

SCIENTIFIC USE OF THE TERM 'PRE-EMBRYO'

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Attempts are often made through semantic manipulation to distort biological reality, particularly when this has ethical connotations, and above all if this biological reality is related with new human life, since it should not be forgotten that it is in that period of time in which the life of a human being is suffering a higher number of attacks.

In this context, a paradigmatic example of what we have mentioned is the use of the term 'pre-embryo', which, in our opinion, does not have any scientific basis but does however have clear ideological, when not political intentionality.

In order to evaluate whether there is indeed a scientific basis for using the term 'pre-embryo', we thought that it would be interesting to analyse the frequency with which it is used today in biomedical literature, since surely the frequency of its use will make it irrefutably clear if said term does or does not define a biological entity with its own characteristics, different to the embryo, and consequently with a scientific basis to be accepted as a differential stage of embryonic life.

With this objective, we reviewed some previous data from the literature which refer to the term 'pre-embryo', but in particular we carried out a personal

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review of this topic in the period between 1997 and 2009, using PubMed as a search instrument.

The term ‘pre-embryo’ was first used in 1986 (1-3), based on the criterion, arbitrarily proposed in 1984 by the Warnock Commission (4), which established that human embryos could be manipulable up to 14 days after impregnation of the oocyte by the sperm cell, although said Commission admitted, in the same document, that the life of the human embryo begins specifically with fertilisation.

However, in our opinion, the use of the term ‘pre-embryo’ is not only a semantic manipulation aimed at depriving the early embryo of its fundamental biological characteristic of living human being, but it is also a serious biological mistake, since it seems to us that there is no scientific reason which justifies calling the human pre-implantation embryo a ‘pre-embryo’. For most experts the pre-embryo, biologically speaking, does not exist, so the term that identifies it as such is becoming less frequently used in scientific literature.

To confirm this, we reviewed how science currently uses the term ‘pre-embryo’; unsurprisingly, we were able to verify that its use is very limited.

In a review on the use of the term ‘pre-embryo’ published in 1997 (5), in which the authors used Medline as the data source, they were able to show that between the years 1991 and 1996, the term ‘pre-embryo(s)’ only appeared 83 times in the scientific literature, compared to 28,434 for the term ‘embryo(s)’. Something similar was observed in another review by Ferrer and Pastor (6), who analysed the same topic, although on a larger scale. These authors found, also using Medline as a data source, that between 1991 and 1997, the word ‘pre-embryo’ appeared in the title of scientific articles 55 times (13 in 1991; 10 in 1992; 9 in 1993; 8 in 1994, 6 in 1995; 7 in 1996 and 2 in 1997). On the contrary, the term ‘embryo(s)’ appeared 36,301 times. In

other words, the minority use of the term 'pre-embryo' in medical literature is evident, and not because this area of science is in decline, since together with the scant use of the word 'pre-embryo', we can see the large number of occasions on which the term 'embryo' was used.

However, analysing the use of the term 'pre-embryo' from 1997 to 2009, and in this case using PubMed as the information source, it was found that in those 13 years, the term 'pre-embryo' appeared just 20 times in the title of scientific papers: 2 in 1997 (7-9), 3 in 1998 (10-12), 1 in 1999 (13), 1 in 2000 (14), 1 in 2001 (15), 2 in 2002 (16 and 17), 2 in 2003 (18 and 19), 1 in 2004 (20), 3 in 2005 (21, 22 and 23), 2 in 2007 (24, 25) and 1 in 2008 (27). This clearly demonstrates the lack of scientific interest currently aroused by this term.

If we look a little more closely at the latter data, of the 20 papers published which use the word 'pre-embryo' in their title, only 16 (8, 9, 11-14, 17, 18, 20-27) were in scientific journals. Furthermore, one of the cases was published in a local journal (14), and three of the others were reviews (8, 9, 13). Therefore, there were only 12 original articles published during those years in international journals (11, 12, 17, 18, 20-27) in which the term 'pre-embryo' was used in the title. In other words, 0.92 times per year. Moreover, if we take into account that three of the 16 studies reported (18, 20, 23) were from the same group, it can be stated that, in reality, only 13 scientific groups have used the word 'pre-embryo' in the title of an experimental study during the last 13 years.

Another interesting aspect to consider is that none of them were published in leading scientific journals (those with an impact factor greater than 15), top quality journals (impact factor between 10 and 14) or even comparative journals (impact factor between 5 and 9). Only 10 (11, 18, 20-27)

were published in mid-quality journals (impact factor between 3 and 4) and the other two (12, 17) were in journals of a lesser scientific standing (impact factor less than 1).

In summary, the above data support the finding that the term ‘pre-embryo’ is practically outside the current scientific context, and that its use, in most cases, has a more ideological than scientific connotation, all with the aim of depriving the embryo of its ontological status of living human being, to thus be able to manipulate it without greater ethical responsibility.

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Key words: Pre-embryo, implantation embryo and human embryo.

Summary:

Certain scientific bodies and some social groups occasionally promote the use of the term ‘pre-embryo’ to designate pre-implantation embryos. Given that the use of said term appears devoid of the most fundamental scientific basis, we reviewed its use in the specialised literature during the years 1997 to 2009, confirming that the use of the term ‘pre-embryo’ is minimal; consequently, we consider that there is no objective reason to continue using it, and that when it is used, this may be motivated more by ideological interests than by scientific reasons.

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