

# Preschool Children's Emotional Understanding of Death: A Forgotten Dimension

## Compreensão Emocional da Morte Pelas Crianças em Idade Pré-escolar: Uma Dimensão Esquecida



Filipa Martins SILVA<sup>1</sup>, Ana Filipa LOPES<sup>1</sup>, Vânia CARNEIRO<sup>2</sup>, Álvaro CAMPELO<sup>3</sup>  
*Acta Med Port* 2020 Oct;33(10):649-656 • <https://doi.org/10.20344/amp.12815>

### ABSTRACT

**Introduction:** Scientific evidence regarding children's understanding of the concept of death is scarce. This has recently been pointed out by the International Children's Palliative Care Network as a priority area of research. In particular, the avoidance of emotion in this area of research is an important shortcoming. This study aims to develop an in-depth view of the emotional dimension of the child's understanding of death, also seeking to relate it to the cognitive dimension.

**Material and Methods:** We interviewed children (three to six years old) using a book illustrating a hypothetical scenario in which a child faced the death of a relative. We asked questions to assess the cognitive subconcepts of death and the emotional dimension (what the child would feel and what parents should say).

**Results:** Of the 54 participants, the majority said that the child would feel sad ( $n = 46, 85\%$ ) and that parents should inform her/him ( $n = 47, 87\%$ ); these responses did not vary significantly with age. The cognitive understanding of the concept of death in children who reported sadness was significantly higher.

**Discussion:** Even the youngest children feel death, and it is not possible to disconnect cognitive and emotional understanding. Additionally, children should be informed in order to foster a proper and multidimensional elaboration of death.

**Conclusion:** This study provides valuable information to health professionals and other interested adults about the way preschoolers position themselves in relation to death.

**Keywords:** Attitude to Death; Child, Preschool; Palliative Care; Psychology, Child

### RESUMO

**Introdução:** É ainda parca a evidência científica quanto ao entendimento que as crianças têm sobre o conceito de morte, recentemente apontado pela *International Children's Palliative Care Network* como área prioritária de investigação. Em particular, a evicção da emoção nesta área de investigação é uma lacuna importante. Este estudo visa desenvolver uma visão aprofundada da dimensão emocional da compreensão da morte pela criança, procurando, também, relacioná-la com a dimensão cognitiva.

**Material e Métodos:** Entrevistámos crianças (três a seis anos), com recurso a um livro ilustrando o cenário hipotético em que uma criança se deparava com a de morte de um familiar. Colocámos questões para avaliar os subconceitos cognitivos da morte e a dimensão emocional (o que sentiria a criança e o que lhe devia ser dito pelos pais).

**Resultados:** Dos 54 participantes, a maioria disse que a criança se sentiria triste ( $n = 46, 85\%$ ) e que os pais deveriam informá-la ( $n = 47, 87\%$ ); estas respostas não variaram significativamente com a idade. A compreensão cognitiva do conceito de morte das crianças que referiram a tristeza foi significativamente superior.

**Discussão:** Mesmo as crianças mais pequenas sentem a morte, não sendo possível desligar as compreensões cognitiva e emocional. Adicionalmente, as crianças devem ser informadas, com vista a uma elaboração adequada e multidimensional da morte.

**Conclusão:** Este estudo fornece informação valiosa aos profissionais de saúde e outros adultos interessados sobre a forma como a criança em idade pré-escolar se posiciona em relação à morte.

**Palavras-chave:** Atitude Perante a Morte; Criança em Idade Pré-escolar; Cuidados Paliativos; Psicologia da Criança

### INTRODUCTION

Based on child development studies, the general understanding of the concept of death is usually subdivided into four primary subcomponents: universality (all living things die), irreversibility (once dead, dead forever), non-functionality (all bodily functions cease) and causality (what causes death).<sup>1</sup> The understanding of death is variable with age and traditionally more relevance has been attributed to the state of cognitive development<sup>1,2</sup> and, from a purely developmental perspective, a linear progression has been assumed.<sup>3</sup> However, it is currently known that this is much more complex, as some children have a more sophisticated view of death and dying than others, depending on other

factors, namely emotional, socio-familial and cultural.<sup>3</sup>

In fact, the avoidance of emotion in research on children's understanding of death has been a major gap.<sup>4</sup> In this domain, there are only a few studies focused mainly on the fear of death.<sup>1,5,6</sup> However, although an emotional component has been taken into consideration, this is interpreted in an isolated way, with the notion of understanding death restricted to the biological domain, assuming purely cognitive measures to assess the maturity of the concept of death. Therefore, an integrative evidence of cognitive and affective measures is lacking, assessing a notion of 'preparedness' of children to deal with death that goes beyond

1. Departamento de Pedopsiquiatria e Saúde Mental da Infância e Adolescência. Centro Hospitalar Universitário do Porto. Porto, Portugal.

2. Departamento de Psicologia Clínica e da Saúde. Faculdade de Ciências Sociais e Humanas. Universidade Fernando Pessoa. Porto, Portugal.

3. Faculdade de Ciências Humanas e Sociais. Universidade Fernando Pessoa. Centro em Rede de Investigação em Antropologia (CRIA). Porto, Portugal.

✉ Autor correspondente: Filipa Martins Silva. [anafilpacmsilva@gmail.com](mailto:anafilpacmsilva@gmail.com)

Recebido: 10 de setembro de 2019 - Aceite: 04 de dezembro de 2019 | Copyright © Ordem dos Médicos 2020



the traditional 'cognitive ability' to understand death.<sup>4</sup>

This deeper and integrating knowledge regarding children's understanding of the concept of death may be particularly useful as regards healthcare, in which it is generally recommended that death should be discussed with children in an honest, concrete and unambiguous way, according to their level of understanding.<sup>1</sup> In fact, a Delphi study was recently carried out by the International Children's Palliative Care Network aimed at the identification of the research priorities at a global level in Paediatric Palliative Care, with consensus in 26 areas, including "children's understanding of death and dying".<sup>3</sup> Therefore, the study of the understanding of the concept of death by children is of the utmost priority, aimed at providing scientific evidence. So far, no research has been developed on the subject in Portugal. This study was aimed at the development of an in-depth view on the emotional dimension of the understanding of death by children and its relationship with the cognitive dimension.

## MATERIAL AND METHODS

This study was part of a broader multidimensional and ethnographic research project, which was also aimed at the assessment of children's understanding of death within their sociocultural context and was approved by the Ethics Committee of the São João Hospital Centre/ Faculty of Medicine of the University of Porto.

This was a cross-sectional study based on interviews with children in a naturalistic setting. Children aged 3-6 were included as the study population, considering that in this age group there is an important development in the understanding of biological phenomena<sup>7</sup> and based on the recent evidence that children of this age have a better understanding of death than what was previously expected.<sup>7,8</sup> In line with other studies in this area,<sup>7-9</sup> this study was focused on children coming from middle-class families. Assuming a convenience sampling, the study was carried out in the city of Porto. Based on J. Goldthorpe's class scheme<sup>10</sup> and on data obtained from the 2011 Census,<sup>11</sup> middle-class parishes of Porto with 70-90% of employed population within the following groups of occupations have been considered: senior public administration staff, managers and senior management of companies; service and sales staff; administrative staff; technicians and intermediate level professionals; specialists of intellectual and scientific occupations. From the application of this criteria, nine parishes were selected and a survey of the establishments with pre-school education (children aged 3-6) was carried in public (n = 29) and private (n = 74) schools. Two schools within each category were randomly selected and the management of the group of schools was informed about the study and their participation was requested. Upon approval, the nursery school teachers were asked to contact all the parents, to explain and invite their children to participate in the study. Parents were given the opportunity to ask questions and clarify any doubts, with ensured privacy and confidentiality, as well as the possibility of withdrawal from the participation in the study at any time, as set out in the informed consent docu-

ment. In total, 54 participations were included in the study. Once this procedure was completed, the interviews with the children were scheduled.

One-hour interviews were carried out by authors one and three, both professionals in the area of child mental health, with clinical experience in interview techniques with pre-school children. Each child was individually interviewed at school throughout the first semester of 2018. The protocols of traditional cognitive development research were adapted as a data collection tool, in line with a recent study<sup>9</sup> in order to create hypothetical scenarios that were more realistic and closer to the children's daily experiences (rather than questions in the abstract) and questions regarding the emotional dimensions of their experience were added. A book with illustrations has been developed to be used in the interviews. The first and last sections in the book included questions regarding life processes as, even though children's understanding of death was the main objective of the study, an interview entirely focused on death could involve potential distress to children<sup>9</sup>; as they fall outside the scope of this article, these questions will not be addressed here. Images corresponding to the questions about death were included in the middle section of the book. In this section, the interviewer would start by showing (i) an illustration of *João* (John) or *Ana* (Anna) (names selected for being common in the Portuguese society), (ii) an illustration of a child resembling the participant in terms of age and gender (we have therefore created different versions for boys and girls) and (iii) an illustration of a hypothetical scenario of the death of an uncle or aunt experienced by John or Anna. The scenario of the death of an uncle was shown to half of the children and that of an aunt to the other half. Different questions were subsequently asked, aimed at a multidimensional evaluation of the understanding of death (structure of the interview in Appendix 1 (see Appendix 1: [https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/12815/Apendice\\_01.pdf](https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/12815/Apendice_01.pdf)). Questions regarding the sub-concepts of death, defined in previous cognitive developmental research as irreversibility, non-functionality, universality and causality were used for the assessment of the cognitive dimension of understanding death.<sup>12,13</sup> On the other hand, the evaluation of the emotional dimension tried to make the children elaborate on the feelings that may arise in the face of death, also assessing whether children recognised as normative some specific emotions, namely sadness, fear and anger ("How do you think John or Anna feels about the death of their uncle/aunt?") In the case that no emotions that could be categorised as sadness, fear or anger were described, the following direct question was asked: "Do you think John or Anna feels sad/afraid/angry about the death of their uncle/aunt/dog/plant?" The communication pattern of the parents that was expected by children in a death situation was also assessed ("What do you think John or Anna's parents should tell him/her as regards the death of his/her uncle/aunt/dog/plant?"). Previously to the application of the study, this instrument was tested with a convenience sample including children aged 3-6, in order

to evaluate its comprehensibility and adequacy. The interviews were recorded and transcribed in full.

An overall score of the cognitive understanding of death has been obtained by adding up the child's biologically correct answers regarding the different sub-concepts (scores ranging 0-14). As regards the qualitative analysis of the remaining dimensions, upon an initial familiarisation with data, a thematic analysis has been carried out.<sup>14,15</sup> An initial coding scheme and indexing through constant comparison within and between cases have been developed by the first author, looking for recurring themes and other standardised meanings expressed by the participants. Additionally, derived or emerging categories were developed and refined in an iterative process. Half of the transcripts were separately coded by the second author and comparisons were used to confirm or discuss and adjust the analysis. Regarding the emotional dimension, when asked about the emotions that may arise related to death, children gave different answers that were coded into six categories: "Triste" (*Sad*), "Com medo" (*Afraid*), "Zangado" (*Angry*), "Emoções positivas" (*Positive emotions*), "Resposta confusa" (*Confusing response*) and "Não sei" (*Don't know*). More than one code could have been assigned to the responses to this question. As regards the communication pattern, responses to the question on what parents should say when faced with that situation were coded into five mutually exclusive categories: "Dizer que morreu" (Say that he died), "Não contar" (Do not tell), "Não é verdade" (Not true), "Resposta confusa" (Confusing response) and "Não sabe" (Does not know). Additionally, the category "Say that he died" was subdivided into four subcategories: "...and give support (emotional and/or spiritual)", "...and the cause", "...and it is reversible" and "...and it is irreversible". Except for the subcategories regarding reversibility that were mutually exclusive to each other the remaining subcategories could overlap. IBM SPSS Sta-

tistics for Windows, Version 25.0 software has been used for statistical analysis (of both cognitive and emotional dimensions). All *p*-values reported are two-tailed, assuming a *p*-value of 0.05 as having statistical significance. We tested the normal distribution of data using the Kolmogorov-Smirnov and Shapiro-Wilk tests or by analysing skewness and kurtosis (maximum tolerable values of 1). We used the *t*-test to compare means and Pearson's correlation coefficient (*r*) to assess parametric correlations.

## RESULTS

A total of 54 Portuguese children, born and living in Porto within middle-class residential areas were interviewed [24 (44%) female, mean age 5 years and one month, ranging from 3 years and five months to six years and six months].

### Emotional dimension

Most children described that John / Anna would feel sad with the death of the relative (*n* = 46, 85%), giving answers including: "Sad and crying", "Sad and missing when they played together", "Sad, heart broken in a thousand pieces" and "Sad, but he had to live his own life" (Table 1). This answer did not vary significantly with age (Table 2). The second most frequently described emotion was fear (*n* = 11, 20%), followed by anger (*n* = 8, 15%) (Table 1). Again, responses as "Afraid" and "Angry" did not vary significantly with age (Table 2). Some children (*n* = 2) have answered that John / Anna would have positive emotions ("Happy" and "Felt good") in response to the death of a relative. Three children gave confusing responses (for example: "He saw him in a box and felt sick", "He felt very well, afraid and angry" and "He died"). Finally, two children answered that they did not know how John / Anna would feel if their relative had died (Table 1). "Afraid" and "Angry" categories were always overlapped with other categories (Table 3).

Table 1 – Emotional response of children at the death of a relative

Categories	n (%)	Representative responses
<b>Sad</b>	<b>46</b> 85%	"Triste" ("Sad") "Triste e a chorar" ("Sad and crying") "A chorar, triste e com amor" ("Crying, san and with love") "Triste e vai procurar o tio" ("Sad and will search for the uncle") "Triste e com saudades de quando brincavam juntas" ("Sad and missing playing with her") "Triste e com saudades da tia" ("Sad and missing his/her aunt") "Triste, com o coração estragado em mil bocadinhos" (Sad, with the heart broken into a thousand pieces") "Triste, mas teve que viver a vida dele" ("Sad, although he had to live his own life")
<b>Afraid</b>	<b>11</b> 20%	[always overlapping other categories – Table 2]
<b>Angry</b>	<b>8</b> 15%	[always overlapping other categories – Table 2]
<b>Positive emotions</b>	<b>2</b> 4%	"Feliz" ("Happy") "Sentiu-se bem" ("Felt good")
<b>Confusing response</b>	<b>3</b> 6%	"Ele viu-o num caixote e sentiu-se mal" ("He saw him in a box and felt sick") "Ficou muito bem, com medo e zangado" ("Felt good, with fear and angry") "Morrido" ("Died")
<b>I don't know</b>	<b>2</b> 4%	"Não sei" ("I don't know")

The percentages refer to the total of participants (*n* = 54)

Table 2 – Effect of age on the emotional recognition

Categories	Age (mean ± SD)		p-value
	No	Yes	
Sad	56.5 ± 11.8	62.0 ± 9.4	0.146
Afraid	61.5 ± 10.1	60.1 ± 9.4	0.675
Angry	61.6 ± 9.8	59.1 ± 11.1	0.521

"No" means that this category was not mentioned by the participant; "Yes" means that this category was mentioned. The remaining categories were not tested, due to the small size of the sample. T-test was used for the comparison of means. All p-values are two-tailed and a p-value of 0.05 was considered as having statistical significance.

### Communication pattern

When questioned about what the participants thought parents should tell John/Anna about death (Table 4), most children (n = 47,87%) have described that they should be told that their relative had died (for example: "...que a tia morreu senão ela depois não sabia") ("...that the aunt had died or otherwise he/she would not know" and "...que a tia morreu porque ela pode pensar que a tia não está morta e está") ("...that the aunt had died because he/she could think that the aunt is not dead when she is"). On the other hand, four children mentioned that their parents should not tell them anything, giving answers such as: "...não devem contar porque senão ela fica ainda mais triste") ("they shouldn't tell him/her because otherwise he/she would feel even sadder" and "...não devem contar à Ana que a tia morreu; devem dizer-lhe para não pensar nisso") ("...they should not tell Anna that her aunt died; they should tell her not to think about it"). Responses such as "Dizer que morreu" and "Não contar" ("Tell him/her that she died" and "Don't tell") did not vary significantly with age (Table 5). One child described that parents should say that the death situation was not true ("...que é a brincar") ("...that it is a joke").

A confusing answer was also given ("...que não se pode atirar pela janela, nem se diz asneiras") ("...that you can't throw it out of the window, or say nonsense"). Finally, one child described not knowing what parents should say.

Four of the participants who have described that parents should talk to them about death (Table 4) added that this information should be accompanied by emotional and

spiritual support, giving answers such as: ("devem dizer-lhe) que eles também estão tristes", "(...) para ela pensar sempre no seu tio e rezar" and "...para ir à igreja para rezar e dizer a Jesus que querem que o tio fique vivo para sempre" ("they should tell her) that they are sad too", "(...) for her to always think about her uncle and pray" and "...to go to church and pray and tell Jesus that they want their uncle to stay alive forever"). Three children also described the need to be informed about the cause of death, for example: ("...a tia acertou num pico e morreu") and "...morreu porque estava muito velhinho") ("...the aunt got injured on a spike and died") and "... he died because he was very old"). Additionally, four children described that they should be told that death was reversible, for example: "(...) que o tio foi para o Jesus e vai voltar quando estiver melhor; e os pais devem dizer ao Jesus para o tio voltar", "(...) que ele tem que encontrar o tio, para o ir buscar" e "(...) para levar o tio ao hospital" ["(...) that the uncle went to Jesus and will come back when he gets better; and the parents should tell Jesus for the uncle to come back", "(...) that he has to find the uncle, to pick him up" and "(...) to take him to the hospital"]. On the other hand, one child mentioned the opposite, i.e., that the irreversibility of death should be clarified, with the answer "(...) morreu e nunca mais vai voltar ("he died and will never come back").

### Relationship between cognitive and emotional dimensions

An 8.61 (± 0.4) mean overall score of understanding of death has been found (range 2-14). There is a statistically significant positive correlation (tested by using Pearson's correlation coefficient) between age and the overall score of cognitive understanding of death (r = 0.32; p = 0.02). In order to assess the relationship between the cognitive and emotional dimensions of the perception of death, we tried to understand how the overall score of cognitive understanding of death varied according to the emotional response described by the participants. We found that the mean score of the overall cognitive understanding of the concept of death of children who replied that John/Anna would feel sad at

Table 3 – Overlapping emotional responses of children at the death of a relative

Overlapping responses	n	Representative responses
Sad & Afraid	5	"Triste e com medo" ("Sad and afraid")
Sad & Angry	2	"Triste e zangado" ("Sad and angry")
Afraid & Angry	1	"Com medo e zangado" ("Afraid and angry")
Sad & Afraid & Angry	5	"Triste, com medo e zangada" ("Sad, afraid and angry") "Triste, com medo e zangado e chorou; depois não queria ir passear sozinho" ("Sad, afraid and angry and crying; then, did not want to walk alone")



Table 4 – What parents should tell children regarding the death of a relative

Categories	n	Representative responses
<b>Tell that he/ she died</b>	<b>47</b> 87%	“(…) <i>que a tia morreu senão ela depois não sabia</i> ” (“...that the aunt died, otherwise she did not know”) “(…) <i>que a tia morreu porque ela pode pensar que a tia não está morta e está</i> ” (“...that the aunt died, otherwise she could think that her aunt was not dead and she was in fact”)
<b>...and give emotional and spiritual support</b>	<b>4</b>	“(…) <i>que eles também estão tristes</i> ” (“...that they are also sad”) “(…) <i>para ir em à igreja para rezar e dizer a Jesus que querem que o tio fique vivo para sempre</i> ” (“...to go to church and pray and tell Jesus that they want their uncle to live for ever”) “(…) <i>para ela pensar sempre no seu tio e rezar</i> ” (“...so that she could think on her uncle and pray”) “(…) <i>que o tio foi para o Jesus e vai voltar quando estiver melhor; e os pais devem dizer ao Jesus para o tio voltar</i> ” (“...that the uncle went to Jesus and will come back when he gets better and the parents should say Jesus to bring the uncle back”)
<b>...and tell the cause of death</b>	<b>3</b>	“(…) <i>já estava a ficar muito velhinha e que já estava a ficar a morrer</i> ” (“...she was getting very old and was dying”) “(…) <i>a tia acertou num pico e morreu</i> ” (“...the aunt got injured on a spike and died”) “(…) <i>morreu porque estava muito velhinho</i> ” (“...he was getting very old”)
<b>...and tell that this is reversible</b>	<b>4</b>	“(…) <i>que ele tem que encontrar o tio, para o ir buscar</i> ” (“...that he has to find the uncle to get him back”) “(…) <i>para levar o tio ao hospital</i> ” (“...to take the uncle to the hospital”) “(…) <i>para dizer a Jesus que querem que o tio fique vivo para sempre</i> ” (“...to tell Jesus that they want their uncle to stay alive for ever”) “(…) <i>que o tio foi para o Jesus e vai voltar quando estiver melhor; e os pais devem dizer ao Jesus para o tio voltar</i> ” (“...that the uncle went to Jesus and will come back when he gets better and the parents should tell Jesus to get their uncle back”)
<b>...and tell that this is irreversible</b>	<b>1</b>	“(…) <i>morreu e nunca mais vai voltar</i> ” (“... has died and will never come back”)
<b>Do not tell</b>	<b>4</b> 7%	“(…) <i>não devem contar porque senão ela fica ainda mais triste</i> ” (“... should not tell, because otherwise she will be even sadder”) “(…) <i>não devem contar ao João porque ele está zangado, não quer falar com ninguém...</i> ” (“... they should not tell John because he is angry and does not want to speak with anyone...”) “(…) <i>devem dizer à Ana para não ter medo, mas não devem contar à Ana que a tia morreu; devem dizer-lhe para não pensar nisso</i> ” (“...they should tell Anna not to be afraid, but should not tell Anna that her aunt has died; they should tell her this so that she does not think about it”) “(…) <i>devem dizer que a Ana pode ir a um sítio pôr uma flor ao tio, mas não devem contar à Ana que o tio morreu porque senão ela fica muito triste</i> ” (“...they should tell Anna that she can go somewhere and put a flower to her uncle, but they should not tell Anna that her uncle had died, otherwise she will be very sad”)
<b>It's not true</b>	<b>1</b> 2%	“(…) <i>que é a brincar</i> ” (“... that this is a joke”)
<b>Confusing response</b>	<b>1</b> 2%	“(…) <i>que não se pode atirar pela janela, nem se diz asneiras</i> ” (“...that he cannot jump over the window, nor should tell nonsense”)
<b>I don't know</b>	<b>1</b> 2%	“ <i>Não sei</i> ” (“I don't know”)

the death of their relative (9.0 ± 2.9) was significantly higher than those who did not describe this emotional state (6.6 ± 2.6; p = 0.038) (Table 6). No statistically significant dif-

ferences were found as regards the answers “Afraid” and “Angry”.

Table 5 – Effect of age on what parents should tell their children at the death of a relative

Categories	Age (mean ± SD)		p-value
	No	Yes	
Tell that he/she died	64.1 ± 9.4	60.1 ± 10.0	0.408
Do not tell	61.0 ± 10.1	64.3 ± 8.1	0.530

“No” means that this category was not mentioned by the participant; “Yes” means that this category was mentioned. The remaining categories were not tested, due to the small size of the sample. T-test was used for the comparison of means. All p-values are two-tailed and a p-value of 0.05 was considered as having statistical significance.

Table 6 – Effect of comprehension on the emotional recognition

Categories	Comprehension (mean ± SD)		p-value
	No	Yes	
Sad	6.6 ± 2.6	9.0 ± 2.9	0.038*
Afraid	8.6 ± 3.1	8.6 ± 2.5	0.975
Angry	8.7 ± 3.1	8.4 ± 1.8	0.809

\* statistical significance (p < 0.05)

“No” means that this category was not mentioned by the participant; “Yes” means that this category was mentioned. The remaining categories were not tested, due to the small size of the sample. T-test was used for the comparison of means. All p-values are two-tailed and a p-value of 0.05 was considered as having statistical significance.

## DISCUSSION

In general, we found that most preschool children recognise that a death situation triggers an emotional state of sadness and the second most frequently described emotion is fear, followed by anger. This emotional recognition does not differ significantly with age. A small number of children described positive emotions in response to death or showed difficulties in emotional recognition, providing confusing answers or even verbalising a lack of knowledge in emotional identification. Additionally and regardless of age, most participants have considered that children should be informed by their parents of the death of a relative. Finally, we found a significantly higher general score of the cognitive understanding of death in children who recognised sadness as a normative in face of a death situation, when compared to those who did not.

One of the most relevant findings of this study was the fact that it has shown that preschool children, even the youngest ones, recognised as a normative the reaction of sadness when faced with the death of someone close to them. This finding is in line with the results of a recent study with a similar approach, in which most children (86%) within this age group, even the youngest, have described sadness as a normative reaction to death; in that study, some children (3%) have also described positive emotions.<sup>16</sup> On the other hand, this finding was in contrast with previous studies showing that, in emotional terms, fear of death predominates at these ages.<sup>6,17,18</sup> However, these studies have followed an approach mostly focused on the cognitive development, restricting the emotional dimension to "fear of death", essentially to demonstrate that learning the biological facts about death can mitigate this fear, removing the confusion and unanswered questions that arise when one has an immature concept of death.<sup>6</sup> Furthermore, the questions in these studies were asked to children in an abstract way and not through models with which children can identify with and therefore answers may not reflect the child's own perspective when facing the hypothetical but concrete situation of the death of a relative. Furthermore, some authors argue that, although almost inevitable, the fear of death is mainly social, being acquired essentially through indirect (non-personal) experiences and secondary means (such as the media), thus appearing later, at around 5 - 6 years of age.<sup>19-22</sup>

The fact that preschool children, regardless of their age, identify the reaction of sadness in the face of death as conventional also supports the idea that even the youngest children feel it. In fact, a limited cognitive elaboration of death does not seem to prevent its perception, even when there is no explanation from the environment: on the one hand, children notice the emotions of people around them, absorbing their concern and anxiety; on the other hand, children themselves feel the loss that death implies.<sup>21</sup>

In addition, although in a reduced number, the presence of some confusing responses or the absence of response, supports the idea that, like other domains of child development, emotional development also follows a predictable

sequence, but it is not entirely invariant; therefore, in each case, an individualised assessment should be made.<sup>23</sup> Thus, each child's response is unique, depending on the child's temperament, environment, previous experiences and level of psychological development. Therefore, the adjustment to death should be assessed according to these variables and not according to an imposition of any adult's experience.<sup>21</sup>

Although age, per se, does not seem to influence emotional understanding about death, we found that in situations of greater emotional understanding, the cognitive dimension is also significantly more developed, aiming at a possible connection between these two dimensions. This study represents an important and innovative contribution to the research of the emotional dimension of death, showing its relationship with the cognitive approach, on which studies in this area have been mostly focused.

As regards the fact that most children considered that, when facing the death of a relative, they should be informed, expressions such as "(...) otherwise she wouldn't know" and "(...) because she might think that her aunt is not dead and she is", in which the idea of the right to the truth, not to be cheated, is clearly described and is worth mentioning. However, we know that in current Western society, adults tend to exclude children when someone close to them dies, trying to protect them from suffering.<sup>24,25</sup> In fact, there seems to be an underlying idea of emotional protection (e.g. "They shouldn't tell her because otherwise she will be even sadder"), in line with the adults' attitude in the answers of the few children who mentioned that their parents should not tell them what happened. However, adults forget that children also feel the loss and elaborate their own mourning.<sup>25</sup> Although wishing to protect children from suffering, the omission of these unpleasant feelings does not help them to express their emotions, possibly restricting the resilience that their experience can provide.<sup>25,26</sup> In fact, pain and suffering are recurrent in life and adults should support the development of adequate skills to recognise, express and deal with these emotions.<sup>26</sup>

An anthropological dimension underlies this behaviour of avoidance of the subject of death with children, associated to a general resistance of the current Western society to talking about death,<sup>24,27</sup> contrary to what happened before the 19th century, when death was considered a natural process and accepted as such.<sup>23,24</sup> Some authors assign this phenomenon to the change in the paradigm of values in Western society, with the establishment of secularisation and the primacy of scientific and technological development,<sup>23,24</sup> with death coming to be seen as a meaningless end, a failure of modern medicine.<sup>27</sup> Because of the unwanted emotions it raises, including distress, sadness, fear and loss of hope, purpose and identity, death has progressively become a taboo, which hinders the natural elaboration of the concepts of death and mourning.<sup>21,25,27</sup> In this context, it is not surprising that adults seek to protect children from death.<sup>24</sup> Additionally, the common belief that children do not yet have the appropriate cognitive and emotional skills

reinforces the avoidance of conversations about death with them.<sup>21</sup> However, this study and other recent ones<sup>9,28</sup> showed that even younger children do have important conceptions about death, which cannot be neglected. In addition, evidence shows that despite adults' attempts to protect them, children are constantly exposed to death (both in fiction and in real life),<sup>29</sup> knowing almost always more than what their carers believe they know.<sup>23</sup> Furthermore, children are very curious about death, wanting to know what it is and why it happens.<sup>30</sup> It is recommended that adults seize these opportunities to talk to them, in a way that is adapted to their level of development, favouring their understanding, both at a cognitive and emotional level.<sup>21</sup>

Some specificities of normative emotional development, not fully addressed in this study, should be mentioned. In fact, as regards the participants' responses to emotional questions, we did not discriminate between a spontaneous answer or the choice of an emotion from a set of possibilities which could, in fact, reflect different developmental stages (in the first case, children recognise the emotion, eventually identifying with it, while in the second, they are helped to do so). Additionally, language and thought are not necessarily overlapping. Thus, given the complexity of emotional development, to which must be added the fact that participants were in a simulation situation, it is important to emphasise that this study is only approximate to the issue of death.

Further research should explore how this emotional understanding of death occurs in child's sociocultural context, assessing the variables that influence this acquisition. In fact, children's understanding on life and death seems to be related with the views of those around them, through subtle social mechanisms that go beyond direct teaching.<sup>1</sup> In addition, it is also important to deepen the way in which personal aspects influence the understanding of death, namely the experience of death of someone close to them and their own experience of severe illness or hospitalisation. In general, the understanding of death and dying process by children should involve a multidisciplinary research, as this is a subject that different areas are confronted with, including sociology, anthropology, communication, philosophy, child development and healthcare.<sup>3</sup> Therefore, contrary to what has been the rule, a research in this area should follow a community approach, while looking at the child as

a whole. This combination allows to go beyond fragmented variables, contextualising cognitive development findings in a broader sociocultural perspective.<sup>4</sup>

## CONCLUSION

In summary, based on an emotional perspective and exploring its interaction with the cognitive dimension, this study supports the conclusion that children do not develop their understanding of death in an affective vacuum. Preschool children, even the youngest ones, are capable of an adequate emotional reading of the death of someone close to them. Additionally, it is worth mentioning that children recognise that they should be informed about death.

Regarding clinical practice, it should be emphasised that understanding what children know about death, how they communicate these ideas and express their emotions is crucial in the communicational approach to children in paediatric palliative care. In addition, the usefulness of this scientific evidence can be cross-cutting to other areas, namely in child bereavement counselling. Therefore, the results of this study provide valuable information to health professionals, families and other interested adults about how preschool children position themselves as regards death.

## HUMAN AND ANIMAL PROTECTION

The authors declare that the followed procedures were according to regulations established by the Ethics and Clinical Research Committee and according to the Helsinki Declaration of the World Medical Association.

## DATA CONFIDENTIALITY

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

## CONFLICTS OF INTEREST

The authors declare that there were no conflicts of interest in writing this manuscript.

## FINANCIAL SUPPORT

The authors declare that there was no public or private financial support in writing this manuscript.

## REFERENCES

- Bates A, Kearney J. Understanding death with limited experience in life: dying children's and adolescents' understanding of their own terminal illness and death. *Curr Opin Support Palliat Care*. 2015;9:40-5.
- Kenyon BL. Current research in children's conceptions of death: a critical review. *OMEGA - J Death Dying*. 2001;43:63-91.
- Downing J, Knapp C, Muckaden MA, Fowler-Kerry S, Marston J, Committee IS. Priorities for global research into children's palliative care: results of an International Delphi study. *BMC Palliat Care*. 2015;14:36.
- Callanan M. Diversity in children's understanding of death. *Monogr Soc Res Child Dev*. 2014;79:142-50.
- Himmelstein B, Hilden J, Boldt A, Weissman D. Pediatric palliative care. *N Engl J Med*. 2004;350:1752-62.
- Slaughter V, Griffiths M. Death understanding and fear of death in young children. *Clin Child Psychol Psychiatr*. 2007;12:525-35.
- Nguyen S, Gelman S. Four and 6-year olds' biological concept of death: the case of plants. *Br J Devel Psychol*. 2002;20:495-513.
- Speece M, Brent S. The acquisition of a mature understanding of three components of the concept of death. *Death Studies*. 1992;16:211-29.
- Rosengren K, Miller P, Gutiérrez I, Chow P, Schein S, Anderson K. Children's understanding of death: toward a contextualized and integrated account. *Monogr Soc Res Child Dev*. 2014;79:1-162.
- Erikson R, Goldthorpe JH. *The constant flux: a study of class mobility in industrial societies*. Oxford: Oxford University Press; 1992.
- Martins I. Censos 2011 – Mudanças demográficas. In: Urbano DM, editor. Porto: Câmara Municipal do Porto; 2014.
- Speece M, Brent S. The development of children's understanding of death. *Handbook of childhood death and bereavement*. New York: Springer Publishing Co; 1996.

13. Speece M, Brent S. Children's understanding of death: a review of three components of a death concept. *Child Development*. 1984;55:1671-86.
14. Bryman A. *Qualitative data analysis. Social research methods*. New York: Oxford University Press; 2012:565-89.
15. Taylor-Powell E, Renner M. *Analyzing qualitative data*. Madison: University of Wisconsin, 2003.
16. Gutiérrez I, Miller P, Rosengren K, Schein S. III. Affective dimensions of death: children's books, questions, and understandings. *Monogr Soc Res Child Dev*. 2014;79:43-61.
17. Cotton C, Range L. Children's death concepts: relationship to cognitive functioning, age, experience with death, fear of death, and hopelessness. *J Clin Child Psychol*. 1990;19:123-7.
18. Orbach I, Gross Y, Glaubman H, Berman D. Children's perception of death in humans and animals as a function of age, anxiety and cognitive ability. *J Child Psychol Psychiatry*. 1985;26:453-63.
19. Bryant C, Peck D. *Encyclopedia of death and the human experience*. Thousand Oaks: SAGE Publications; 2009.
20. González Sánchez I, de la Herrán Gascón A. Introducción metodológica a la muerte y los miedos en educación infantil. *Tendencias Pedagógicas*. 2010;15:26.
21. Gorosabel-Odrizola M, León-Mejía A. La muerte en educación infantil: algunas líneas básicas de actuación para centros escolares. *Psicol Educ*. 2016;22:103-11.
22. Kübler-Ross E. *On children and death: how children and their parents can and do cope with death*. New York: Scribner; 1997.
23. Norero V. La maduración cerebral en el niño. El caso de la adquisición del concepto de muerte y su evolución. *Rev Chil Pediatr*. 2018;89:137-42.
24. Ariès P. *Western attitudes toward death: from the middle ages to the present*. Baltimore: Johns Hopkins University Press; 1974.
25. Ramos-Pla A, Gairín J, Camats R. Principios prácticos y funcionales en situaciones de muerte y duelo para profesionales de la educación. *REICE*. 2018;16.
26. Wu G, Feder A, Cohen H, Kim J, Calderon S, Charney DS, et al. Understanding resilience. *Front Behav Neurosci*. 2013;7:10.
27. Aynsley-Green SA. Think adult—think child! Why should staff caring for dying adults ask what the death means for children in the family? *Br Med Bull*. 2017;123:5-17.
28. Talwar V, Harris P, Schleifer M. Children's understanding of death: from biological to religious conceptions. Cambridge: Cambridge University Press; 2011.
29. Bluebond-Langner M, Schwallie M. Children's experience of death. In: Shweder R, ed. *The child: an encyclopedic companion*. Chicago: University of Chicago Press; 2009:240-2.
30. Christ GH. Impact of development on children's mourning. *Cancer Pract*. 2000;8:72-81.