

EVALUATING THE PERIODONTAL CONDITION OF INSTITUTIONALIZED CHILDREN IN SIBIU COUNTY

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Abstract: The article presents the periodontal condition of institutionalized children in several foster care centers in Sibiu County and children looked after by professional foster carers

Cuvinte cheie: copii instituționalizați, centre de plasament, asistenți maternali profesioniști

Rezumat: Articolul prezintă starea parodontală a copiilor instituționalizați din câteva centre de plasament de pe raza județului Sibiu și a unor copii aflați în grija asistenților maternali profesioniști.

THE PURPOSE OF THE STUDY

This study evaluates the periodontal condition of institutionalized children in several foster care centers in Sibiu County and children looked after by professional foster carers.

MATERIAL AND METHOD

We used the gingival indexes in direct relationship with the clinical signs of gingival inflammation: color changes, changes in volume, consistency and texture, but also its tendency to bleed.

We determined the index described by Schour and Massler or the P.M.A. index by:

- the examination of papilla, where P represents a slight inflammation;
- the examination of the free gingival margin, where M represents an average inflammation;
- the examination of the attached gingiva, where A signals the existence of a serious inflammation.

To calculate this index for each examined child we used the following evaluation scale:

- 0 – means no sign of chronic inflammation;
- 1 – turgid red papilla, which bleeds when punctured with the probe, M. and A. have a normal appearance;
- 2 – P. and M. are red, turgid, P. bleeds at each touch, but A has a normal appearance;
- 3 – P.M.A. are red, swollen and present a purulent discharge when pressed;
- 4 – P.M.A. are intensely affected, with a purulent discharge when pressed.

For the actual calculation we used the following formula:

$$PMA = \frac{\sum_{\alpha=1}^b S_{PMA_{\alpha}} \times N_{\alpha}}{\sum_{\alpha=1}^b N_{\alpha}}$$

where:

S_{PMA} – scores given to children of the sample group taken into account;

N – number of children with the same score;

b – number of possible scores (5).

The maximum possible value of the PMA index is 4.

This index can also be calculated percentage-wise using the following formula:

$$PMA(\%) = \frac{PMA}{4} \times 100$$

RESULTS AND DISCUSSIONS

The values obtained from the study are presented below by foster care centers:

- Gulliver Sibiu foster care center

Table no. 1 The calculated PMA index - FCC Gulliver Sibiu

| $S_{PMA_{\alpha}}$ | N_{α} | $S_{PMA_{\alpha}} \times N_{\alpha}$ |
|---------------------|---------------|--------------------------------------|
| 0 | 2 | 0 |
| 1 | 5 | 5 |
| 2 | 4 | 8 |
| 3 | 0 | 0 |
| 4 | 0 | 0 |
| $\sum_{\alpha=1}^b$ | 11 | 13 |
| PMA | 1,18 | |
| PMA(%) | 29,54% | |

- Cîsnădie foster care center

Table no. 2. The calculated PMA index - Cîsnădie FCC

| $S_{PMA_{\alpha}}$ | N_{α} | $S_{PMA_{\alpha}} \times N_{\alpha}$ |
|---------------------|---------------|--------------------------------------|
| 0 | 1 | 0 |
| 1 | 4 | 4 |
| 2 | 2 | 4 |
| 3 | 2 | 6 |
| 4 | 0 | 0 |
| $\sum_{\alpha=1}^b$ | 9 | 14 |
| PMA | 1,55 | |
| PMA(%) | 38,88% | |

- Orlat foster care center

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CLINICAL ASPECTS

Table no. 3. The calculated PMA index - Orlat FCC

| $S_{PMA_{\alpha}}$ | N_{α} | $S_{PMA_{\alpha}} \times N_{\alpha}$ |
|---------------------|---------------|--------------------------------------|
| 0 | 2 | 0 |
| 1 | 10 | 10 |
| 2 | 7 | 14 |
| 3 | 2 | 6 |
| 4 | 1 | 4 |
| $\sum_{\alpha=1}^b$ | 22 | 34 |
| PMA | 1,54 | |
| PMA(%) | 38,63% | |

- Agârbiciu foster care center

Table no. 4. The calculated PMA index - Agârbiciu FCC

| $S_{PMA_{\alpha}}$ | N_{α} | $S_{PMA_{\alpha}} \times N_{\alpha}$ |
|---------------------|---------------|--------------------------------------|
| 0 | 0 | 0 |
| 1 | 9 | 9 |
| 2 | 7 | 14 |
| 3 | 1 | 3 |
| 4 | 0 | 0 |
| $\sum_{\alpha=1}^b$ | 17 | 26 |
| PMA | 1,53 | |
| PMA(%) | 38,23% | |

- Professional foster carers

Table no. 5. The calculated PMA index - professional foster carers

| $S_{PMA_{\alpha}}$ | N_{α} | $S_{PMA_{\alpha}} \times N_{\alpha}$ |
|---------------------|---------------|--------------------------------------|
| 0 | 1 | 0 |
| 1 | 7 | 7 |
| 2 | 2 | 4 |
| 3 | 1 | 3 |
| 4 | 0 | 0 |
| $\sum_{\alpha=1}^b$ | 11 | 14 |
| PMA | 1,27 | |
| PMA(%) | 31,81% | |

For a better viewing of the PMA index values used to obtain the conclusions, we present below a summary of the information processed by foster care centers and professional foster carers:

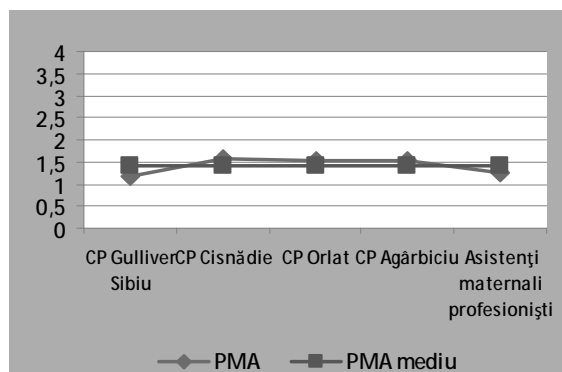
Table no. 6. The average PMA index

| Foster care center/ Professional foster carers | PMA |
|---|-------------|
| FCC Gulliver Sibiu | 1,18 |
| FCC Cisnădie | 1,55 |
| FCC Orlat | 1,54 |
| FCC Agârbiciu | 1,53 |
| Professional foster carers | 1,27 |
| Average PMA | 1,41 |

the P.M.A. index.

- Almost all examined children present changes in color, volume, consistency and texture of the papilla, gingival margin and attached gingiva which shows their poor hygiene.
- Institutionalized children from Cisnădie, Orlat and Agârbiciu foster care centers have a calculated average index greater than the others.

Figure no. 1. Representation of the average PMA index



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CONCLUSIONS

- To evaluate the periodontal condition of institutionalized children in several foster care centers in Sibiu County and children looked after by professional foster carers we have determined the index described by Schour and Massler or