Tooth Fairy Mith: children's self-perception of the loss of Deciduous teeth

DOI: 10.46932/sfjdv5n7-001

Received on: Jun 03rd, 2024
Accepted on: Jun 21st, 2024

Maria do Rosário Dias
PhD in Psychology
Institution: Egas Moniz School of Health & Science/Egas Moniz Center for Interdisciplinary Research (CiiEM)
Address: Campus Universitário, Quinta da Granja 2829-511 Caparica, Portugal
E-mail: mrosariodias@egasmoniz.edu.pt

Ana Cristina Neves
Master in Psychology
Institution: Egas Moniz School of Health & Science/Egas Moniz Center for Interdisciplinary Research (CiiEM)
Address: Campus Universitário, Quinta da Granja 2829-511 Caparica, Portugal
E-mail: aneves@egasmoniz.edu.pt

ABSTRACT
We intend to understand how children intrapsychically experience, the process of losing their Deciduous Dentition and the self-perception of the face; 115 children of both genders, aged between 5-12 y, were interviewed and – Empirical Protocols – were designed, in which the child was invited to draw their self-portrait in two different moments – Before (M1) and After (M2) the experience of losing their Deciduous teeth answer a set of open questions as well as a demographic questionnaire. The interpretative analysis of the pictorial narrative of the drawings (n=330) and the open-ended questions was carried out using two content analysis grids, created specifically for this research. The results suggest the existence of analytical differences between the self-perception of the face, Before (M1) and After (M2) the loss of Deciduous Teeth. The analysis of the pictorial content of the drawings also reveals some notable differences, in terms of the pictorial investment demonstrated in the two drawings, created by each child. The results also suggest the existence of an adjusted mourning process when each of the primary tooth is lost. The results of the present study allow us to recognize some differences in terms of self-perception of the image of the face, before and after the loss of deciduous teeth, which points to the identification of possible clues that could help us to understand, how the loss of deciduous teeth can be experienced by the child as a process of mourning, also highlighting the role of the dentist as a health educator.

Keywords: Deciduous Dentition, Loss, Face’s Self-Image, Mental Representation, Drawings, Tooth Fairy Mith.

1 INTRODUCTION

The child's first visit to the Dentist must occur before 12 months of age and, in the same record, several authors state that visits to the Dentist at an early stage should, notably, contribute to the prevention of cariogenic lesions, promoting adequate maintenance of Oral Health and particularly, fostering the development of the child's relational intimacy with the Dental Medicine consultation setting (Dias, 2013;
Dias et al., 2015; Dias et al., 2018a; Reis et al., 2008). In addition to previous negative and somewhat traumatic experiences – the fear of the unknown – one of the factors that most contributes to children being afraid of the Dentist is having heard traumatic experiences in their daily lives (Dias; Ventura, 2021).

The design and creation of playful-pedagogical instruments (Dias et al., 2006b; Dias et al., 2019; Do Rosário Dias; Karramkan, 2023; Reis et al., 2011) using pictograms, emerges from empowerment at the level of the Dentist-Child relationship, allowing to reduce fear and anxiety in relation to Dentist appointments, thus contributing to the improvement of care provided in oral health contexts.

Along the developmental trajectory, the child experiences several changes in their body imago – at the level of the face -, namely, when the deciduous dentition and permanent dentition erupt (Dias; Simões, 2016; Dias et al., 2019; Dias; Neves, 2023, 2024; Do Rosario Dias et al., 2019; Do Rosário Dias et al., 2022). Deciduous teeth, commonly known as milk teeth or primary teeth, are the first teeth to emerge. The loss of primary teeth is generally related to natural factors (e.g. innate loss), as well as external factors (e.g. accidental trauma), and can be considered as a symbolic manifestation of the Child's Self, constituting their Loss, unconsciously, like a small Death of a part of the Self (Do Rosário Dias, 2023).

Appearance, namely the (self)perception of the face, can interfere intra and interpsychically with Mental Health and, in the relationship that the child establishes with Others, with important implications in the area of relational communication, as well as in the emotional life of the child. Human being throughout the trajectory of the life cycle (Dias et al., 2018b; Dias et al., 2019; Dias; Neves, 2016, 2023, 2024; Dias; Simões, 2016; Do Rosario Dias et al., 2019) since the perception of the face is also directly linked to the way in which the individual exposes their teeth, through a smile, – when smiling.

The intrapsychic process of accessing the symbolic is innate in nature and serves as basic support for the organization of the child's internal world. In an exploratory study conducted by Do Rosário Dias and his collaborators (Dias et al., 2020), focused on the Mental representation of a Profile of a Healthy Tooth and a Sick Tooth, through Teeth drawn as anthropomorphized, the results clearly show that from 10Y onwards, there is a noticeable decrease in pictorial Irrealism, that is, the use of pictorial realism increases with age, decreasing the use of pictorial unrealism throughout the developmental trajectory.

In 2006, an unprecedented exploratory study was carried out on the Myth of the Tooth Fairy (6-12Y), using a thimble puppet theatre, configuring the imaginary theatre as “a vehicle for transmitting” the information provided to children within the scope of Oral Health habits, when the deciduous dentition are lost (Dias et al., 2006a; Do Rosário Dias; Karramkan, 2023). Thus, the use of symbolic and drawing as a projective technique constitutes instruments of choice for accessing the child's intrapsychic world, as children may not yet have the necessary vocabulary to verbalize issues related to Health. On the other hand, the same working group (EM-CIMPS/CiiEM) has carried out empirical studies aiming to study the Mental representation of the concept of caries in children who accessed a Paediatric Dentistry or
Orthodontics consultation at the Egas Moniz University Clinic, within the age range of change of Deciduous Dentition (Dias et al., 2019; Dias et al., 2022b; Do Rosario Dias et al., 2019).

Interestingly, at the level of Drawn Teeth percepts, most children aged between 4 and 6 years old drew Teeth categorized in the Small Size subcategory, however from the age of 6/7 onwards, the drawings increase in size/Size, coinciding with these results obtained with the beginning of the change of Deciduous Teeth (Do Rosário Dias et al., 2019; Do Rosario Dias et al., 2023).

Thus, one of the methodological procedures that allows access to the mental representation that the individual has about the imago of their own face is certainly the use of drawing as a projective technique. Drawing as a projective technique has revealed itself as one of the oldest forms of cognitive-emotional expression, configuring itself as a universal form of metalanguage. It should be noted that the use of the drawing technique has been chosen as a very fruitful qualitative research methodology when applied to the areas of health sciences (Dias et al., 2006a; Dias et al., 2022a; Dias; Neves, 2023, 2024) also allowing access to patterns of psychic activity of a spontaneous nature (Dias et al., 2006a; Dias; Neves, 2023, 2024).

The purpose of this exploratory study is to determine to what extent the loss of deciduous teeth plays an important and visible role in terms of smiling expression and influences the development of self-perception of the child's facial image. In this way, we intend to investigate the existence of differences in the mental representation of the child's face before (M1) and after (M2) the loss of deciduous teeth (Dias et al., 2018b).

2 METHODOLOGY

The present investigation is part of an exploratory study of a cross-sectional nature, whose objective was focused on investigating the influence that the loss of primary teeth has on the development of self-perception of the image of the child's face. As such, it was decided to study the age group (5-12Y) that corresponds to the process of changing teeth (Dias et al., 2018b).

The convenience sample resulted in a total of 115 protocols, applied to children of both sexes, aged between 5 and 12 years, who attended Paediatric Dentistry consultations at the Egas Moniz University Clinic. All children were in the process of changing their teeth, and children with special treatment needs were excluded from the study.

To collect the sample, two specific instruments were originally designed: I) A research protocol, in which the subject was invited to create two drawings, at two different times, with four open questions and a demographic questionnaire; and II) Two content analysis grids, one for the drawings and the other for the open-ended questions.
The research protocol (I) consisted of three distinct parts. In the first part, the child was asked to draw their face Before (M1) and After (M2) the loss of their Deciduous teeth. In the second part, the child was asked to answer four open-ended questions. In the third part, some personal data was requested to facilitate the characterization of the protocols lasted approximately 10 minutes. Thus, the guiding questions that guides this research allowed us to empirically guide the empirical hypotheses: i) what is the child’s self-perception regarding the loss of a part of the body, in this specific case of several teeth, which are part of oral cavity and acquire a large visibility with the smile display? ii) what are the repercussions perceived by the child in terms of the mental representation of the self-image of the face?

Before proceeding with the collection of information, all ethical issues were ensured, as well as written informed consent being requested from those responsible for the children, namely the Education Guardians (EG). Children and Education Guardians (EG) were approached at the end of the consultation, to avoid changes to the consultation setting.

After a brief presentation of the research objectives accompanied by a formal request and the signing of informed consent to the EG, the child was asked to complete the Protocol, with or without help, and the child was asked to draw their face the moment Before (M1) and After (M2) the loss of deciduous teeth, in charcoal pencil, with the researcher captioning the drawings, in case of doubt, given the percepts drawn (Dias et al., 2018b).

3 RESULTS AND DISCUSSIONS

About the age of respondents, the average age is in the range of 7 – 9 years, in a sample range that varies between 5 and 12 years of age. Regarding the gender variable, the sample collected shows some homogeneity, with 57 of the subjects being male and 58 subjects being female.

Regarding the comparative analysis of the results (Dias et al., 2018b), resulting from the pictorial content analysis of the drawings and, as can be seen in Table 1, the selected analytical categories that proved to be highly relevant for this study were: i) Design Investment ii) Head Size, iii) Mouth Opening, iv) Smile Representation and v) Teeth Detail.
Table 1 – Comparative analysis of self-portraits Before (M1) and After (M2) the loss of Deciduous Teeth.

<table>
<thead>
<tr>
<th></th>
<th>Self Portrait BEFORE</th>
<th>Self Portrait AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investiment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invested</td>
<td>87</td>
<td>75,7</td>
</tr>
<tr>
<td>Not Invested</td>
<td>28</td>
<td>24,3</td>
</tr>
<tr>
<td>Head Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>20</td>
<td>17,4</td>
</tr>
<tr>
<td>Normal</td>
<td>77</td>
<td>66,9</td>
</tr>
<tr>
<td>Big</td>
<td>18</td>
<td>15,7</td>
</tr>
<tr>
<td>Mouth Opening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closed</td>
<td>23</td>
<td>20,0</td>
</tr>
<tr>
<td>Open</td>
<td>92</td>
<td>80,0</td>
</tr>
<tr>
<td>Smile Representation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td>91</td>
<td>79,1</td>
</tr>
<tr>
<td>Sad</td>
<td>10</td>
<td>8,7</td>
</tr>
<tr>
<td>Without Smile</td>
<td>14</td>
<td>12,2</td>
</tr>
<tr>
<td>Teeth Detail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without Detail</td>
<td>103</td>
<td>89,6</td>
</tr>
<tr>
<td>With Detail</td>
<td>12</td>
<td>10,4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>115</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors

When we look at the variable Age at First Consultation in Dentistry, when compared with the Smile Representation, it is possible to observe in Table 2, that the children who attended a Dentistry consultation for the first time, at an early age, were the ones who the most appeared/represented the Smile in the drawings drawn up.

Table 2 – Comparative analysis of age at first Dentistry consultation, with representation of teeth and representation of smile

<table>
<thead>
<tr>
<th>Age in 1st Dental Consultation</th>
<th>Total</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-7</td>
<td>52</td>
<td>11</td>
</tr>
<tr>
<td>8-10</td>
<td>34</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teeth Representation</th>
<th>Absent</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absent</td>
<td>67</td>
<td>23</td>
</tr>
<tr>
<td>Present</td>
<td>19</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Smile Representation</th>
<th>With Smile</th>
<th>Without Smile</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Smile</td>
<td>67</td>
<td>23</td>
</tr>
<tr>
<td>Without Smile</td>
<td>19</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Authors

Regarding the open-ended questions (e.g.) “Who did you give your tooth?”, most children responded that they gave them to their parents, as can be seen in Figure 1. Regarding the question “What did you do with your tooth?” It is possible to see, as shown in Figure 2, that the majority of children slept with their tooth under the pillow. Finally, with regard to the content analysis of the questionnaires, it was possible to observe what emotions were experienced by children at the time of losing their primary teeth, through the analysis of the answers to the question “How did you feel at that moment?”, in which it was found that there were the same number of subjects feeling sad and happy, although the most described emotion was that of the child reporting “feeling like he was growing up”, as can be seen in Figure 3 (Dias et al., 2018b). The data obtained were entered into a database and subjected to statistical analysis using the Statistical Package for the Social Sciences (IBM© SPSS©), using in particular, the Chi-Square, Shapiro-Wilk and Mann-Whitney tests.
Figure 1 – To whom the child gave the Deciduous Tooth when it fell out.

```
“Who did you give your tooth?”

- Nobody
- School friends
- Father
- Mother
- Grandfathers
- Others
- Don’t remember

Source: Authors
```

Figure 2 – What was done to the Deciduous Tooth, after the moment of its fall.

```
“What did you do with your tooth?”

- Trew away
- Gave it to someone
- Slept with him
- Exchanged for a gift
- Saved
- Don’t remember

Source: Authors
```
When comparing the variables Kindergarten Attendance and Drawing Investment, the data suggest that these variables are positively related, since the investment in drawings was greater, at the level of children who attended Kindergarten from an early age. This fact corroborates the literature consulted, in that attending Kindergarten proves to be an added value, regarding the development of the child's pictorial expression and socialization skills (Dias et al., 2022a; Pinto et al., 2020).

When comparing the Age category at the First Dental Consultation and the (sub)category Detailing/Minuteness of Teeth, the results of crossing these two categories suggest that the group of children who presented at the first consultation, at a later time, outline a more detailed representation of the Teeth category, while children who attended consultations at younger ages almost do not represent such detailed Teeth, even though they are present in the drawn percepts. Even so, in general, children's drawings become more detailed and realistic as they grow, reaching their peak of detail when they reach 10 years of age (Dias et al., 2020; Dias et al., 2022a).

When comparing the inferential analysis of the detail/detail categories with the (sub)category of Smile Representation (smile angle), we can observe that the majority of children who represent a smile in their drawing are part of the age group that He had his first experience at a Dentist between the ages of 4 and 7. Interestingly, no scientific literature was found to support these findings, which could prove to be a valid contribution of this exploratory study.
Regarding to the Design Investment category, at the Before moment (M1), the drawn percepts are quite invested, that is, the drawings are more elaborate, also presenting more details. However, in the second moment (M2), the pictorial content analysis reveals, in general, drawings that are less invested in by children (Fig. 4). This fact may be related to the difficulty of younger children (up to 8 years of age) in representing feelings or emotions directly related to sadness and/or loss (Dawel et al., 2015; Dias et al., 2020; Dias et al., 2022a; Dias; Neves, 2016, 2023, 2024; Do Rosário Dias, 2023).

Comparing these data with the data obtained through the content analysis of the answers to the question “How did you feel at that moment?”, which shows that the same number of children reported feeling happy and sad after the loss of their deciduous teeth. it is possible to highlight the ambiguous nature regarding children’s feelings, as these data contradict each other. A possible explanation for the existence of this ambivalence of results may be related to the existence of some type of denial, that is, difficulties in demonstrating feelings associated with feelings of loss, who “avoid” demonstrating reality by trying to “hide” what they feel, “denying” the discomfort felt (Dias et al., 2018b), according to this transition event (Dias et al., 2022a; Dias; Neves, 2016; Dias; Simões, 2016; Do Rosário Dias; Karramkan, 2023).

The same is true regarding the Head Size subcategory, in which most children represent the Head category of a smaller size, at the moment after the loss (M2), minimizing the figure of their face, in relation to the moment Before of the loss (M1) of deciduous teeth, as can be seen in Figure 5. Thus, we emphasize the importance of the grieving process as a means of developing strategies that allow us to face events that may trigger fewer negative emotions in a lighter way, positive, such as the loss of deciduous teeth (Dias; Simões, 2016; Do Rosario Dias et al., 2019; Do Rosário Dias et al., 2022; Do Rosário Dias, 2023).
a fact corroborated through the content analysis of the answers to the question “How did you feel at that moment?”, in which the existence of the same number stands out of subjects feeling sad and happy (emotional ambivalence), even though the most prominent and pertinent emotion was that of the child “feeling himself growing”.

Figure 5 – Representative Percepts of the Head Size Category

Before (M1)                                      After (M2)

Subcategory Big

Source: Authors

Another of the subcategories in which it was possible to identify some notable differences was Mouth Opening (Fig. 6A), in which it was found, curiously, that the children represented the Mouth Closed at the moment After the loss of deciduous teeth (M2); In other words, since the Toothless Mouth, aesthetically, does not seem to be experienced in a pleasant and joyful way (Fig. 6B), the fact that they represent the Closed Mouth after the loss of deciduous teeth (M2) may, in some way, suggest that children try to hide a physical aspect that they consider to be not beautiful (aesthetic) in terms of the (self) image of the face (Fig. 6C). These facts are corroborated by the literature, to the extent that, using the concept of body dysmorphic disorder, it is possible to infer that children, faced with the existence of some type of physical anomaly – as is the case with the loss of deciduous teeth –, acquire an excessive concern regarding this irregularity present in your body, trying to hide it from relational third parties (Dias et al., 2016; Dias; Neves, 2016, 2023, 2024; Do Rosario Dias et al., 2019).
Regarding the content analysis of the open-ended questions, the majority of children interviewed mentioned having offered their first primary tooth after falling out, to their mother, which can reinforce the idea of the importance of the maternal figure, at this moment in the developmental trajectory. There was also a group of children who reported having kept their deciduous tooth and sleeping with it under their pillow; Given that the tooth is experienced intrapsychically by the child, as a part of Himself, it is natural that the child has difficulty separating himself from this corporeal element, which was once linked to his body. On the other hand, the act of sleeping with the tooth under the pillow may be related to the Myth of the Tooth Fairy, in which children are rewarded, in some way, for this remarkable event within the scope of the developmental trajectory, highlighting itself in a notorious – the loss of primary teeth (Dias et al., 2006a; Dias; Simões, 2016; Do Rosário Dias; Karramkan, 2023).

Once again, we can infer from these empirical facts (Dias et al., 2018b) that the majority of children reported feeling growing when they lost their first primary tooth. Reward can trigger feelings that buffer the shock of loss. This way, the child is prevented from experiencing loss in a demeaning way in their development, avoiding the negative impact that could be triggered at an inter and intrapsychic level (Barbieri et al., 2010). The results thus suggest the existence of an adjusted mourning process when
each of the primary teeth is lost. Grief is an expected and necessary process for those who experience it, with these conditions arising from loss, allowing individuals to reconfigure new meanings to events, to overcome feelings of loss (Barbieri et al., 2010; Do Rosário Dias, 2023).

4 CONCLUSION

After content analysis of the data obtained, the results reveal the existence of significant differences with regard to the analytical categories Face and Mouth Size. For the Mouth category, the results reveal the existence of differences in the Mouth Opening and Smile subcategories. These data corroborate the relevance of the central guiding question, as the differences found between the pictorial representation before (M1) and after (M2) the loss of deciduous teeth, have repercussions on the development of the child's self-perception regarding their own image of the face.

We emphasize that the results obtained in this investigation allow us to infer that investment in the field of scientific knowledge regarding the problem of psychic repercussions in terms of self-perception associated with the loss of primary teeth can be a transmitting vehicle that helps the child's behaviour in setting of the Dental Medicine consultation. Consequently, it allows the health professional to implement the necessary care in their practice in order to better deal with the problem of loss of primary teeth when faced with patients of the age groups studied, establishing and improving the Child-Dentist relationship of trust.

Another no less important aspect is related to the relevance of the early nature of the child's first consultation in Dental Medicine, and this empirical fact seems to denounce/exist an association between the first consultation being carried out as early as possible and the connotation of the smile for the child. The Smile presents itself, in this investigation, as a common denominator, and may be invested as a programmatic content in the academic training of Dentists, where the mental representation of the smile in the children's life trajectory must be emphasized, configuring itself as a valid contribution to improving the oral health of the child population.
REFERENCES


