

Report on Baseline study of the situation of cochlear implants therapy, with focus on the supporting strategies and resources for the vocational training of the SLP, in partners countries (RO, BE, PT, NL)

COUNTRY REPORT PORTUGAL

1. Collection of statistical data

Indicator	Value	Source
Number of population	10.31 million	https://ro.wikipedia.org/wiki/Portugalia
Number of new born children	2011 (year) – 205 (number of new born children) 2012 – 463 2013 – 345 2019 – 943+298+ 2020 - 3208	Intranet of each department

Indicator	Value	Source
Number of deaf or hearing loss new-born children	2019 – 5 2020 – 1+17	Intranet
Is there any National Registry for the neonatal hearing screening programmes available in your country? No		

Indicator	Value	Source
Number of cochlear implanted children	Year - implant surgery 2010 - 2 2011 - 5 2012 - 11 2013 - 16 2014 - 22 2015 - 17 2016 - 8 2017 - 11 2018 - 9 2019 - 12 2020 – 5 + 142	Intranet
The population of children, across age ranges (split from year of implantation) <i>(if details are available)</i>	0-12 M: 9 13-18M: 24 19-36M: 28 >37M -6 A:47 >7 - 9 A: 10	



	>10 – 12 A: 10 >13 – 15A: 10 >15 – 18: 6
Type of implantation	uni 46+1+ bilateral 88+ alone or with other type of hearing Aids ? IC in children with other comorbidities(syndromes, for example)
Is there any National Registry for Cochlear Implants available in your country? <i>No, there isn't any national registry</i>	

2. Existing legislation and policies in the field of cochlear implantation and also in rehabilitation of the CI children, available in your country.

2.1 The history/start of the CI implants in your country

In Portugal, the first steps in cochlear implantation were taken in 1985, by Dr. Manuel Filipe Rodrigues and his brother, Dr. Fernando Rodrigues, who had worked in Germany. The surgery was performed at the Centro Hospitalar de Coimbra, a Banfai Extra-cochlear Implant and, in 1987, with a Cochlear cochlear implant Nucleus 22 (intra-cochlear), both in adults with post-lingual deafness.

The encouraging results, the experience that had been accumulated and the results revealed in the literature of the time led to the equation of carrying out Cochlear implants in children, with pre-lingual deafness, also in Portugal.

On July 3, 1992, after the initial fears and obstacles were overcome, in the Coimbra Hospital Center - Hospital dos Covões, Dr. Manuel Filipe Rodrigues and the Dr. Fernando Rodrigues carries out the first pediatric cochlear implant in Portugal, in a child with profound congenital deafness, at the age of 4 years. F. M. was the first child implanted in Portugal.

The speech habilitation process starts then, and they were part of the team multidisciplinary team, a Special Education Teacher, a Physical Engineer and a Doctor. Daily, for 6 months, and in collaboration with the parents, it was this set of professionals defining auditory diagnosis, conditioning, a electrode stimulation program, providing resources progressively of hearing and speech to the implanted child. After that period, continued therapy does not home, always under the guidance of the Centro Hospitalar de Coimbra, and with revisions periodic. This first case was, in fact, considered a success and an example for the future.

The development of the Cochlear Implant Program in Coimbra:

From the beginning, it was realized that this method would only be successful if children implanted at an early age. This is due to the necessary neuronal plasticity for the formation of interneural interconnections when auditory stimulation. Together, this plasticity would be worked on in a very intense way, with daily relations, in an initial phase in a specialized center with accompaniment at home by family members and, later, at home and school with the help of other qualified professionals.

The first phase aims to enable the initial understanding of sound and speech, and the realization of the first complete and stable programming map. N / D second, it is about working continuously, looking for an evolution in the understanding of sounds and constant speech, in addition to the consolidation of maps of speech programming and production. This method as a whole was assigned as “The Coimbra method”.



Thus, only with the support of a multidisciplinary team is it possible for the implanted meet the deployment objectives. That is, they utter and understand sentences complex to use everyday and understand the conversation of third parties, without reading lip; use well-structured phrases; have easily intelligible speech production by any listener; are able to enter regular education and speak to the telephone.

In May 2006, after some work, the first cochlear implant was performed sequential bilateral (in a child with associated visual impairment) and in November 2007 the first simultaneous bilateral cochlear implant was presented in a child without other sensory deficits. This new surgery is, in fact, advantageous, because patients with Bilateral implants demonstrated an improvement in speech perception, in listening in the noise and the location of the sound.

On August 29, 2017, the 1,000th cochlear implant was performed in the center hospital in Coimbra, the majority of which were in children.

Portugal was considered one of the pioneer countries in cochlear implantation. However, the advance of implantation in Portugal was not continuous and immediate. An example of this was that, in 1999, in Spain, there were about 900 people with implants cochlear. In Portugal, only 120 people have undergone this treatment. This loss of relative position in Portugal was easy to explain by Dr. Manuel Filipe Rodrigues, service director at the time. This highlights the country's quantitative delay in application of a therapeutic method, clearly assigning responsibilities to persistent budget constraints, budgets aumental and bureaucratic.

In Porto, the cochlear implant program started in 1993 by Dr Anselmo Pinto and Dr Victor Correia Da Silva, in independent private centers. Dr Anselmo Pinto, after implanting 4 or 5 patients, abandoned the project. Dr Correia da Silva maintained his activity until today, coordinating the functional unit of hearing implants of Hospital CUF Porto

The development of the Cochlear Implant Program in Lisbon:

The Child Deaf Group Consultation

In the early 1980s, the General Directorate for Basic Education of the Ministry of Education asked the ENT Service of Hospital de Santa Maria / Faculty of Medicine of Lisbon to organize ENT courses for teachers of Special Education in all country. It is as a result of these courses that, in 1985, the Consultation of a Group of Infantile Deafness, with the formal collaboration between the Ministry of Education and the Ministry of Health, D.R. From 1983 to 1990, the Otorhinolaryngology Service of / Hospital Santa Maria, held annual courses in otorhinolaryngology for general practitioners so that they knew how to deal with several pathologies, namely Child Deafness. In likewise, several conferences were also organized in health centers and congresses of Paediatrics, thus providing training for paediatricians. These sessions aimed to inform, raise awareness and train for the diagnosis and prevention of deafness.

The university clinic of Otorhinolaryngology also contributed to the teacher training for the teaching of hearing impaired children. In this context, intensive courses were organized by the service, at the request of the Ministry of Education for the preparation of teachers of the support teams for the hearing impaired child, having been the first in 1982.

A work was developed in the area of deafness with the Teaching Centers Ministry of Education Special. Even the general direction of basic education and Secondary school provided a direct telephone line for



consultation with the deaf group so that any school would have access to services without the need for go through the usual circuit of Health Centers.

In 1985, seeking to improve assistance to deaf children, Professor Mário Andrea created the Child Deaf Group Consultation, with a view to promoting the multidisciplinary approach to deaf children in order to provide audio-visual support phonological and educational, in addition to medical assistance. Initially, staff involved was on a voluntary basis. This consultation, whose development was delivered to Prof. Óscar Dias, grew very quickly to cope with the countless shortfalls of height. Most children were speechless deaf due to the late diagnosis. Over the years, there has been a transformation in the service of otorhinolaryngology, which initially supported the child with deafness diagnosed, to become a center for the diagnosis and orientation of new cases at National level. In view of this awareness of teachers, educators, paediatricians and general practitioners there was a decrease in the age at which the diagnosis is made of sensorineural deafness. In the early 90s, they were assisted in the consultation of Deafness about 2200 children with severe deafness (severe to profound), with only one third of these belonged to the district of Lisbon. In 1990, Prof. Óscar Dias presents the his PhD thesis on Child Deafness at the Faculty of Medicine of Lisbon.

In this work, the main causes are identified and critical factors are analysed to improve diagnosis and medical and rehabilitation intervention.

The beginning of the Cochlear Implant Program

It is based on this experience in the area of Deafness that Prof. Mário Andrea and Prof. Óscar Dias initiated the Cochlear Implant Program in 1991. Thus, after various trainings and collaborations, namely at the Clínica de Navarra in Pamplona, in December 1992, the first cochlear implant was placed in service. It was of an adult patient, M. J. A., chemical engineer with progressive deafness. Through the great experience that the service had in the area of deafness, the development of implementation program exceeded expectations with regard to diagnosis, decision, surgery, postoperative, rehabilitation and follow-up. In 2013, 112 cochlear implants were implanted in the Santa Maria hospital. Since that time, for reasons of change in the direction of the Service, the program was stopped with countless harm to the patients.

2.2 List the national legislation and policies that support the CI implants and the paediatric rehabilitation after CI in your countries

- CADERNO DE ENCARGOS - Acordo Quadro para Fornecimento de Implantes Cocleares às Instituições e Serviços do Serviço Nacional de Saúde - CP 2018/75
- Norma da Direção Geral da Saude - Tratamento da Surdez com Implantes Cocleares no Adulto
- Programa do Sistema de Atribuição de produtos de apoio
- Norma da Direção Geral da Saude - Rastreio e Tratamento da Surdez com Implantes Cocleares em Idade Pediátrica

3. Intervention strategies for supporting the rehabilitation of the CI children

The CUF Porto Protocol - <https://www.portoprotocol.com/>

The protocol for the evaluation and follow-up of children undergoing (re)habilitation at Hospital CUF Porto.



3.1 How is the rehabilitation organised in your country? What kind of rehabilitation interventions are done in your country? What is the content and the frequency of the rehab?

There is no specific country organization. Each centre apply their own methodology and use the type and token of re(habilitation) they assume that is correct.

3.2 What are the different steps in rehabilitation of the CI children in your country?

N/A

3.3 Which are the support services, support organisations and rehabilitation programmes offered in your country

National Health Services and Welfare services for education support.

3.4 School integration. What kind of support is offered to the CI children in the mainstream schools? Who are the actors involved and which is their role?

There some reference schools for deaf education, but the family has the possibility to use mainstream classes for their children. The Portuguese law applies for inclusive education for all.

4. Training programmes for speech and language therapists

4.1 Training programmes for speech and language therapists in the formal education

We have undergraduation courses and graduations courses two (master and doctorate level)

4.2 Training programmes for speech and language therapists in the non-formal education

There are some initiatives(not regular bases) to offer specialized education in deafness and specific methodologies as AVT programs.

5. Impact indicators

Educational outcomes - Do the people with CI have academic success? (*Graduation of mainstream education; level of academic education achieved*)

Very fews : Related to our Knowledge less than 50

Job market access - Do the people with CI have a successful on the professional placement? (*Number of employed / unemployed; level of differentiation of their jobs; level of autonomy; ESE achieved*)

No data

Social integration – Do the children/people with CI manage a balanced and successful integration on the society?

No official data, but at informal level we know many cases of complete inclusion!

