

Positive role of healthy lifestyle that include, dietary measures such as fasting and exercise has been recognised and recommended by physicians from the ancient times, through the middle ages to the early 20<sup>th</sup> century. Indeed, used as therapeutic tool to treat medical and psychiatric disorders.

In recent years there has been resurgence of focus on diet and exercise as important and additional therapeutic tools in management of both medical and psychiatric disorders.

The scientific basis, explaining the benefits of healthy diet and physical activity are beginning to be unravelled. Possible mechanism that may explain, how benefits are gained from good diet (including fasting) and physical activities include, their anti-inflammatory effects, thus benefiting the immune system. Fasting can also trigger autophagy, a mechanism which helps to remove toxic proteins that have been linked with development of neurodegenerative disorders.

A diet that facilitates healthy and varied gut biome leads to positive benefits for the immune system, better sleep, weight control and general improvement in physical and mental health.

Increased physical activity has been shown to benefit many psychiatric disorders including anxiety and depression. Amongst mechanisms suggested include, increase in BDNF, better circulation and increased energy, possibly related to improvement in mitochondrial health.

Exercise has also been shown to improve sleep, reduce stress, have beneficial effects on the immune system, metabolic status and general physical and mental health.

However, more research is needed to not only better understand, how diet and exercise helps physical and mental health, but also how best to use diet and exercise as additional therapeutic tools for improving physical and mental health.

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## **DISABILITY AND QUALITY OF LIFE**

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Complex disability affects several body systems and it is often associated with intellectual disability and behavioral disorders.

For all these reasons its care is challenging. Moreover, within this complexity, identifying useful indicators for understanding the patients' health status seems crucial. In recent years, as highlighted the literature, an important indicator to plan and evaluate the effectiveness of individualized interventions is the Quality of Life (QoL). Furthermore the literature showed that the QoL' outcomes are closely connected to the quality of the relationship between patients and their caregivers. The quality of the relationship is considered a key factor that can have an effect on several outcomes including the QoL. To date, few studies have been conducted in patients characterized by multiple complex disabilities. The main aims of this study, were to assess the QoL outcomes of 31 residential patients with severe and multiple disabilities related to severe or profound ID, recruited to the "Istituto Serafico" of Assisi and to explore the link between the relationship quality and QoL outcomes. All indicators, QoL outcomes and relationship quality, have been evaluated through interviews with professional caregivers who take care of individual patients. The evidence that will be presented highlights the importance of taking into account of these indicators to plan and evaluate individualized care interventions also in complex disabilities

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## **ACCESS TO CARE: AVAILABILITY AND AFFORDABILITY OF ANTISEIZURES MEDICATIONS**

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Neurological disorders affect about one billion people worldwide and represent a leading cause of disability and death (Feigin et al. 2020). Many people with neurological disorders have a limited access to appropriate care and treatment with large disparities between country income levels and socio-economic

status. People with disabilities may face even more challenges in accessing healthcare, particularly in limited resource settings. Epilepsy is the most common severe chronic neurological disorder, affecting approximately 50 million persons globally (GBD 2016). Epilepsy is highly prevalent in people with intellectual disabilities (Robertson et al. 2015). More than 80% of people with epilepsy live in low- and middle-income countries where the epilepsy treatment gap (ETG) has been estimated greater than 75% (Meyer et al. 2010). There are many factors contributing to the ETG, including financial constraints, poorly organized health systems, limited accessibility to health facilities, few trained health professionals and other socio-cultural barriers. Limited accessibility, availability and affordability of antiseizure medications (ASMs) represent one of the main barriers to access treatment. People with epilepsy require ASMs for many years, at time for life; abrupt withdrawal of ASMs or unavailability or rescue medications may have devastating consequences in term of neurological sequelae and even death. The International League Against Epilepsy (ILAE) Task Force on “Access to Treatment” conducted a global survey to assess the current access to ASMs worldwide through the ILAE/IBE network. Availability and accessibility of 35 ASMs in different formulations, including distribution problems and costs, reimbursement procedures, general barriers to access to care, and presence of projects targeted toward improving care access were studied. The survey found wide disparities in affordability and reliable access of ASMs across country income levels and socio-economic status, urging for direct action on improving access to epilepsy care (Pironi & Ciccone et al. under review).

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## **PROBLEM BEHAVIORS OR PSYCHOPATHOLOGIES IN AUTISM: A COMPLEX DICHOTOMY**

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Do Challenging Behaviors and Psychopathologies, in the population with Neurodevelopmental Disorders (Intellectual Disability and Autism), describe the same phenomenon or different phenomena?

Is talking about psychopathologies or problem behaviors the same thing?

If the psychopathologies and problem behaviors of Neurodevelopmental disorders refer to different phenomena, are there areas of overlap between them? Of what kind?

These are some of the questions clinicians ask when called upon to intervene to support the physical, psychological, and emotional well-being of people with autism and intellectual disabilities. Understanding whether these two phenomena are different events and to what extent they are is critical to identifying and selecting the best treatments: psychoeducational treatments and/or pharmacological treatments.

This population in fact has a strong vulnerability to psychopathological problems as well as a high probability of manifesting challenging behaviors. These two phenomena, challenging behaviors and psychopathological problems, are significantly more present in the population with neurodevelopmental disorders than in the population with typical development.

During the report will be analyzed 3 reasons why we can say that, generally, challenging behaviors and psychopathologies are different phenomena: a) are defined in different ways; b) have a different level of complexity; c) involve the state of well-being of the person for very different times.

After analyzing what are the elements that make different these two phenomena will be analyzed what are the areas of overlap of these two conditions and how they can sometimes feed each other.

Finally, we will highlight the usefulness of using a functionalist view of behavior, through the use of function analysis, both for the diagnosis and treatment of problem behaviors and psychopathologies.

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