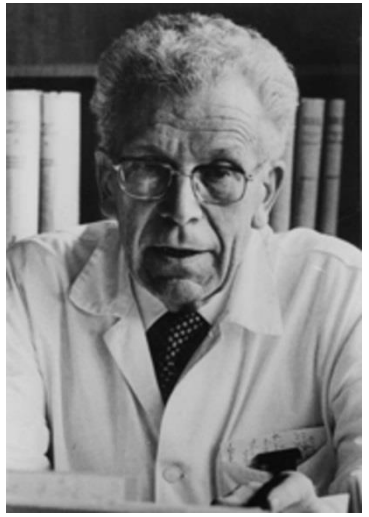
Inter- and intra-individual variations
A multifaceted picture of ASD

4.2 Approach to the concept of ASD

Fig. 1. Grunya Efimovna Sukhareva (reproduced with permission from A.V. Goriunov). *From Manouilenko I, & Bejerot (2015)*

1925

1943



1944

1981

https://mujeresconciencia.com/2017/11/11/grunya-efimovna-sukhareva-psiquiatra/

https://es.wikipedia.org/wiki/Leo_Kanner

4.2 Approach to the concept of ASD

"Parents commented that the children had always been "self-sufficient"; that it was as if they were "locked in their armour"; that they were "happiest when left alone"; that they "acted as if people were not there"; that they "completely ignored everything around them"; that they "failed to develop the social awareness that other children normally develop" .... Any attempt at direct physical contact, any noise or movement that threatens to interrupt the solitude, is treated by the child "as if they did not exist" or if that is not enough the children experience them painfully as "distressing interference".

(Kanner, 1943, p.33)

4.2 Approach to the concept of ASD

https://autismodiario.com/2017/11/10/tenia-hans-asperger-sindrome-asperger/

"... the disorder results in severe and characteristic difficulties in social integration. In many cases the social problems are so profound that they overshadow everything else".

(Asperger, 1944, p. 76)

Pathologies at an early age: Autism Spectrum Disorders

- **Psychoanalytic theory**: psychogenic disorder (pathological parent-child relationship, "refrigerator mothers").
- **During the 50s/60s,** autism is considered as a form of schizophrenia. Terminological confusion: infantile autism, infantile psychosis, infantile schizophrenia...
- **End of the 60s/70s**: autism starts to be studied from a cognitive and neurobiological perspective (PDD). Difficulties in the processes of attention, perception and response to environmental stimuli, language deficits...
- **1979, Lorna Wing and Judith Gould**, define the triad of deficits characteristic of autism:
  - Deficits in their capacity for reciprocal social interaction
  - Communication deficits
  - Deficits in imagination

  Autism as a "continuum" or "spectrum" of dimensions altered to a greater or lesser extent - thus the designation of ASD
- **1981, Lorna Wing** uses the term Asperger's Syndrome to describe a series of patients who showed great clinical similarity to those described by Hans Asperger.
- **Late 80s/90s:** Theory of Mind, Central Coherence Theory, Theory of Executive Functions

https://www.autismedigitaal.nl/avn/wing-lorna/

4.2 Approach to the concept of ASD

"In the 1970s, my colleague Judith Gould and I decided to investigate these questions. We screened all children under the age of fifteen in one area of London (the borough of Camberwell) who had any kind of physical or learning disability or behavioural abnormality, whether mild or severe. We were able to identify a group with typical Kanner's autism, although we found more who had many features of autistic behaviour but who did not fit Kanner's criteria exactly. There were a few who had the pattern described by Asperger, which, at the time of the study, was not known to us. We now know that, if we had included children from mainstream schools, we would certainly have found more with Asperger's syndrome. The main findings of the study were, firstly, that Kanner and Asperger syndromes are subgroups of a wide range of disorders affecting social interaction and communication; secondly, that they could be associated with any level of intelligence; thirdly, that they were sometimes associated with various physical and other developmental disabilities. It was also clear that learning difficulties could occur without an associated autistic disorder, although they often occurred together."
(Wing, 1996, pp. 27-28).

4.3 Nuclear characteristics

Social development. Difficulties in establishing social relationships.

- A continuum of manifestations of these difficulties in social relationships, from the impression of complete isolation, to the existence of motivation to socialise with peers accompanied by a certain awareness of loneliness.
- Alterations in the social domain seem to be present from early on, thus affecting the construction of social knowledge that is forged on the basis of interaction in typical development.
- Peculiarities in eye contact, name orientation, imitation, social smile or social interest and affection, deficits in joint attention, impairments in reciprocal social interaction, in empathising, in attributing mental states, in understanding social situations and acting appropriately, in understanding valuation and social reinforcement, tendency to isolation, atypical behaviour.

4.3 Nuclear characteristics

Communication and Language

- All people with ASD show communication and language impairment.
- Difficulties in non-verbal communication patterns
- Delay in the acquisition of expressive language or even a complete lack of it.

Communication disturbances (approx. 50% do not speak, poorly social and non-functional use of communication, difficulty in conversing, if there is language it is monotonous, often excessively formal, poorly adapted to different social situations, problems at the semantic and pragmatic level), echolalic language, pronominal inversion, use of "neologisms", prosody (absence of speech intonation), use of proto-imperatives as opposed to proto-declaratives...

4.3 Nuclear characteristics

Repetitive behaviours and mental inflexibility

- Repetitive behaviours encompass a whole series of different types of manifestations, but which have in common repetition, rigidity and poor functionality or adaptive character.
- Motor stereotypies, self-injurious behaviours, rituals and routines, insistence on invariance and resistance to change (anticipatory difficulties), restricted interests and concerns (people with ASD seem to show interests in the mechanical aspects of the world, as opposed to the social aspects).
- Some types of behaviour, such as stereotyped movements, become less frequent with age, while others, such as restricted interests, appear in childhood or adolescence and persist into adulthood.

4.3 Other associated characteristics

- **Psychiatric conditions** : anxiety disorders (generalised anxiety disorder, panic disorders, agoraphobia, specific phobias, social phobia, separation anxiety disorder); obsessive-compulsive disorder (OCD); depressive disorders, bipolar disorder, sleep disorders...
- **Cognitive and learning dysfunctions**: ADHD; Intellectual disability (current studies report that 65% of people with ASD have associated ID, a slightly lower percentage than the 75% reported in previous studies). If we talk about learning difficulties, the percentage may be around 25% according to some authors.
- **Medical pathologies**: Genetic syndromes (Fragile X syndrome or tuberous sclerosis), epilepsy, tic disorders...
- **Sensory peculiarities**: hyperreactivity or hyporreactivity to stimuli

- Need to develop specific tools and strategies aimed at detecting the presence of other impairments that may coexist with ASD.
- Although these characteristics and conditions do not appear in all people with ASD, they can interfere and affect the quality of life of these people, therefore, it is necessary to take them into account both during the assessment and diagnosis process, and when planning interventions and supports aimed at favouring the participation of people with ASD in the social, educational, work and community context in the broadest sense.

13

4.4 Diagnostic criteria according to DSM-5

A. Persistent impairments in social communication and social interaction in a variety of contexts, as manifested by the following, currently or by history:

1. Deficits in social-emotional reciprocity range, for example, from abnormal social approach and failure of normal two-way conversation through diminished shared interests, emotions or affections to failure to initiate or respond to social interactions.

2. Impairments in non-verbal communicative behaviours used in social interaction range, for example, from poorly integrated verbal and non-verbal communication through abnormalities of eye contact and body language or deficiencies in understanding and use of gestures, to a complete lack of facial expression and non-verbal communication.

3. Impairments in the development, maintenance and understanding of relationships range, for example, from difficulties in adjusting behaviour in various social contexts through difficulties in sharing imaginative play or making friends, to lack of interest in other people.

4.4 Diagnostic criteria according to DSM-5

B. Restrictive and repetitive patterns of behaviour, interests or activities, which are manifested in two or more of the following, currently or by history:

1. Stereotyped or repetitive movements, use of objects or speech (e.g. simple motor stereotypies, alignment of toys or repositioning of objects, echolalia, idiosyncratic phrases).

2. Insistence on monotony, excessive inflexibility of routines or ritualised patterns of verbal or non-verbal behaviour (e.g. great distress at small changes, difficulties with transitions, rigid thought patterns, greeting rituals, need to take the same route or eat the same food every day).

3. Very restricted and fixed interests that are abnormal in intensity or focus of interest (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).

4. Hyper- or hyporeactivity to sensory stimuli or unusual interest in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive sniffing or touching of objects, visual fascination with lights or movement).

4.4 Diagnostic criteria according to DSM-5

C. Symptoms must be present early in the developmental period (but may not be fully manifested until social demands exceed limited capacities, or may be masked by strategies learned later in life).
D. Symptoms cause clinically significant impairment in social, occupational or other important areas of usual functioning.
E. These disturbances are not best explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder often overlap; to make diagnoses of co-morbidities of an autism spectrum disorder
and intellectual disability, social communication must be below that expected for the general level of development.
Note: Patients with a well-established DSM-IV diagnosis of autistic disorder, Asperger's disease or pervasive developmental disorder not otherwise specified shall be given a diagnosis of autism spectrum disorder. Patients with marked impairments in social communication, but whose symptoms do not meet the criteria for autism spectrum disorder, shall be diagnosed with autism spectrum disorder.
autism, should be assessed for the diagnosis of communication disorder.
social (pragmatic).

4.4 Severity levels according to DSM-5

Severity level	Social communication	Restricted and repetitive behaviours
Level 3 "Needs very noticeable help".	Severe deficits in verbal and non-verbal social communication skills cause severe impairments in functioning, very limited initiation of social interactions and minimal response to other people's social openness. For example, a person with few intelligible words who rarely initiates interaction and, when he/she does, engages in unusual strategies only to meet needs and only responds to very direct social approaches.	The inflexibility of behaviour, the extreme difficulty of coping with Changes or other restricted/repetitive behaviours interfere significantly with functioning in all domains. Intense anxiety/difficulty in changing focus of action.
Level 2 "Needs remarkable help"	Significant deficits in verbal and non-verbal social communication skills; apparent social problems even with assistance *in situ*; limited initiation of social interactions; and reduced or non-normal responses to other people's social openness. For example, a person who utters simple sentences, whose interaction is limited to very specific special interests and who have very eccentric non-verbal communication.	Behavioural inflexibility, difficulty coping with change or other restricted/repetitive behaviours often appear clearly to the casual observer and interfere with functioning in various contexts. Anxiety and/or difficulty to change the focus of action.

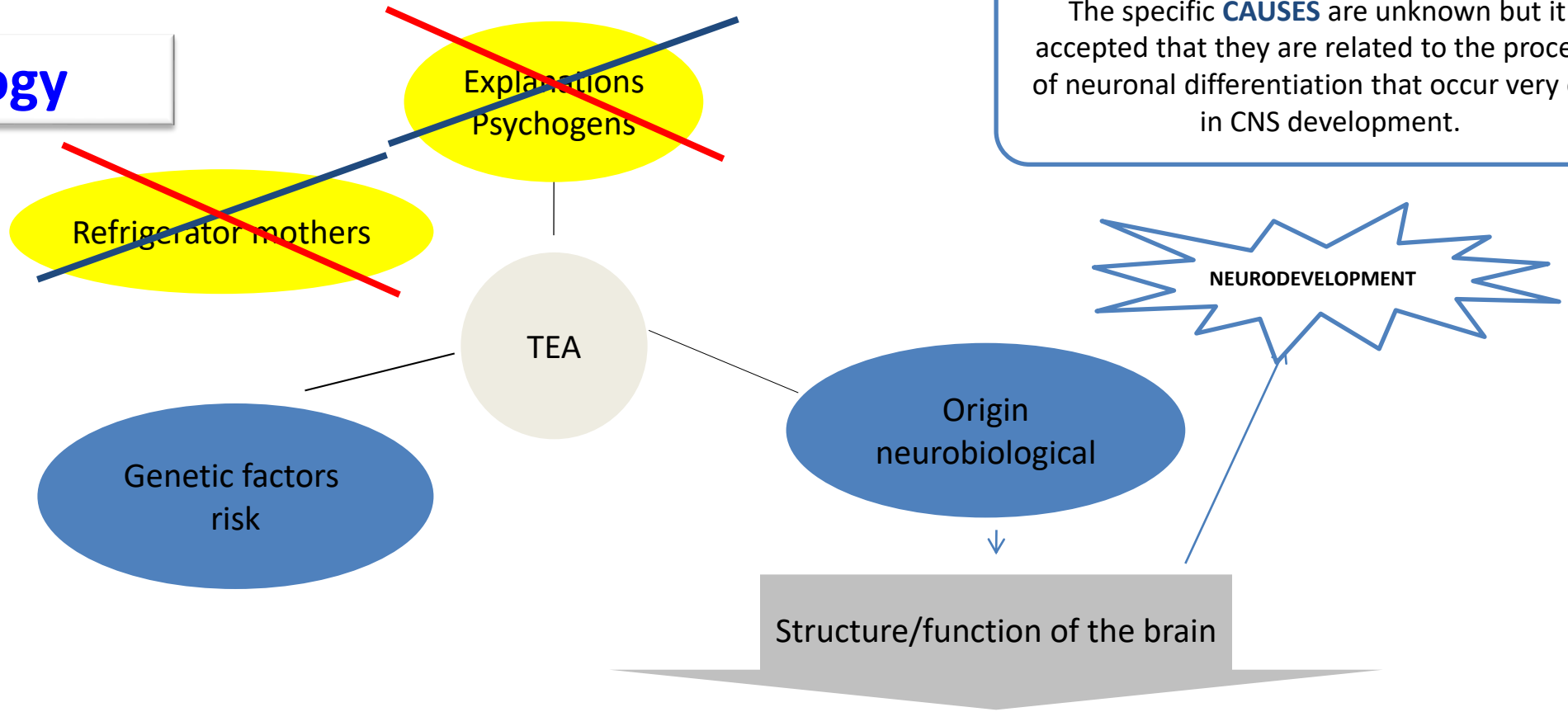
4.4 Severity levels according to DSM-5

Severity level	Social communication	Restricted and repetitive behaviours
Level 1 "He needs help".	Without help *in situ*, deficiencies in social communication cause significant problems. Difficulty in initiating social interactions and clear examples of atypical or unsatisfactory responses to other people's social openness. May appear to have little interest in social interactions. For For example, a person who is able to speak in full sentences and establishes communication but whose extensive conversation with other people fails and whose attempts to make friends are eccentric and usually unsuccessful.	Behavioural inflexibility causes significant interference with functioning in one or more contexts. Difficulty in switching activities. Organisational and planning problems hinder autonomy.

Autism spectrum disorder includes disorders previously called early childhood autism, infantile autism, Kanner's autism, high-functioning autism, atypical autism, pervasive developmental disorder not otherwise specified, childhood disintegrative disorder and Asperger's disorder.

4.5 Aetiology

The specific **CAUSES** are unknown but it is accepted that they are related to the processes of neuronal differentiation that occur very early in CNS development.



Despite all the advances in neuroscience, it has not yet been possible to establish a model to explain the aetiology.

"Early impairment affecting social, communicative and behavioural development may be a consequence of the interaction between various genetic vulnerabilities and other prenatal, postnatal and environmental factors leading to a common syndromic presentation".

Pathologies at an early age: Autism Spectrum Disorders

4.6 Explanatory theories

Mind temperature
(Baron Cohen et al, 1985

Executive function
(Ozonoff et al, 1991)

https://pixabay.com/es/users/publicdomainpictures-14/

Intersubjectivity
(Hobson, 1993)

Central Coherence
(Frith & Happé, 1994)

Photo by Shanice McKenzie on pexels

Social Care. Resonance
(Rizzolatti et al, 1999) a

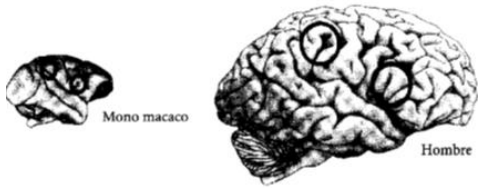


Figura 3. Áreas del cerebro del macaco y del hombre en las que se encuentran las neuronas espejo (Iacoboni, 2009).

Mirror neurons
(Rizzolatti & Fabri-Destro, 2010)

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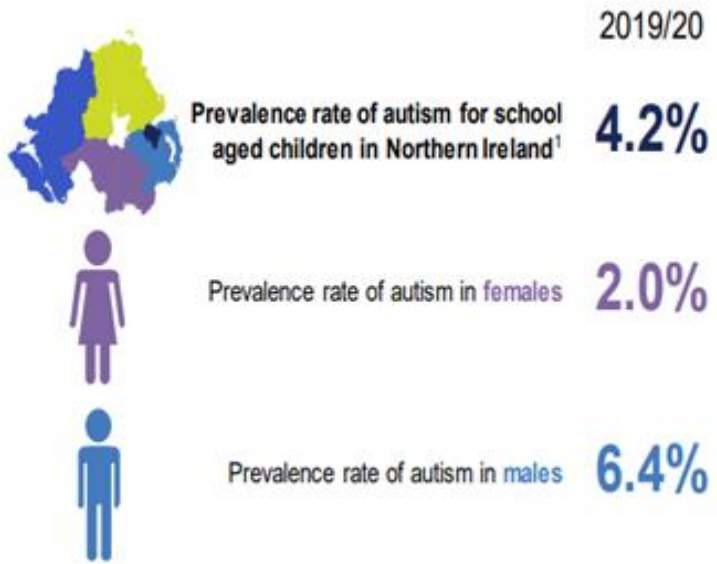
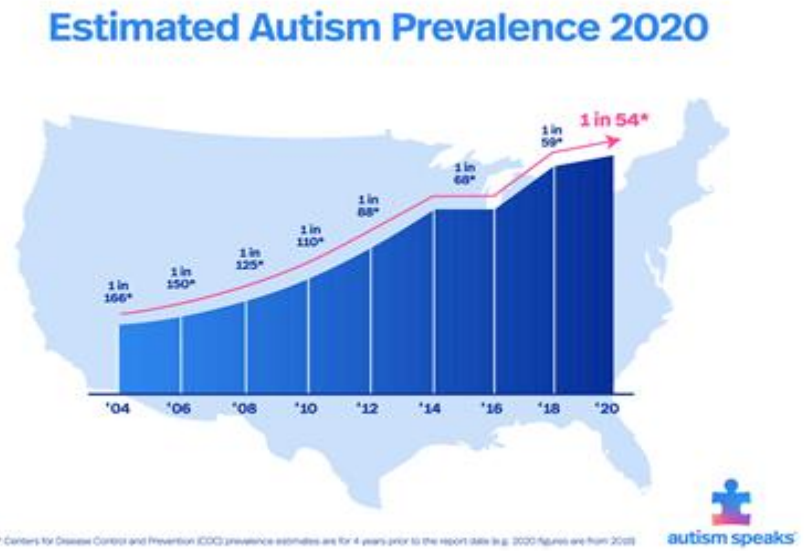
4.7 Prevalence





https://www.facebook.com/tgdinvestigacion/posts/1462412467272740/

In Spain, there are no official censuses on people with ASD, however, prevalence data from epidemiological studies carried out in Europe indicate that there is one case of ASD per 100 births.
As a result, it is estimated that there are more than 450,000 people with ASD in our country, a ***figure that rises to almost 1.5 million people linked to the disorder if we also take into account the impact it has on their families.***

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4.7 Prevalence

1 on 100
Estimate from European Research Studies (Autism Europe, 2015)

https://www.autismogalicia.org/index.php?V_dir=MSC&V_mod=showart&id=312

One of the most researched variables is the relationship of prevalence to the gender of the person with a diagnosis of ASD. These studies suggest that women with ASD are at greater risk of going unnoticed, the results are significant in indicating that many women are not being identified or that their characteristics are being masked or confused with another type of disorder, such as depression, anxiety, eating disorder.

4.7 Why Prevalence is increasing

. Increased awareness of early symptoms through improved screening/diagnostic tools and dissemination and information campaigns.
. Improving access to screening and diagnostic tools.
. More specific and specialised training for professionals.
. Conceptual changes . Modification of diagnostic criteria (DSM-5).
. Screening age.
. Increased knowledge of detection and diagnostic protocols.

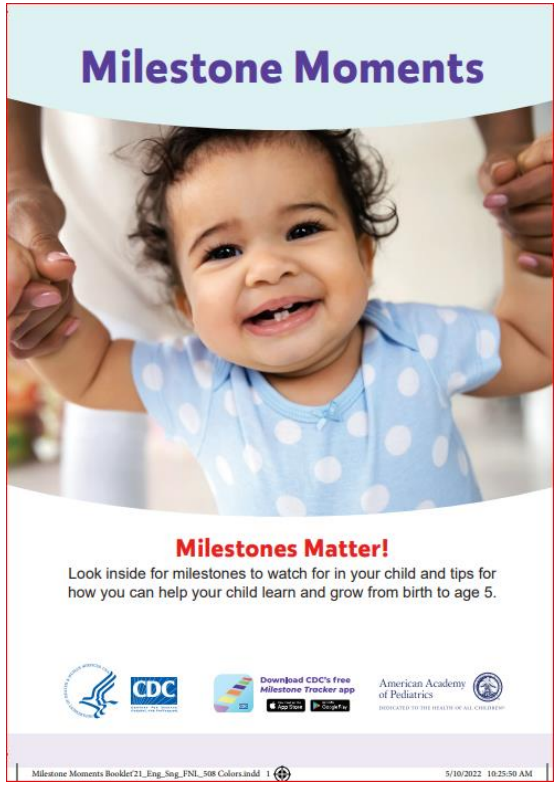
Source AETAPI. Berta Salvadó Salvadó

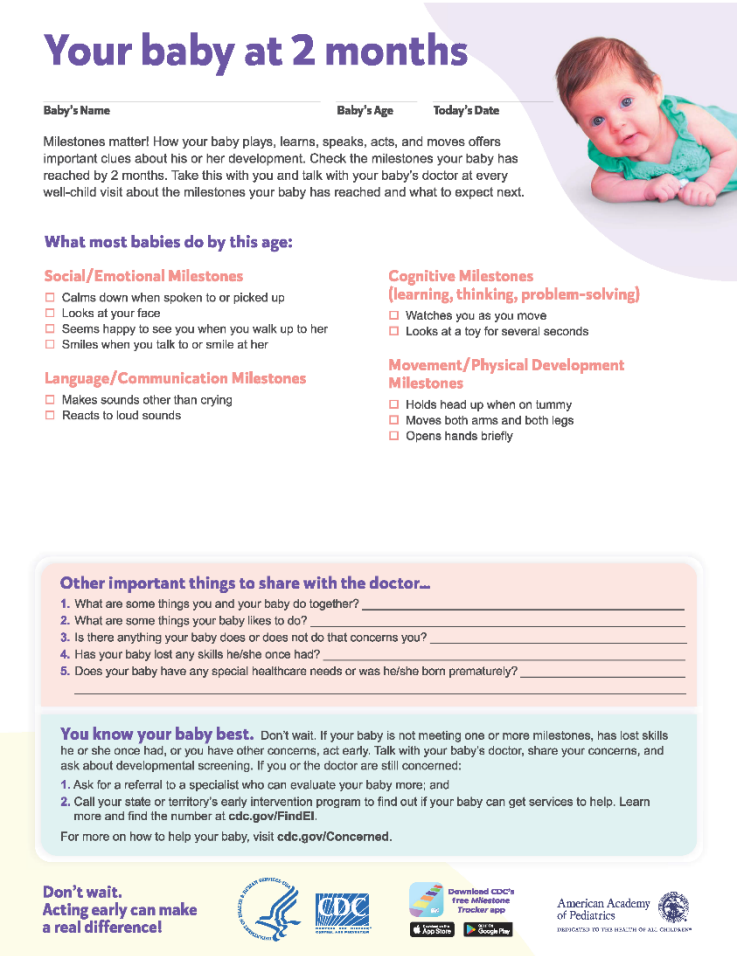
Pathologies at an early age: Autism Spectrum Disorders

The increase in prevalence has helped to change the image of the person with ASD.
Now when we think of people with ASD we think of boys, girls, men, women, teenagers, elderly, young university students, young professionals, mothers with ASD, ... Not forgetting people with ASD who need support.
The profile of people with ASD has changed.

https://pixabay.com/es/images/search/grupo%20personas/?manual_search=1

4.8 Early detection and diagnosis





https://www.cdc.gov/ncbddd/spanish/actearly/materialesgratuitos.html

4.8 Warning indicators

Before 12 months

Little eye contact.

Does not show anticipation when to be held.

Irritability or emotional lability.

Lack of interest in simple interactive games (such as tickling, peek-a-boo).

At 12 months

Absence of babbling, sounds or simple words.

Little use of communicative gestures (such as pointing or waving goodbye

FIRST WORDS PROJECT

https://firstwordsproject.com/

Between 12 and 18 months

Absence of or limited response to own name.

Do not look where others point.

Do not point to ask for something; do not show objects.

Unusual response of rejection to certain auditory stimuli.

Between 18 and 24 months

Delayed or precocious language development.

Do not imitate gestures or actions.

Repetitive and non-symbolic forms of play (e.g. lining up objects or repeatedly opening and closing doors).

Lack of interest in interacting with other children

4.8 Detection instruments

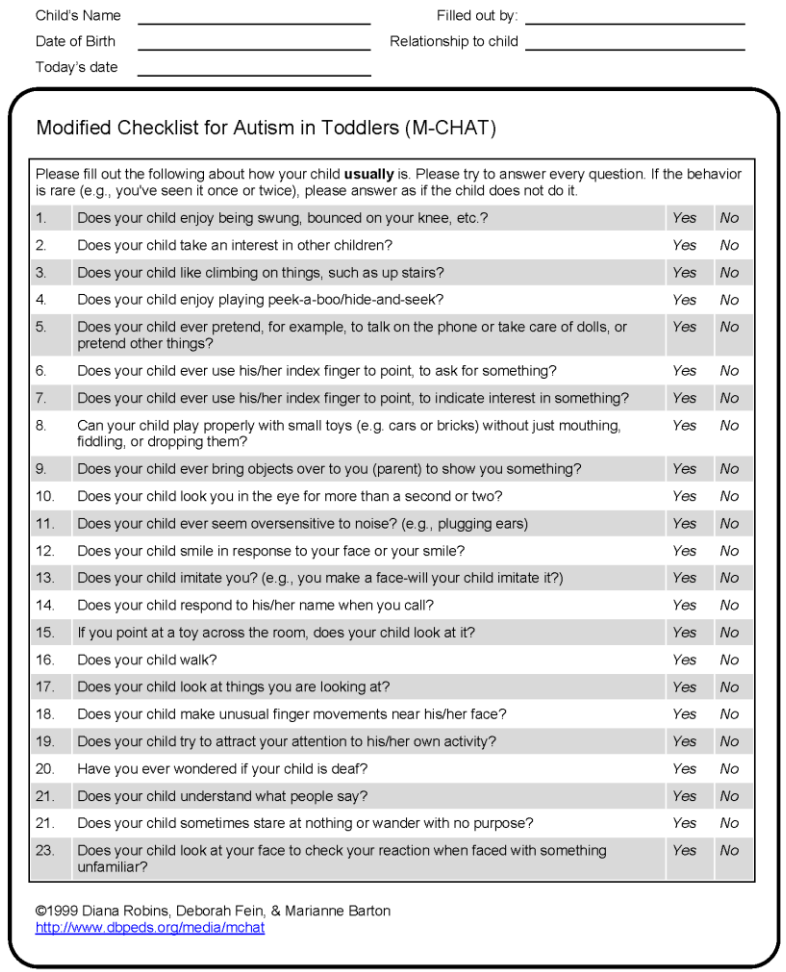
M-CHAT, M-CHAT-R/F (*Modified Checklist for Autism in Toddlers*) (Robins et al., 2009). https://mchatscreen.com/

25 typical indicators of autism at 18/24 months (Rivière, 2000).

Pervasive Developmental Disorder Screening Test-II (PDDSTII) (Siegel, 2004).

ESAT *(Early screening for autistic traits questionnaire)* (Dietz, et al. 2006).

CSBS DP (Wetherby and Prizant Social and Symbolic Behaviour Scale, 2002).



Child's Name _____ Filled out by: _____

Date of Birth _____ Relationship to child _____

Today's date _____

Modified Checklist for Autism in Toddlers (M-CHAT)

Please fill out the following about how your child **usually** is. Please try to answer every question. If the behavior is rare (e.g., you've seen it once or twice), please answer as if the child does not do it.

1.	Does your child enjoy being swung, bounced on your knee, etc.?	Yes	No
2.	Does your child take an interest in other children?	Yes	No
3.	Does your child like climbing on things, such as up stairs?	Yes	No
4.	Does your child enjoy playing peek-a-boo/hide-and-seek?	Yes	No
5.	Does your child ever pretend, for example, to talk on the phone or take care of dolls, or pretend other things?	Yes	No
6.	Does your child ever use his/her index finger to point, to ask for something?	Yes	No
7.	Does your child ever use his/her index finger to point, to indicate interest in something?	Yes	No
8.	Can your child play properly with small toys (e.g. cars or bricks) without just mouthing, fiddling, or dropping them?	Yes	No
9.	Does your child ever bring objects over to you (parent) to show you something?	Yes	No
10.	Does your child look you in the eye for more than a second or two?	Yes	No
11.	Does your child ever seem oversensitive to noise? (e.g., plugging ears)	Yes	No
12.	Does your child smile in response to your face or your smile?	Yes	No
13.	Does your child imitate you? (e.g., you make a face-will your child imitate it?)	Yes	No
14.	Does your child respond to his/her name when you call?	Yes	No
15.	If you point at a toy across the room, does your child look at it?	Yes	No
16.	Does your child walk?	Yes	No
17.	Does your child look at things you are looking at?	Yes	No
18.	Does your child make unusual finger movements near his/her face?	Yes	No
19.	Does your child try to attract your attention to his/her own activity?	Yes	No
20.	Have you ever wondered if your child is deaf?	Yes	No
21.	Does your child understand what people say?	Yes	No
21.	Does your child sometimes stare at nothing or wander with no purpose?	Yes	No
23.	Does your child look at your face to check your reaction when faced with something unfamiliar?	Yes	No

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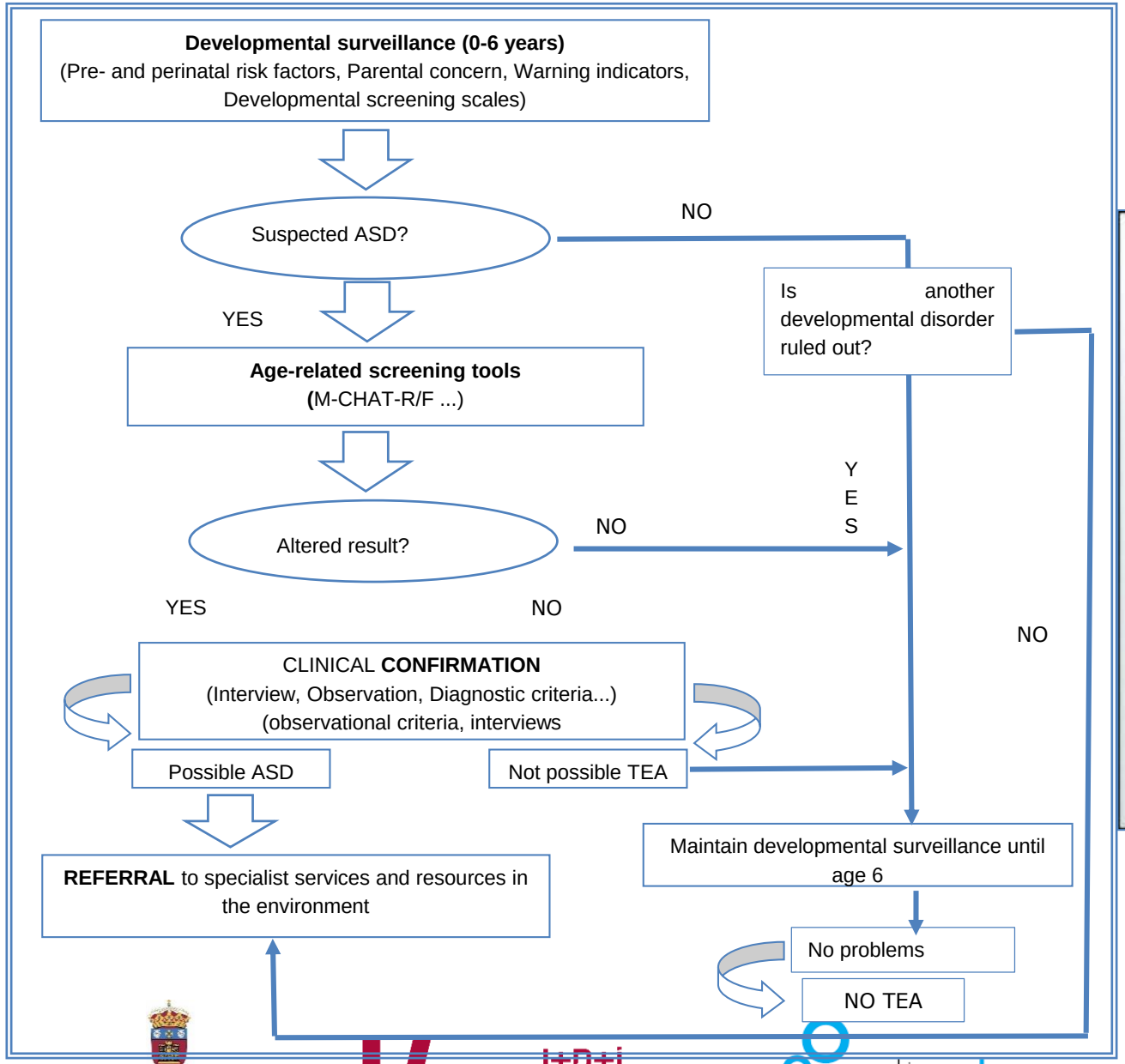
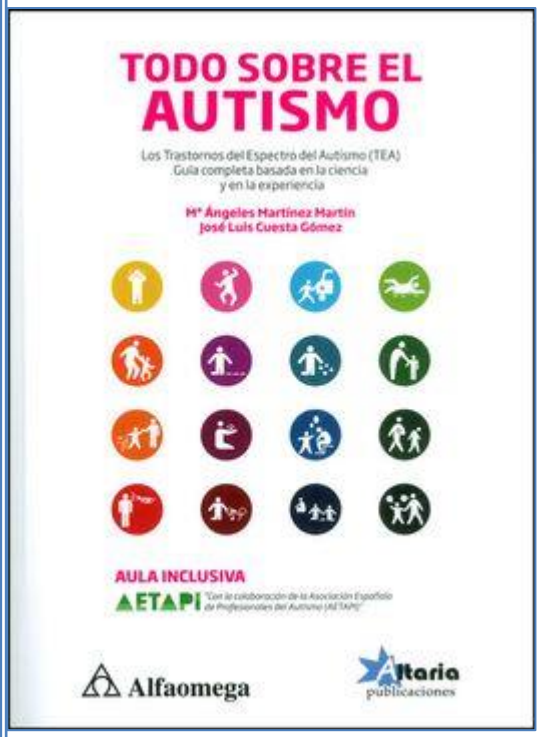


4.8 Referral for diagnosis

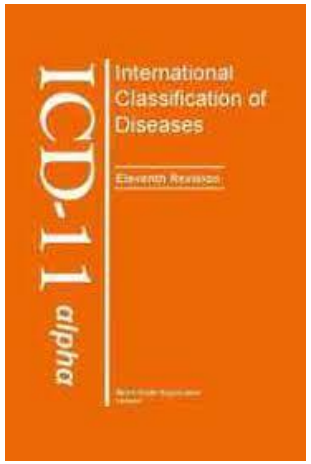
Decision algorithm for the detection of autism spectrum disorders. Adapted from Arnaiz, and Zamora (2013).



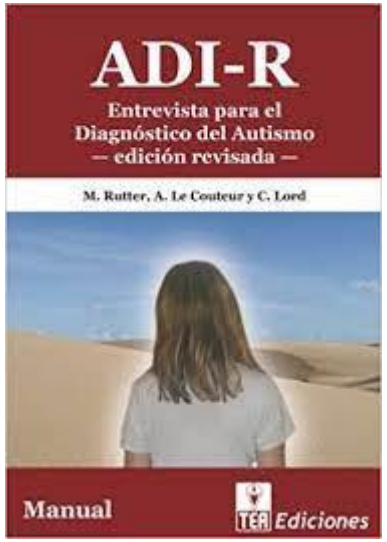
4.8 Diagnosis

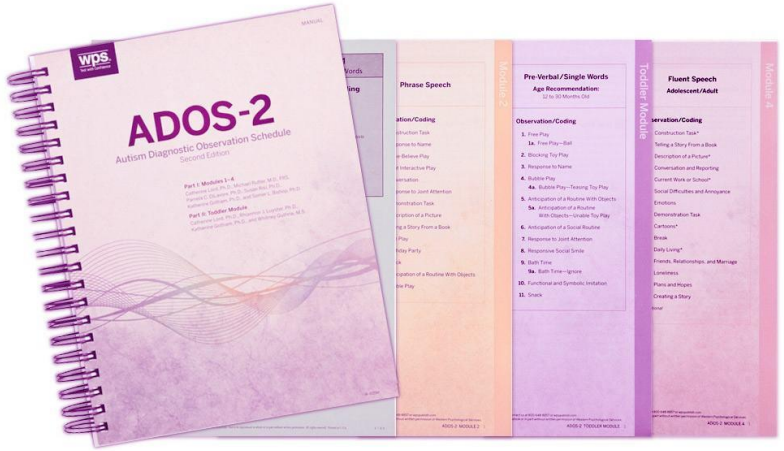
Diagnostic process

Diagnostic criteria



Assessment procedures





Clinical judgement report

Indicating diagnostic criteria and instruments
Clear written report, avoiding euphemisms, with guidance, support...
Strengths-focused orientations

4.9 Early intervention

"Treatment guidelines, therapeutic and educational decisions depend on the specific developmental characteristics and disorder of the individual person with autism, not so much on the particular label of "autism".

Rivière 2001, p.54

Angel Rivière is a fundamental figure in the study and knowledge of autism in Spain. His approaches are still valid and have given way to new advances.

https://www.apna.es/2020/04/13/angel-riviere/

4.9 Intervention Requirements

- Starting as early as possible.
- Shared and coordinated between parents, educational centre and therapist responsible for the child, throughout the different stages of development.
- Individualised, applying strategies adapted to the needs and characteristics of each child.
- In the child's natural environment, whenever possible,
- Intensive, including the hours the child is in the educational centre and those spent with his/her family.
- Multidisciplinary team and collaboration with other professionals.

Hervás, et al. (2017).

4.9 Intervention Programmes

Communication programmes

Alternative or augmentative communication systems aimed at those people with ASD who have little verbal communication capacity, either have not developed language, or if they have language, it is scarce and they need visual support as a complement to their verbal language.

The *Picture Exchange Communication System (*PECS) created by Bondy and Lori Frost in 1985.

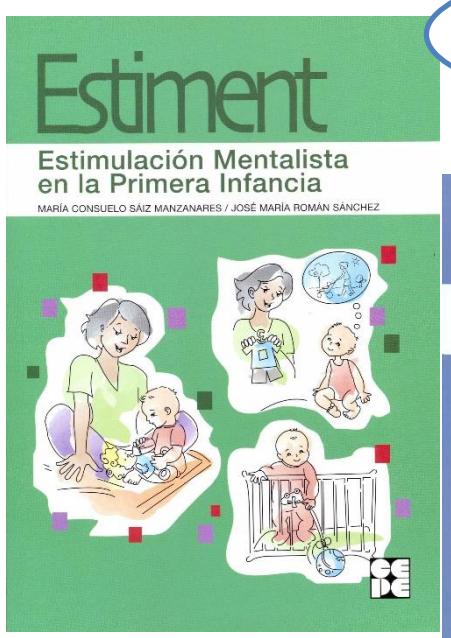
https://pecs-spain.com/el-sistema-de-comunicacion-por-el-intercambio-de-imagenes-pecs

4.9 Intervention Programmes

Interventions in social interaction and promotion of social competences

In order to develop competences in the social area, it is first necessary to work on the metalist capacity (Rivière, 1991; Saiz Manzanares and Román Sánchez, 2010, 2011).

There are different types of interventions to teach social skills: social stories, social scripts, etc.



Early stimulation in early chilhood

https://arasaac.org/

4.9 Intervention Programmes

TEACCH Programme

Treatment *and Education of Autistic and Related Communications Handicapped Children (*Schopler 1988, in Mesibov, and Howley, 2021), is based on the knowledge of the capacities of the person with ASD, on understanding autism and its main objective is to offer security and generate autonomy in people with ASD.

It is the educational intervention methodology that best understands people with ASD and it is mainly based on structured teaching.

https://teacch.com/

https://www.autismoavila.org/catalogo/el-acceso-al-curriculo-por-alumnado-con-trastornos-del-espectro-del-autismo

4.9 Intervention Programmes

TEACCH Programme. Structuring

Structured teaching is based on the evidence and observation that people with ASD share a pattern of neurological strengths and weaknesses that we call Autistic Culture (Mesibov and Shea (2010). It is designed to address the main neurological differences that occur in autism (Mesibov, and Howley, 2021).

https://autismonavarra.com/2016/08/metodologia-de-aprendizaje-teacch/

Main elements of structured learning:
- Physical structuring and special organisation.
- Timetables and agendas
- Work system and task organisation
- Visual information

Weekly schedule

https://www.centromacarena.com/articulo/importancia-del-uso-de-las-agendas-en-los-trastornos-de-conducta-y-autismo

4.9 Intervention Programmes

Positive Behavioural Support

It emphasises the context, modifying it, and the skills of the person, helping to empower them by acquiring communication, social and coping skills.

Principles of positive behavioural support

1. Behaviour has a function for the person.
2. Behaviour is related to context.
3. Effective understanding must be based on an understanding of the person, their social context and the function of the behaviour.
4. Intervention should focus on the values of the individual, respect for his or her dignity, preferences and aspirations.

EMOCIONES EN EL AULA

https://atravesdemissentidos.com/actividades-para-educacion-especial/conducta-y-tea/apoyo-conductual-positivo/

4.9 Intervention Programmes

Sensory stimulation and integration

Sensory stimulation and integration facilitate the ability of the person with ASD to organise themselves in the world around them.

When intervening, taking into account the diversity of response to stimuli presented by people with ASD, it is important to know the individual characteristics and to make a specific sensory profile in order to maximise the intervention and facilitate the assimilation and understanding of the information.

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4.10 Characteristics of Early Childhood Programmes

1. Providing *advice and coordination to families*
2. Building on *psychoeducational approaches*
3. Use *specific programmes and techniques that facilitate the understanding of the environment.*
4. Include the *family*
5. *Individualised* intervention
6. Intervening *intensively and extensively*
7. Focus on *developing meaningful and motivating learning.*
8. Prioritise the *areas of communication skills, social development and play.*
9. Early use of *augmentative and/or alternative communication systems.*
10. Take into account the principles of *Positive Behavioural Support.*

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