

Approach of health professionals towards patients with Savant syndrome: the wise man syndrome*Abordaje de los profesionales sanitarios ante los pacientes con síndrome de Savant: el síndrome del hombre sábio**Abordagem dos profissionais de saúde frente ao paciente portador de síndrome de Savant: a síndrome do sábio***Aline Voltarelli^{1*}**

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The term "Savant", of French origin, means "wise" and refers to Savant Syndrome, a rare psychiatric disorder characterized by extraordinary cognitive abilities in individuals with other intellectual or neurological disabilities. This study aims to analyze healthcare professionals' perceptions and approaches toward patients with Savant Syndrome, considering the challenges and strategies for adequate care. This descriptive and qualitative research investigated healthcare professionals' perceptions and approaches regarding patients with Savant Syndrome by conducting a literature review of available articles in the BVS and SciELO databases (in Portuguese and English) between 2016 and 2024. The findings suggest that a multidisciplinary approach is crucial for enhancing the quality of life for individuals with this syndrome, thereby fostering their innate abilities and promoting greater autonomy and social well-being. The study emphasizes the importance of healthcare professionals' knowledge and sensitivity in delivering personalized and effective care.

Descriptors: Savant Syndrome; Mental Health; Psychiatry; Neurodevelopmental Disorders; Health Care.**How to cite this article:**Voltarelli A, Sousa RP, Sakman R, Miranda C, Pinto EG, França CC, Arruda AL, Lima AS, Silva PG, Oliveira AAC. Approach of health professionals towards patients with Savant syndrome: the wise man syndrome. Glob Clin Res. 2024;4(1):e63. <https://doi.org/10.5935/2763-8847.20210063>

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Resumén

El término "Savant", de origen francés, significa "sabio" y se refiere al Síndrome de Savant, un trastorno psiquiátrico poco común caracterizado por habilidades cognitivas extraordinarias en personas con otras discapacidades intelectuales o neurológicas. El objetivo de este estudio es analizar la percepción y el abordaje de los profesionales de la salud frente a pacientes con Síndrome de Savant, considerando los desafíos y estrategias para una asistencia adecuada. Esta investigación descriptiva y cualitativa examinó la percepción y el enfoque de los profesionales de la salud mediante una revisión de la literatura disponible en las bases de datos BVS y SciELO (en portugués e inglés) entre 2016 y 2024. Se concluye que un enfoque multidisciplinario es fundamental para mejorar la calidad de vida de las personas con este síndrome, fomentando sus habilidades innatas y proporcionándoles mayor autonomía y bienestar social. El estudio refuerza la importancia del conocimiento y la sensibilidad de los profesionales de la salud para ofrecer una atención personalizada y adecuada.

Descriptor: Síndrome del Sabio; Salud Mental; Psiquiatría; Trastornos del Neurodesarrollo; Atención a la Salud.

Resumo

O termo "Savant", de origem francesa, significa "sábio" e refere-se à Síndrome de Savant, um raro distúrbio psíquico caracterizado por habilidades cognitivas extraordinárias em pessoas com outras deficiências intelectuais ou neurológicas. O objetivo deste estudo é analisar a percepção e abordagem dos profissionais de saúde frente ao paciente com Síndrome de Savant, considerando os desafios e estratégias para uma assistência adequada. Esta pesquisa descritiva e qualitativa investigou a percepção e abordagem dos profissionais de saúde em relação ao paciente com Síndrome de Savant, realizando uma revisão da literatura disponível nas bases BVS e SciELO, com artigos em português e inglês, entre 2016 e 2024. Conclui-se que a abordagem multiprofissional é fundamental para melhorar a qualidade de vida dos portadores da síndrome, incentivando suas habilidades inatas e proporcionando-lhes maior autonomia e bem-estar social. O estudo reforça a importância do conhecimento e sensibilidade dos profissionais de saúde para que possam oferecer cuidados adequados e personalizados.

Descritores: Síndrome de Savant; Saúde Mental; Psiquiatria; Transtornos do Neurodesenvolvimento; Atenção à Saúde.

Introduction

The term "Savant" which means "wise" is a word of French origin, and therefore comes from the word wise, for which it is well known. Savant Syndrome is a rare psychological disorder that causes certain individuals to possess extraordinary intellectual abilities, also known as "islands of genius" and "prodigies"¹.

The main studies that evaluated the mental health of individuals in the community have shown that approximately 90% of psychiatric morbidity in these populations consists of a series of nonspecific and somatic complaints of non-psychotic disorders. The main disorders highlighted in these studies have been depression and anxiety².

The talents mentioned are often linked to an above-average memory; however, with a less thorough understanding of what is being characterized, the syndrome is regularly diagnosed in children. However, savantism can also be "acquired" in adulthood after brain trauma, meningitis, epilepsy attacks, or due to a stroke³.

Syndromes are usually associated with severe disabilities that cause physical, social, and intellectual limitations in individuals. However, in 1887, Dr. John Langdon Down, the physician known for identifying Down syndrome, discovered ten people with Savant Syndrome. Savantism is a subset of the same field as autism, which is characterized by people who demonstrate above-average ability in a specific area. "Savants" who are talented in the

visual arts can recreate precise paintings, drawings, and sculptures that are impressively detailed and meticulous⁴.

This group even included a boy who memorized the book "The Decline and Fall of the Roman Empire" and was able to recite it backwards. John kept in touch with these individuals for over 30 years while researching this type of condition. However, there is a rare syndrome that compensates for this limitation with extraordinary intellectual abilities: Savant Syndrome. Savant Syndrome, also known as Savantism, is a syndrome that is most often associated with autism, as it occurs in 10% of autistic people⁵.

Autism is currently part of the global developmental disorders, called Autism Spectrum Disorders (ASD). Savant Syndrome is commonly considered a global developmental disorder of the autism type with characteristics of high memorization/solving capacity for mathematical problems, concomitant with a deficit of intelligence and difficulty in social interaction. In this type of autism, two out of every ten thousand autistic people described in the scientific literature since 1789, by Benjamin Rush, the father of American psychiatry, have been found. The disease is diagnosed more in men than in women⁶.

Therefore, for care and approach to patients with Savant Syndrome to be effective and appropriate, health professionals must understand what is expected of them, as well as the concerns and expectations of patients and their families. This requires understanding and possession of



differentiated strategies and skills on the part of professionals, as well as an ongoing commitment to offering the necessary support for development and integration.

The aim was to analyze the perception and approach of health professionals towards patients with Savant Syndrome, considering the challenges and strategies for adequate care.

Methodology

This study consists of a descriptive review of a qualitative nature, developed to analyze the perception and approach of health professionals concerning patients diagnosed with Savant Syndrome. The research was based on the critical analysis of scientific articles that explore the clinical characteristics, diagnostic methods, and therapeutic strategies associated with Savantism, in addition to investigating multidisciplinary practices in the care of these individuals.

Data collection was carried out through searches in the databases of the Virtual Health Library (BVS) and the Scientific Electronic Library Online (SciELO), covering the period from 2016 to 2024. To ensure the scope and relevance of the results, the controlled descriptors "Health Professionals", "Savant Syndrome", and "Mental Health" were used, combined using the Boolean operators "AND" and "OR" to refine the selection of articles.

The inclusion criteria adopted prioritized original articles, systematic reviews, case studies, and experience reports that directly addressed Savant Syndrome in its clinical, diagnostic, or therapeutic aspects. Only publications in Portuguese and English, available in full and with free access, were considered. On the other hand, studies that were not directly related to Savantism, duplicate articles and publications without peer review, such as pre-prints and abstracts of non-indexed conferences, were excluded.

The article selection process occurred in two distinct stages. Initially, a preliminary analysis of the titles and abstracts was performed, based on the pre-established eligibility criteria. Then, the selected studies were read in full, and the relevant data were extracted and organized into thematic categories, such as the clinical characteristics of Savant Syndrome, the diagnostic methods used, and the multidisciplinary intervention strategies.

From an ethical point of view, this study did not require submission to a Research Ethics Committee, since it was based exclusively on publicly available secondary data. However, it is important to highlight some limitations inherent to the research, such as the scarcity of recent studies focused specifically on Savantism, which may restrict the generalization of the findings. In addition, most of the available research focuses on Autism Spectrum Disorder (ASD), with a limited approach to the particularities of Savant Syndrome.

Results and Discussion

Savant Syndrome, also known as Savantism, is a syndrome that is most often associated with autism, as it occurs in 10% of autistic individuals. When there are brain malformations or injuries, it can also occur, but this only

happens in 2% of cases. The syndrome was first described by Dr. Langdon Down, who conducted a case study of ten people who at the time were called idiot savants, because what they had in common was generally compromised intelligence but extremely developed specific skills⁷.

There are no clear causes for the syndrome, but scientists have observed that there is a strong connection with deficiencies in the left hemisphere of the brain, which would force the right hemisphere to try to compensate for such failures. It is currently known that people with Savant Syndrome generally have an IQ (Intelligence Quotient) between 40 and 70, while it can be found in others with an IQ of up to 114⁸. This theory could shed light on the fact that this syndrome affects four times more men than women, during brain development, the left hemisphere develops slowly, corresponding to the period in which it is most vulnerable, and the male organism has a higher level of testosterone, which can be toxic to the development and evolution of brain tissue⁹.

The theory can be verified based on case studies of individuals with this syndrome, since certain skills that are more developed by them are linked to the right hemisphere of the brain, among them musical skills (musical intelligence), artistic skills (painting), mathematics, and heightened memory. The functions linked to the left side of the brain are less developed, such as speech, language, and social relationships, which causes a poor understanding of the environment around these people. People with this syndrome face problems very similar to those that other autistic people face in terms of personal interactions and often, due to the particularities brought about by this condition, such people have the ability to memorize entire books or do extremely complicated mathematical calculations without, however, understanding what they mean or how to use them in everyday practice¹⁰. One of the most unique cases still studied today is that of a patient named Kim Peek, an autistic person with Savant Syndrome who developed the ability to read at the age of two, knew 7,500 books by heart, had an encyclopedic memory, and yet had a serious cognitive deficiency, as he had an IQ of 73 and was dependent on his father at the age of 55 to do simple things, such as shaving and taking a bath^{4,8}. "Memories that record facts, events, or knowledge are called declarative"^{9:22}, this is the type of memory that is extremely well developed in individuals with the Syndrome. The ability to associate data with deduce and create ideas allows these people to recall information in a more sophisticated way compared to people who do not have the Syndrome⁹.

Savants can be categorized according to their skill level: prodigious, talented, and with fragments of skills. Those who are considered prodigious demonstrate their skills in an unparalleled way, far beyond the level of the common population, in contrast to their disability. The talented savant has above-average skills, but is not a prodigy, as these are skills that occur to a certain extent in non-autistic or non-disabled people as well. Finally, the savant with fragments of skills (splinter skills) has interest and competence above the average for his level of functioning, which are more common among autistic people.



It is also important to think about the effective education of people with Savant Syndrome, so that their skills can be developed and worked on, but mainly, so that their general potential can be stimulated, allowing them a certain degree of independence and good social interactions. Obviously, this can be done as much as possible, considering the limitations and difficulties faced by each person.

Autism is part of the global developmental disorders, called Autism Spectrum Disorders (ASD), which include autism, childhood disintegrative disorder and Asperger and Rett syndromes, with ASD having the possibility of being identified from the first years of life, and is characterized by disorders in the triad: social interaction, communication and social reciprocity, in addition, Savant Syndrome, characterized by a notable degree of genius and skills related to memory, especially, can present itself synchronously with ASD⁹.

Currently, regarding the possible causal factors that may corroborate the genesis of ASD, a person diagnosed with ASD may also be diagnosed with Savant Syndrome, but not necessarily: approximately 50% of cases of Savant Syndrome are associated with ASD, and the other 50% with other disorders. Approximately 10% of individuals with ASD also manifest Savant Syndrome. The difference between the conditions is that many individuals with ASD have restricted interests in certain subjects, and by studying and focusing their attention on this, they end up mastering the content. Savants, on the other hand, have an innate ability; that is, they do not need to study to master a certain subject. According to a study carried out in 1978 by Bernard Rimland, from the Autism Research Institute (ARI), in California, the abilities present in patients with Savant Syndrome are more associated with the functions of the right hemisphere (which include aptitudes for music, art, mathematics, forms of calculation, among others)¹⁰.

On the other hand, the most deficient skills are those related to the functions of the left hemisphere, such as language and speech specialization. However, the doctor can conclude this diagnosis when the child is stimulated, and an unusual ability is noted in certain areas of daily life. The medical specialists who can diagnose it are psychiatrists, neurologists, and pediatric neurosurgeons. There is no cure for Savant Syndrome. However, correct guidance from the multidisciplinary health team and medical specialists implies the possibility of helping the patient in socialization and encouraging other daily tasks¹¹.

The disease is chronic; some children occasionally lead independent lives with few signs, but in general, the lack of various skills and strange social behavior persists. Only one in six shows adequate adjustment to society, performing some type of adequate work in adult life, while the majority remain negatively disabled, Savant Syndrome, which is characterized by extraordinary memory, calculation with great speed and the ability to correlate days, dates and years, patients with Savant Syndrome associated with ASD are characterized by having a limited repertoire of skills, which generally correspond to the left hemisphere¹¹.

According to the DSM IV, what characterizes autism

is: Qualitative impairment of social interaction, manifested by at least two of the following aspects: marked impairment in the use of multiple nonverbal behaviors, such as direct eye contact, facial expression, body postures and gestures to regulate social interaction, failure to develop relationships with peers, appropriate to the level of development, absence of spontaneous attempt to share pleasure, interests or achievements with other people and absence of social or emotional reciprocity, in social interaction, in language for social communication purposes and in imaginative and symbolic games, there are some differences between Autism and Savant Syndrome^{4,11}.

Autism is generally associated with social communication deficiencies and, in turn, cognitive capacity. Individuals with Savant syndrome have certain cognitive areas beyond human capacity, such as memorizing entire books throughout their lives, performing mental multiplication calculations of more than seven digits, among other factors. Although they share characteristics in common with any other autistic person, they have their learning ability preserved, being able to develop personal relationships. Another syndrome like autism and Savant syndrome is Asperger's syndrome, characterized by disorders of reciprocal social interaction of language, non-verbal communication, and repetitive motor activities, and resistance to change. Current studies consider the two developmental disorders as identical, varying along a continuum of severity. It is important to provide care with reception in health institutions with a holistic approach, considering patient safety and dignified treatment, including in Primary Health Care (PHC)^{11,12}.

Conclusion

Savant Syndrome, the most common, is divided into skills, which include an obsessive concern with memorizing songs. This was descriptive-qualitative research, focusing on the description of Savant Syndrome, the search took place in the BVS and SciELO databases, articles in Portuguese and English were selected, with free articles attached and indexed in virtual academic study platforms between the years 2016 to 2024, the descriptors used were Health Professionals, Savant Syndrome and Mental Health.

It is concluded that savants have an innate ability, that is, they do not need to study to master a certain topic. People with Savant Syndrome cannot communicate clearly and may have difficulty expressing themselves. Care for people with Savant Syndrome is aimed at improving the patient's quality of life to develop communication and social interaction skills, guided by a specialist pediatric neurologist and/or neurosurgeon, together with the healthcare team.

To achieve this, a multidisciplinary approach involving neuropediatricians, neurosurgeons, occupational therapists, psychologists, and other health professionals trained to deal with the needs of these individuals is essential. Through personalized care and specific disciplines, it is possible not only to promote a better quality of life, but also to foster an environment that values their capabilities and contributes to the development of social and communication skills. Ultimately, the success of the



treatment and monitoring of these patients depends on a collective and continuous effort by health professionals to create an environment that maximizes the potential of

individuals with Savant Syndrome, enabling a more integrated and integrated life within society.

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