

## Results of a dental care protocol for mentally handicapped patients set in a primary health care area in Spain

Alfonso Escribano Hernández <sup>1</sup>, Tomás Hernández Corral <sup>2</sup>, Eduardo Ruiz Martín <sup>3</sup>, Jose Andrés Porteros Sánchez <sup>4</sup>

(1) Técnico de Salud de la Gerencia de Atención Primaria

(2) Director Médico de la Gerencia de Atención Primaria

(3) Médico odontólogo de la Gerencia de Atención Primaria de Salamanca. Coordinador del Programa de Salud Bucodental de Discapacitados Psíquicos

(4) Gerente de la Gerencia de Atención Primaria. Salamanca

### Correspondence:

Dr. Alfonso Escribano Hernández

Gerencia de Atención Primaria

Cl Arapiles, 25

37007 Salamanca. Spain

E-mail: aescribano@gapsa06.sacyl.es

Received: 2-09-2006

Accepted: 23-09-2007

Escribano-Hernández A, Hernández-Corral T, Ruiz-Martín E, Porteros-Sánchez JA. Results of a dental care protocol for mentally handicapped patients set in a primary health care area in Spain. Med Oral Patol Oral Cir Bucal. 2007 Nov 1;12(7):E492-5.

© Medicina Oral S. L. C.I.F. B 96689336 - ISSN 1698-6946

### Indexed in:

-Index Medicus / MEDLINE / PubMed  
-EMBASE, Excerpta Medica  
-SCOPUS  
-Índice Médico Español  
-IBECS

## ABSTRACT

### Objective:

Disabled people have the same right as other people to receive the health care they need, but they sometimes have difficulties to achieve it. In Castilla y Leon it has come into effect a law to guarantee Primary and Secondary Care coordination to provide dental treatment under sedation or anaesthesia to mentally disabled people who need it. Our aim is to evaluate the results of the implementation of such a law through a specific protocol in our health setting.

### Study design:

Descriptive, made in a Health Area over a year, on mentally disabled people who were sent to hospital for treatment under anaesthesia after Primary Dental Care Units assessment. It has been studied the age, gender, mental disease, dental diagnosis and treatment undergone.

### Results:

108 patients attended the program (51% male), with a mean age of 31 years. 67% presented profound learning disability, 19% mental illness with disability, 11% presented cerebral palsy and another 3% had autism. Most frequent dental pathologies were caries (86%) and dental plaque (71%). Most common dental procedures were tooth extraction (78%), professional tooth cleaning (75%) and fillings (67%).

### Conclusions:

We achieved to provide necessary dental treatment to a large number of disabled people, who would not have received it otherwise. It was a challenge to plan and implement the protocol coordinating Health Care Levels and workers. It still has to be done an economic and efficiency analysis of procedures and a patient satisfaction study.

**Key words:** Dental care for disabled, patient care planning, program evaluation.

## INTRODUCTION

The Law 8/2003, of 8th of April, about rights and duties of people related to health(1) emphasizes the right of some groups of people to special health programs, especially for disabled people.

Disabled people should have access to dental care preventive procedures under the same conditions than the rest of the population. However, they sometimes have difficulties to receive the same health service provision as other citizens, what justifies planning and coordination efforts to take care of them on the grounds where those services should be properly provided. Their vulnerability implies other's responsibility (not only relatives but also health workers, managers and politicians).

In this sense, the decree 142/2003, of the 18th of December, of the Health Ministry of Castilla y Leon(2) sets out some measures to define, guarantee, coordinate and extend the dental care provision of Castilla y Leon Health System, especially to those who can not keep self-control because of their disability, and thus, cannot get a proper dental care. They will be sent to those health grounds where dental care provision can be guaranteed.

This special care is justified because most disabled people have dental impairments(3,4). It can be stated that disabled people, especially those mentally handicapped, have a lot of oral diseases and treatment needs, most of them not satisfied. Their prevalence of missing teeth is greater than in general population(5). It is common to find poor dental hygiene with high levels of dental plaque and gingivitis, calculus in early ages, intense halitosis and food remnants in teeth and mucosal, and cariogenic and soft diet. It is more frequent than in general population to have gingival overgrowth because of hydantoinis, chronic infections and inflammation, systematic tooth extraction instead of conservative treatments, young partially or totally edentulate patients, restrictions or impossibility in the use of prosthesis because potential risks, bad occlusion, traumatic occlusion and bruxism, with dental abrasion and hypersensitivity(6).

Due to a lesser stress tolerance of these patients, some problems are almost invariably present when taking dental management(7,8). In any case, treatments could and should be carried out adopting some special measures for controlling behavioural problems, such as general anaesthesia, deep intravenous sedation, or ambulatory treatment with anxiolytic premedication(9).

The mentioned decree establishes that organizational and structural adjustments will be carried out in every Health Area to achieve these goals.

It also provides for drawing up a specific protocol to point out how these people will receive the dental care procedures that they need.

This care must be provided by dental care units staff, whatever the health ground they are working in, with the support of whoever they need.

An adapted protocol has been done in Salamanca, taking into account some experiences in other areas of Castilla y Leon and of other communities, and the workers and

handicapped associations opinion. It guarantees dental treatment under anaesthesia to mentally disabled patients when prescribed by a dental practitioner.

Obviously, and it is established in the decree, it is necessary a follow up and an evaluation of the results of such a protocol in practice, what is the aim of this article.

## MATERIAL AND METHODS

Study design: descriptive.

Population: mentally disabled patients referred to an Area Hospital to receive general anaesthesia after being attended in Primary Dental Care Units.

Period of study: from the 1st of June 2005 to the 31st of May 2006.

Variables: age, gender, mental disability, dental diagnosis and treatment undergone.

As our patients were studied in depth in an operating room, the caries diagnosis was made using a probe together with visual criteria. Afterwards, caries was classified following Black classification. We just filled type 1 but not the rest because its possible complications (pulp inflammation and neuralgia) would lead to another surgery procedure under general anaesthesia, unwanted in these patients.

Tooth mobility was diagnosed by Miller's Mobility Index, making tooth extraction only in levels II and III and in those of level I when there was periodontal disease which suggested a quick evolution to upper levels.

Finally, periodontal status was evaluated through the Community Periodontal Index of Treatment Needs (CPITN), as World Health Organization recommends for dental research(10).

Mental disabilities were grouped in 4 categories, as stated in the protocol:

- Autistic disorders
- Cerebral palsy
- Profound learning disability
- Mental illness with disability

Statistic analysis: description of patient's distribution by age, gender, mental diseases, dental diagnoses and treatment undergone.

## RESULTS

During the period of study, our Primary Dental Care Units treated 42720 patients, 492 mentally handicapped.

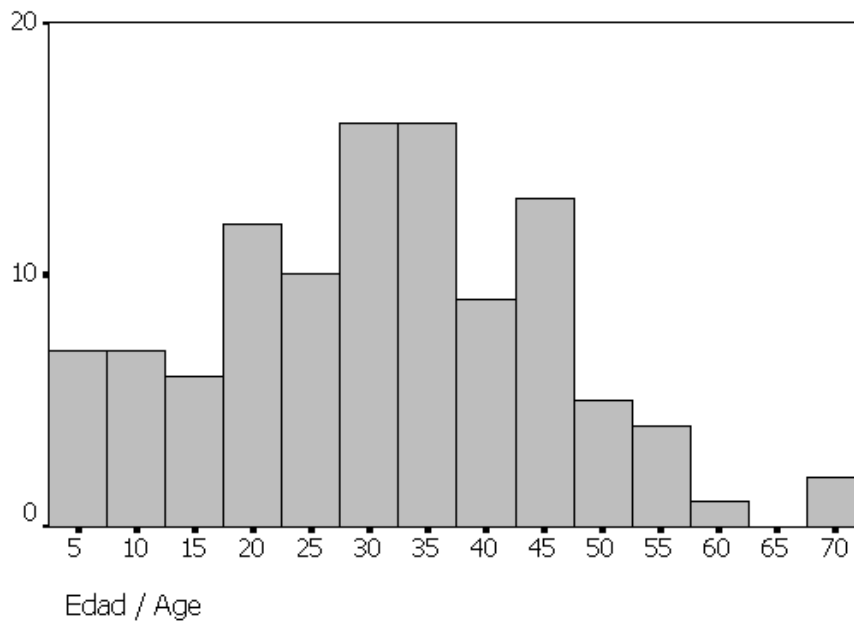
Among these, 108 were sent to Hospital because they needed general anaesthesia for their treatment (51% male), with a mean age of 31 (standard deviation: 14.1). Age distribution histogram can be seen in figure 1.

The 67% of the patients presented profound learning disability, 19% mental illness with disability, 11% cerebral palsy and 3% autism.

It was impossible for us to achieve a dental diagnosis in a single patient due to his lack of cooperation and his refusal to go to Hospital.

The dental pathologies of the other 107 patients are presented on table 1.

On one hand, caries was the most frequent pathology (present in 86% of patients). The mean number of caries per



**Table 1.** Frequency and percentage of patients with each buccodental pathology.

Caries	92 (86%)
Dental plaque	76 (71%)
Tooth mobility	13 (12,1%)
Root remnants	12 (11,2%)
Dental fractures	5 (4,7%)

**Table 2.** Frequency and percentage of patients undergoing each procedure.

Tooth extraction	68 (78,2%)
Professional tooth cleaning	65 (74,7%)
Fillings	58 (66,7%)
Endodontic	1 (1,1%)

person was 8,6 (SD: 4,7), with a median of 8, and ranged from 1 caries in a patient to 21 in 4 of them. This pathology was distributed by tooth as follows: 16% in incisors, 8% in canines, 31% in premolars and 45% in molars.

On the other hand, among all the patients referred to Hospital for treatment, only 87 persons really underwent treatment under anaesthesia. Their dental procedures are shown in table 2.

The remaining 21 patients who didn't undergo surgery was either because they didn't go to the hospital or because they had anaesthesia contraindications.

There was only a patient who needed an endodontic treatment because of posterior prosthetic requirements.

Among 68 patients with any tooth extraction, the mean number of them was 5,6 (SD: 5,1), the median was 3 and they ranged from 1 in 7 patients to 21 in other 3. This procedure was distributed by tooth as follows: 21% in incisors, 9% in canines, 33% in premolars and 37% in molars.

Among 58 patients with any filling, the mean number of them was 5,7 (SD: 3,8), the median was 5 and they ranged

from 1 in 4 patients to 19 in 1. Its distribution by tooth was: 12% in incisors, 7% in canines, 28% in premolars and 53% in molars.

## DISCUSSION

There are some published studies on mentally disabled patients, in which osteointegrated implants achieved a satisfactory oral rehabilitation, without any complications or differences with healthy people, being the failure rate about 5-6%(9,11,12).

However, other studies state that severely handicapped patients constitute the group with more relevant dental needs due to their medical, social and economical limitations, being difficult for them to have access to conventional dental care(13-16).

This people have also problems with preventive procedures such as tooth brushing, dental floss use and even mouth rinses, which have been proved to be effective(17).

According to the disabilities, deficiencies and health status

survey of 1999, the rate of mentally handicapped people among 6 to 64 years of age is 8,07 per 1000 population in Castilla y Leon and 9,38 in Spain(18).

In our Health Area, over the period of time analysed, Dental Care Units saw 492 mentally handicapped patients, what accounts for the 11,5 per 1000 of their activity.

Among them, 108 had a dental treatment under anaesthesia, which means a 22% of the mentally disabled patients.

Therefore we think this protocol has been successful, as it has been recently introduced and it is common to have difficulties with any other program and when trying to integrate this kind of population in daily health activities.

The distribution of our disabled patients, their dental pathologies and their procedures is similar to the single study on this subject we have found after a bibliographic search(19). We must point out the number of caries and dental plaque among pathologies, and the number of tooth extraction, fillings and professional tooth cleaning. The lack of this kind of bibliographic references means the shortage of programs similar to ours or that they are not spread in scientific literature. We must say it is pioneer in our circles.

In other studies on disabled people(20), the amount of pathology was lesser than in ours, but they had studied all patients and not only those referred to general anaesthesia.

In any case, the large number of pathologies seen and surgery procedures done reaffirm our opinion of the success of the protocol.

It remains to be studied the success or failure of treatments.

It has still to be done as well a patient satisfaction and a cost analysis.

It was difficult to organize and implement these protocol activities because they involved two health levels (Primary Care and Hospital), many workers and a big coordination effort. In any case, we achieved to provide necessary dental treatment to a large number of disabled people, who would not have received it otherwise, which allows us to be reasonably satisfied.

## REFERENCES

1. Ley 8/2003, de 8 de abril, sobre derechos y deberes de las personas en relación con la salud. BOE N° 103 de 30 de abril 2003.
2. Decreto 142/2003, de 18 de diciembre, por el que se regulan las prestaciones de salud bucodental del Sistema de Salud de Castilla y León. BOCyL N° 249 de 24 de diciembre 2003.
3. Tiller S, Wilson KI, Gallagher JE. Oral health status and dental service use of adults with learning disabilities living in residential institutions and in the community. *Community Dent Health*. 2001 Sep;18(3):167-71.
4. Lucchese C, Checchi L. The oral status in mentally retarded institutionalized patients. *Minerva Stomatol*. 1998 Oct;47(10):499-502.
5. López Jiménez J. Estudio epidemiológico de las características odontostomatológicas del síndrome de Down. Tesis Doctoral 1994.
6. Bratos Morillo M. Importancia clínica y social. En: Bullón Fernández P, Machuca Portillo G, eds. *La atención odontológica en pacientes médicamente comprometidos*. Madrid: Laboratorios Normon, SA.; 1996. p. 21-7.
7. Velasco E, Machuca G, Martínez-Sahuquillo A, Rios V, Bullón P. Influencia de los factores psíquicos sobre la cavidad oral. *Arch Odon-toEstomatol* 1994;10:258-72.
8. López J, Escuin T, Giménez MJ. Prótesis fija bajo anestesia general y sedación profunda. *Rev Archiv Odontol* 1998;5:18-24.

9. Lopez-Jimenez J, Romero-Dominguez A, Gimenez-Prats MJ. Implants in handicapped patients. *Med Oral*. 2003 Aug-Oct;8(4):288-93.

10. World Health Organization. *Oral Health surveys. Basic Methods*. 4th ed. Geneva: World Health Organization; 1997.

11. Smith RA, Berger R, Dodson TB. Risk factors associated with dental implants in healthy and medically compromised patients. *Int J Oral Maxillofac Implants*. 1992 Fall;7(3):367-72.

12. Becker A, Shapira J, Chaushu S. Orthodontic treatment for disabled children--a survey of patient and appliance management. *J Orthod*. 2001 Mar;28(1):39-44.

13. Schultz ST, Shenkin JD, Horowitz AM. Parental perceptions of unmet dental need and cost barriers to care for developmentally disabled children. *Pediatr Dent*. 2001 Jul-Aug;23(4):321-5.

14. Allison PJ, Hennequin M, Faulks D. Dental care access among individuals with Down syndrome in France. *Spec Care Dentist*. 2000 Jan-Feb;20(1):28-34.

15. Waldman HB, Perlman SP. Children with disabilities are aging out of dental care. *ASDC J Dent Child*. 1997 Nov-Dec;64(6):385-90.

16. Nunn JH, Murray JJ. Dental health of handicapped children; results of a questionnaire to parents. *Community Dent Health*. 1990 Mar;7(1):23-32.

17. Montiel-Company JM, Almerich-Silla JM. Efficacy of two antiplaque and antigingivitis treatments in a group of young mentally retarded patients. *Med Oral*. 2002 Mar-Apr;7(2):136-43.

18. Encuesta de Discapacidades, Deficiencias y Estado de Salud 1999. *Avance de Resultados. Datos Básicos*. Instituto Nacional de Estadística. Madrid, 2000.

19. Limeres Posse J, Vazquez Garcia E, Medina Henriquez J, Tomas Carmona I, Fernandez Feijoo J, Diz Dios P. Pre-assessment of severely handicapped patients suitable of dental treatment under general anesthesia. *Med Oral*. 2003 Nov-Dec;8(5):353-60.

20. Velasco Ortega E, Monsalve Guil L, Casas Barquero N, Velasco Ponferrada C, Medel Soteras R. Las enfermedades periodontales en pacientes esquizofrénicos. Un estudio de casos-controles. *Av Periodon Implantol* 2005;17:235-43.