



Asperger syndrome: Physiotherapy, neurobiology and psychotherapy

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Abstract

The Asperger syndrome (AS) is a disorder that it is manifested worldwide. It is characterized by difficult with social communication and restricted, repetitive patterns of behaviour, interest, or activities. It is included as a separated several conditions scientific knower: autistic disorder, Asperger syndrome, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified. The relationship between sex/gender differences and AS has attracted a variety of research ranging from clinical and neurobiological to etiological, stimulated by the male bias in AS prevalence. The aim of this study was to review the clinic aspects of AS and physiotherapeutic and psychiatric treatment of this disorder, and the neurobiological findings.

Keywords: Asperger syndrome; Autistic disorder; Neurobiological; Clinical; Physiotherapy; Psychiatry

Introduction

In the last decade there has been a significant increase in the amount of research studies focused on the assessment of social cognition among people suffering from Asperger Syndrome (AS) [1]. This syndrome is a disorder that it is manifested worldwide. It is characterized by difficult with social communication and restricted, repetitive patterns of behaviour, interest, or activities [2]. Then relationship between sex and gender is considered important to neurological behaviour of people affected by this disorder. The relationship between sex/gender differences and AS has attracted a variety of research ranging from clinical and neurobiological to etiological, stimulated by the male bias in AS prevalence [3]. The altered behaviour of people that has AS is associated to neurological clinic patterns. The Magnetic Resonance Image (MRI) of the grey matter differences in 3-dimensional (3-D) stereotactic space of AS studies indicated that grey matter volumes were lower in the bilateral amygdala/hippocampal gyrus regions, bilateral superior frontal gyri and left occipital gyrus in participants with AS compared with controls. Additional regions of lower grey matter volume were identified in the right hemisphere in the cerebellum, putamen, precuneus and medial frontal gyrus. Grey matter volumes in participants with AS compared with controls were observed in only a limited number of regions, including the bilateral inferior parietal lobule and the left fusiform gyrus [4]. The physiotherapeutic attendance in the AS allows the motor development through ludic activities (with objective muscular tonus modulation, global muscular straight, equilibrium, and proprioception, tin and gross motor coordination, below the cognitive aspects), social integrations, concentrations and communication areas activation [5]. Respect the functional and emotional limits will do the difference in all neurofunctional physiotherapy follow. The behaviour altered by AS also interest the psychiatric community. The new diagnostic criteria of AS

focuses on two core domains: social communication impairment and restricted interests/repetitive behaviours [6]. Pharmacological treatments include psychostimulants, atypical antipsychotics, antidepressants, and alpha-2 adrenergic receptor agonists. These medications provide partial symptomatic relief of core symptoms of ASD or manage the symptoms of comorbid conditions. Non-pharmacological interventions, which show promising evidence in improving social interaction and verbal communication of ASD patients, include music therapy, cognitive behavioral therapy and social behavioral therapy. The aim of this study was to review the clinic aspects of AS and physiotherapeutic and psychiatric treatment of this disorder, and neurobiological findings.

2. Methodology

It was a cooperative work with FANEC/UNIP, Natal, RN, Brasil, Renove Fisioterapia e Pilates, and AST Consultoria, both located at Rio de Janeiro, RJ, Brasil. We searched at PubMed [7] database site the terms “Asperger’s syndrome”, associated with “physiotherapy”, “psychiatry”, “autistic disorder”, and “neurology”. All English works were used in this research. Works written in other languages were excluded.

We have used excel to processed the results and to analysed them.

3. Results and Discussion

Asperger Syndrome (AS) as a neurodevelopmental disorder originates in infancy or childhood. Retarded or damaged are then those functions which are associated with the biological process of maturation of the central nervous system. This is a disorder in a family of conditions marked by early-onset delays and deviance in the development of social, communicative, and other skills, and one condition that is typically associated with normal intelligence [1, 2]. Individuals with AS must exhibit deficits in

emotion recognition from faces, particularly those conveying negative emotions. Also, studies using the Faux Pas Test (FPT) have revealed ToM impairments, especially in understanding the intentions (cognitive ToM) and the emotional impact of others' actions (affective ToM) [8]. PubMed [7] is a database that comprises more than 29 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites. When it was associated "Asperger's syndrome" with "physiotherapy" only 6 works were found in the 2429 publications about AS. When the association was made between AS and "psychiatry" 842 publications were found. The justification of the increase of publications with AS and psychiatry is due the fact that this disorder to be treated by psychiatrics more than by physical therapy methods of rehabilitation. When the association was made with "autistic disorder", the publications increase to 1253. The strong association is due the fact that the two disorders were being treated sometimes as one disease type. The association between AS and neurology produced 101 publications justified by the disorder research in the scientific community is new one All the results showed in figure 1. The proportion is due to the use of 2429 publications as 100% that determines the percentage of others publication numbers.

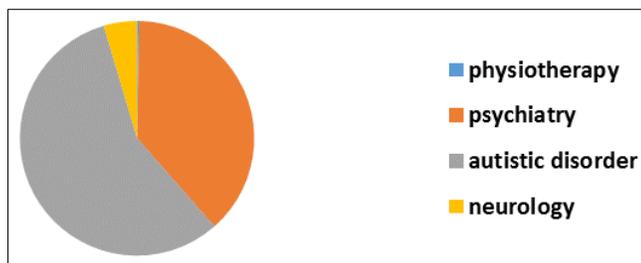


Fig 1: percentage of publications of the search terms

In the last five years there has been a significant increase in the amount of research focused on the assessment of social cognition among people suffering from Asperger syndrome (AS), a number of 22 publications in the recent years in front of the 101 publications of AS and neurology shows the great interest of scientific community about this disorder mainly in the neurosciences works.

4. Conclusion

It was verified that the treatment of the AS occurred in the psychiatric field, although there are other health fields that deserved to be explored. The knowledge of the multiple presentations of this disease helps all the health professionals to make the corrections necessary to reach the better solution of treatment.

5. Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

6. Acknowledgments

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7. References

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