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Psychoeducational module on Neurocognitive impairments – Mild and Severe. Module of the neuropsychological intervention program for the elderly, REHACOG

Módulo Psicoeducativo sobre Transtornos Neurocognitivos – Leve e Maior. Módulo do programa de intervenção neuropsicológica para o idoso, REHACOG

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Abstract

Objective

The purpose is to present a neuropsychological intervention program, aimed at the broader person, the Psychoeducation Module, directed fundamentally at one's support network, family members and even intervention agents.

Method

The Cognitive Rehabilitation Program, given the acronym REHACOG, can work as a remedial and/or preventive tool that is very structured but flexible and complete because it includes varied tasks that promote multiple cognitive, linguistic and socio-emotional processes. REHACOG has an active character, also having a module more oriented to information and awareness for all the themes inherent to the larger individuals, potentially more oriented to caregivers or the elderly support network.

Results

Emphasizing this last topic, which has not yet been disseminated, which is the main objective of this article, we present the training module and the psychoeducational module, which

includes six rubrics that cover topics ranging from conceptualization(s) of dementia, neurocognitive disorders, to symptomatology, assessment, intervention, caregivers and their roles, and response resources.

Conclusion
Although this material has not yet been published and disseminated, we expect to use and test it very soon. We look forward to its usefulness among professionals and future professionals in the area.

Keywords: Cognitive remediation; Disease prevention; Psychological Intervention; Training.

Resumo

Objetivo
Apresentar um programa de intervenção neuropsicológica, orientado para a pessoa maior, especificamente, o módulo Psicoeducação, vocacionado, fundamentalmente, para a sua rede de suporte, familiares e mesmo agentes interventores.

Método
O Programa de Reabilitação Cognitiva, com acrónimo REHACOG, pode funcionar enquanto ferramenta remediativa e/ou preventiva, bastante estruturado, mas flexível, porque inclui inúmeras e variadas tarefas promotoras de múltiplos processos cognitivos, linguísticos e socio emocionais. Genericamente, o REHACOG tem caráter ativo, possuindo, também, um módulo mais orientado para a informação, divulgação e sensibilização para todas as temáticas inerentes aos indivíduos maiores, potencialmente, mais orientado para os cuidadores ou rede de suporte dos idosos.

Resultados
Enfatizando este último tópico, ainda não disseminado, maior objetivo do presente artigo, temos o módulo informativo/formativo, Módulo Psicoeducativo, que contempla seis rubricas que perpassam tópicos desde a concetualização(ões) de demência, os transtornos neurocognitivos, à sintomatologia, à avaliação, à intervenção, aos cuidadores e seus papéis e aos recursos de resposta.

Conclusão
Embora este material ainda não esteja publicado e disseminado, contamos vir a utilizá-lo e a testá-lo muito em breve. Almejamos a sua utilidade junto de profissionais e futuros profissionais da área.

***Palavras-chave*:** *Remediação cognitiva; Prevenção de doenças; Intervenção psicossocial; Treinamento.*

Ageing is a natural process and one that can be enjoyed with a certain level of health and/or relatively solid cognitive, emotional, social, motor and other functional skills, as reflected in the Portuguese saying, 'If it doesn't get you when you're young, you won't escape it when you're old' ("*Quem de novo não vai, de velho não escapa*"). Although ageing is indeed a natural physical process, individuals should nevertheless seek out a course that is active, healthy and gratifying. In the present day we are in fact witnessing longer life expectancy along with the broadly expressed appreciation for life-long learning and wellbeing at any stage of life, and the concept of active and healthy ageing, with the terms "empowerment" and "recovery" being the buzzwords of the day for any phase of life.

For this reason, at present, research into the multiple areas of human endeavour, and for any age, have suggested activities that promote, prevent or remediate, be they individual and/or group, motor, social, cognitive or linguistic, with all the associated tasks that they might involve. Also recommended are integrated, holistic, suitable, adjusted, attractive, and suggestive activities.

The production of resources or tools for any and all aspects of development has thus been prolific.

We would thus like to take this opportunity to present a neuropsychological intervention program created by a research group from the University of the Basque Country (Ojeda et al., 2012),

a tool founded in numerous empirical evidence <https://rehacog.deusto.es/> and already adapted to various languages, including European Portuguese (Figueira & Paixão, 2015).

The REHACOP, the acronym for the Integrated Cognitive Rehabilitation Program in Psychosis in the original (Ojeda et al., 2012), is currently being used in other populations, including the geriatric population, for which it has been renamed REHACOG. Despite this title, the intervention is not limited to only cognitive aspects; included are activities oriented towards the promotion of socioemotional, linguistic and everyday activities.

Generically speaking, this is a holistic tool which promotes processes such as attention, concentration, learning, memory, language, executive functions, everyday activities, social skills, and social cognition (Figueira & Paixão, 2015). However, in a systemic, contextual, ecological and integrative/community logic, activities meant for caregivers and social support networks of a more informative, sensitizing and training/development nature are proposed.

This tool is an integral and structured tool that can be used by both professionals and clients, either in a clinical or educational context or in a family setting, either individually or in a group.

Method

In this context, we begin by presenting a systematisation of the neuropsychological intervention program, REHACOG, in all its dimensions, including the psychoeducational dimension, recognizing the already existing modules (targeting psychoses and those on the autism scale) as well as the psychoeducational submodel, which is the object of this article, with its potential developments, directed towards intervention on the level of subjects experiencing neurocognitive disturbances. This module is in line with the structure/architecture of its counterparts (Ojeda et al., 2012), that is, six rubrics in addition to the Introductory rubric: 1) Conceptualizations, 2) Symptomatology, 3) Assessment, 4) Intervention, 5) the role of the Caregiver, and 6) Social Resources.

The REHACOG program

The REHACOG program is an instrument that features 300 intervention exercises. It comprises eight modules which can be used in a random and non-sequential way (with respect to a needs assessment): 1) Concentration and Attention; 2) Language; 3) Learning; 4) Memory; 5) Executive Functions; 6) Everyday Activities; 7) Social Skills, Social Cognition; and 8) Psychoeducation or Information/Training/Sensitizing [suitable and adaptable in conformity with the issues in question (psychoses, dementia, dependencies, learning difficulties, autism, development or promoting development and learning in general, etc.)] (Figueira & Paixão, 2015).

In the Concentration and Attention Module, the exercises and tasks have to do with the four components of attention: sustained attention (the task memory', selective attention (free of distractions), divided attention (the ability to attend to two tasks simultaneously), and alternating attention (ability requiring mental flexibility) (Figueira & Paixão, 2015).

The Learning and Memory Module features tasks that have to do with three types of memory with respect to time: "the sensory memory which supposes a momentary recognition and lasts milliseconds; the short-term memory related to the working memory; and the long-term memory which retains information for a longer period of time" (Figueira & Paixão, 2015, p. 3). The module also includes tasks that allow for training memory capacity, such as recovery techniques based on examples taken from everyday life (Figueira & Paixão, 2015).

In terms of language (Language Module), exercises or activities dealing with syntax, grammar, vocabulary, comprehension and verbal fluency, and use of figurative language are developed (Figueira & Paixão, 2015).

With respect to executive function (Executive Functions Module) the intervention concerns three areas: 1) the selection and execution of cognitive plans, that is, the necessary behaviours to select and complete an activity aimed at achieving an objective; 2) control over one's time, that is, calculating the necessary time, approximately speaking, to successfully complete a plan, create timetables, execute the plan and continually review the amount of time spent; and 3) behavioural self-regulation, which is, knowledge of oneself and of one's own behaviour and that of others, and the ability to control behaviour. Control and regulation originate those behaviours that are suitable to the social milieu, thus avoiding the likelihood of acting in a way that runs contrary to what is socially expected (Figueira & Paixão, 2015).

Concerning Social Cognition, emotional processing or the recognition of emotions, social reasoning (perception and social knowledge) the Theory of Mind and social dilemmas (style of attribution) are included (Figueira & Paixão, 2015). Of the various aspets of social skills in this module, highlighted are empathy, assertiveness, active listening, verbal and communication, among others (Figueira & Paixão, 2015).

The Module of Everyday Activities suggests tasks such as eating, controlling one's bowel movements, using the toilet, getting dressed, bathing, mobility/getting around (bed, sofa), taking walks, going up or down stairs, etc. Also in this module are tasks such as: the ability to make purchases, to use the telephone, to prepare food, to take care of the housework, to wash one's clothes, to use public transport, to regulate one's medicines, to use money, etc. given how these tasks require the subject to adapt to their surroundings. "Being more complex, advanced everyday activities are the set of elaborated behaviours of management and regulation of one's physical surroundings and social environment that allow the individual to develop a social role, maintain good mental health, and enjoy excellent quality of life. Such activities can be travel, participation in social actions, work, gardening and do-it-yourself projects, sport, etc" (Figueira & Paixão, 2015, p. 4).

The Psychoeducational Module, the main focus of the present article and customizable with respect to the issue or the population in question (already available in European Portuguese for dependencies, autism, dementia, and light or moderate cognitive deficits), includes a CD with the necessary information that may sensitize family caregivers and social support networks with information and basic training.

In the case of dependencies, provided are:

> the materials necessary for training in psychoeducation with clients and/or families on such themes as general questions and symptoms, mediation and other therapies, the consumption of hazardous substances, specific information for families, social resources, and relaxation techniques. This module comprises six specific rubrics in which each facet of the question is developed: the first rubric describes the symptoms of the disease; the second, its evolution; in the third, the types and forms of medication are identified; the fourth rubric is dedicated to the family and all the issues that it involves; in the fifth, the theme of relaxation is taken up; and finally, in the sixth, the existing social resources for this population are discussed. (Figueira & Paixão, 2015, p. 4)

As for the informational/training module on the theme of Autism/Disorder on the Autism Scale (Figueira & Vieira, 2021; Vieira, 2017), five rubrics are considered: 1) conceptualization; 2) causes; 3) diagnosis and assessment; 4) intervention, and 5) social resources.

The rubric Conceptualization covers: I) Concepts; II) Origin of the word; III) History of Autism, itself divided into: 1) Leo Kanner and Hans Asperger; 2) Bruno Bettelheim and Lorna Wing and Judith Gould; IV) the Autism spectrum, and V) Analysis based on the Diagnostic and Statistical Manual of Mental Disorders-V (DSM-V).

With respect to Causes, this rubric is divided into Explanatory Theories which are further broken down into "non-organic", "semi-organic" and "organic". A brief exposition on the studies and theories which attempt to explain Autism Spectrum Disorders (ASD) will be carried out, of which we note: "Behavioural Theories", "Immunological Studies", Pre- Peri-, and Post-Natal Factors", "Common Threshold Model", "Psychoanalytical Models", "Biological Theories", "Genetic Theory", "Neurochemical Studies", "Alternative Theories", "The Russell Model", "Psychological Theories", "Theory of Mind", "Bowler's Proposal Model", "Theory of Executive Functions", "Hobson's Model", and "Central Coherence Theory" (Vieira, 2017).

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The third rubric is dedicated to Diagnostics and Assessment, meant to explain matters of diagnostics and assessment, an approach to the DSM, and a brief explanation of some instruments used to evaluate and diagnose individuals with Autism Spectrum Disorders. In more explicit terms, the rubric is divided into: I) Diagnostics and Assessment, with this item further divided into (a) Final results; (b) Prior to assessment; (c) During assessment, and d) After assessment; II) Difficulties in assessing ASD; III) Phases of assessment, which branch out into the areas of (a) Clinical History; (b) Psychological Evaluation; (c) Psychiatric Evaluation, and (d) Biomedical Evaluation; IV) the DMS (evolution of the DSM criteria, the DSM-V and autism, and the principal differences between the DSM-IV and the DSM-V), and V) Instruments of assessment, of which there are: (a) Autism, Diagnostic Observation Schedule (ADOS); (b) Social Communication Questionnaire (SCQ), (c) Psychoeducational Profile Revised (PEP-R); (d) Psychoeducational Profile 3 (PEP-3); (e) Adolescent and Adult Psychoeducational Profile (AAPEP); (f) Griffiths Mental Development Scale; (g) Wechsler's Scale; (h) Vineland Adaptive Behavior Scales; (i) *Teste de avaliação da linguagem na criança*; (j) Scale of Preverbal Communication, and (k) the Test of Pragmatic Language (TOPL) (Vieira, 2017).

In the fourth rubric we find Interventions. These are divided into: the Cognitive Nature Model, Portage Program; Transactional Intervention Model; Constructivist Intervention of Chronic Disease; *Modelo Teacch*; Structured Teaching Model (Organization in space: Transition Area; Meeting Area; Learning Area; Work Area; Play Area; Group Work Area; Computers; Organization of time: Schedules, Work Plan; Transition Card); Behavioural Nature Model; Applied Behaviour Analysis (ABA); Fundamental concepts of ABA; Consequences: punishment and procedures based on punishment; Consequences: punishment and procedures based on reinforcement; Variables that determine inadequate behaviour; Initial Assessment; Objectives to be reached; Application of the Programs; Assessment of Progress; Types of Social Skills; Definition of Social Skills Training; Aspects to work on; Social Skills Training Programs; Social Histories; Transfer Training; Guided Practice; Relaxation Training; Didactic Games; Psychoanalytic Intervention Model; Family Intervention; DIR® Model / DIRFloortime®; Levels of emotional functioning; Developmental profile; Comprehensive functional developmental intervention program Son-Rise – Social Communication, Emotion

Regulation, Transactional Support (SCERTS); Makaton; Picture Exchange Communication System (PECS); Equine-assisted therapy; Music therapy; Occupational therapy (Vieira, 2017).

The fifth rubric is dedicated to Social Resources. In Social Resources, we find: 1) Rights attributed to a person with ASD; 2) Associations and entities which support such people; 3) Social Security; 4) the Portuguese Employment and Professional Training entity (*Emprego e Formação Profissional* – EFP) and 5) Documentaries and films on the topic. All the information relative to this module, including direct links to the specific support pages and film, video and documentary resources, are available on the website in attachment (Figueira & Vieira, 2021; Vieira, 2017).

Procedures

In order to carry out the original Psychoeducational Module that we intend to present, we here proceed with an exhaustive bibliographical search on the theme in question (Pereira, 2017). Once the information was systematized, it was next screened by known professionals in the field, in their role as experts or judges. Following this, the information was organized according to the rubrics in the pre-established architecture.

Results

As for the Psychoeducational Module for the support network of individuals with mild to medium neurocognitive impairment, predominantly, older people, which is the specific focus of the present article, that is, concerning the situation at hand, ageing, potentially associated with cognitive deterioration, "ageing well", at least in terms of maintenance and prevention, this informational/training module contemplates six rubrics (which may well be considered as training sessions) in addition to an introductory rubric, which encompass topics from the conceptualization(s) of dementia and mild and medium neurocognitive distress or impairments to symptomology, assessment and intervention, to caregivers and their roles, and to response resources, among others (Pereira, 2017) (to be found in the module or submodule of REHACOG) (Table 1) (this module exists in an easy-to-use CD version, with all the topics developed and systematized, whereas the REHACOG program module should be requested from the authors).

Table 1
Rubrics of the Psychoeducational Module for individuals with cognitive impairment

Rubrics	Topics considered
Introduction	Overall presentation of the module and the program
Rubric 1 Types of Dementia and general conceptualizations	Neurocognitive Impairments • Mild Cognitive Impairment: MCI • Severe Cognitive Impairment: Dementia (SCI)
Rubric 2 Symptomatology	• Symptoms • Warning Signs
Rubric 3 Assessment	• Diagnosis • Phases of Diagnosis • Assessment Material
Rubric 4 Intervention	• Pharmacological Intervention • Psychological and neuropsychological intervention (Stimulation, Intervention and Cognitive Rehabilitation; Physical well-being and eating; Relaxation; Presentation of the different tasks of the REHACOG program)
Rubric 5 Caregivers	• The Role of the Caregiver • Functions of the caregiver and of the support network
Rubric 6 Social Resources	• Institutionalization • Existing support • Material resources: tools and programs that promote development • Legislation

In this respect, we here have the following submodules (in addition to the introductory submodule):

• Submodule 1: Conceptualizations – Mild and Severe Neurocognitive Impairment (2-3 sessions);

• Submodule 2: Symptomatology (1-2 sessions);

• Submodule 3: Assessment (1-2 sessions);

• Submodule 4: Intervention (2-3 sessions);

• Submodule 5: Role of the Caregiver (2-3 sessions);

• Submodule 6: Social Resources (1-2 sessions).

In Submodule 1: Conceptualizations – Mild and Severe Cognitive Impairment. The features or characteristics of the following are defined or presented:

- Mild Cognitive Impairment (MCI);

- Severe Cognitive Impairment (SGI – dementia);

- Characterization of the types of dementia;

- Alzheimer's Disease (AD);

- Lewy Body Dementia (LBD);

- Parkinson's Disease (PD);

- Frontotemporal Dementia (FTD).

In Submodule 2: Symptomatology. Individuals are sensitized to:

- Early Warning Signs;

- Principal Symptoms of the dementia-prone profile;

- Behavioural and Psychological Symptoms of Dementia (BPSD);

- Risk Factors Associated with Dementia.

In Submodule 3: Assessment. We present the aspects inherent to the possibilities and assessment of resources relative to:

- Diagnostic criteria for Mild Cognitive Impairment (MCI);

- Principal clinical criteria for the diagnosis of dementia (of any etiology);

- Diagnostic criteria for Alzheimer's Disease;

- Diagnostic criteria for Frontotemporal Dementia;

- Diagnostic criteria for Lewy Body Dementia;

- Diagnostic criteria for Parkinson's Disease;

- Stages of carrying out the diagnosis;

- Exams/materials used in the assessment:

- Laboratory exams;

- Cognitive assessment;

- Assessment of functional capacity;

- Assessment of emotional functioning and quality of life;

- How to report results of the diagnosis of dementia to patients.

In Submodule 4: Intervention. Intervention proposals are presented, guiding the participants towards:

- Psychological and Neuropsychological Intervention;
- Neuropsychological Rehabilitation;
- Approaches and Techniques for Neuropsychological Rehabilitation;
- Techniques for Cognitive Intervention;
- Cognitive Training Programs;
- Pharmacological Treatment;
- Principal Medications Used;
- Other Medications and Substances;
- Medications for Behavioural and Psychological Symptoms of Dementia.

In Submodule 5: the Role of the Caregiver. Sensitizing as to the functions, role or tasks of the caregiver, friend, family member, or educational agent:

- Choosing a Caregiver;
- How to Care for an Elderly Person with Dementia;
- How to Deal with an Elderly Person with Dementia;
- Exercises for the Patient and for the Caregiver;
- Impact on the life of the Informal Caregiver.

Finally, in Submodule 6: Social Resources. We refer to the following sources of information:

- Social response structures from Social Security;
- Judicial Aspects;
- Existing Services and Support;
- Incentives and Social Support for Caregivers of the Elderly.

• Recommended Bibliography;
• Recommended Websites;
• Bibliography;
• Web bibliography.

The present informational/training/outreach module should take place in a programmed way, scheduled in various sessions and flexible in such a way as to allow for dialogue and interaction that will generate construction and knowledge. The dynamics will unfold during the exposition and discussion on these themes.

In addition to the referred aspects, the module is presented in CD format as well, developed in greater detail.

Final Considerations

Cognitive Impairments (CIs) are mainly characterized by a primary clinical deficit in cognitive function. These are acquired disorders and not developed disorders, that is, the decline in cognitive function represents a decline from a level of functioning reached previously, not being present at birth to at the beginning of life. The main difference between Mild Cognitive Impairments (MCIs) and Severe Cognitive Impairments (SCIs) is the interference of the cognitive deficits with respect to an individual's ability to independently and autonomously carry out everyday activities. For MCIs, there is no loss of independence in terms of everyday activities, whereas for SCIs there is a loss of

independence when performing everyday activities. There is currently no cure for neurocognitive impairments; however, intervention is possible and desirable (preventative and remedial), with pharmacological and non-pharmacological measures being contemplated with respect to the etiology and the condition's state of development. Intervention should be directed not only at those most closely affected, but should also include any eventual support network (family, friends and other potential caregivers). One of the most considered and recommended measures for the intervention of CIs is neuropsychological rehabilitation. It is a biopsychosocial intervention that involves patients and family members with the objective of promoting compensatory strategies for clients, family members and/or caregivers that are able to enable an improvement in cognitive functions and quality of life. Information/psychoeducation is a fundamental factor in prevention and/or neuropsychological remediation/rehabilitation. In this regard, the Module of Psychoeducation in Mild and Severe Cognitive Impairments is presented in this context, which will become an integral part of the neuropsychological intervention program REHACOG.

Ageing is, whether we admit it or not, is a foregone conclusion; however, it should be our plan, our duty to age in a way that is pleasant, healthy and gratifying. Eating and sleeping properly, having a pleasurable social and cultural life, varying the contexts of socializing, being out in the fresh air, having a comfortable and lovely home, and practicing stimulating activities is on the recommended to-do list. We include the REHACOG program – be it in its entirety or in parts, used individually or in a group – in this inventory of possibilities, on this roll of healthy recommendations, as it has been elaborated by well-known researchers over a long period of time and with empirical evidence and represents yet another tool for socio-cognitive well-being.

Thus, the present module, tied to the program REHACOG, aims to systematize all the information on the theme, in an easy-to-use format, useful for those who wish to train individuals or develop a support network for persons with this type of impairment. We consider that this work can and should be part of the curricula for training, be it initial or ongoing, for those working in the field.

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