

Ethics in applying new technologies

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Abstract

The article discusses the application of new reproductive technologies presenting the views of the work group from the University of Barcelona Bioethics and Law Observatory, which is the Chair of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). It seeks a layman's perspective and respectful of the human rights from punctual examples of the Spanish reality, presumptions generally accepted regarding researches with embryonic stem cells. It concludes point to the importance of qualified information to guide overcoming social dilemmas, emphasizing the value of freedom of choice.

Key words: Freedom. Human Rights. Science, technology and society. Reproductive techniques. Stem cells.



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When faced with important advances in medicine and the discovery of new technologies in some areas of biomedicine which offer varied possibilities, opposing voices arise declaring that these advances are unethical or have no justification or ethical basis. Examples include research on embryonic stem cells, activation of oocytes through nuclear transfer techniques, and the possibility that parents can choose the sex of their offspring for reasons other than preventing sex-linked inherited diseases, among others. Apparently, in many cases, what these voices would really like is to turn back the calendar pages and uninvent almost everything, especially the techniques of assisted reproduction, if possible.

But what ethics (i.e., what moral principles, values) are they referring to, those who express these objections? In essence, they express an attitude that arises from fear, the fear of innovations, new discoveries and new techniques. But this fear seems to be unfounded, since the techniques are not intended to create monsters or endanger life and human dignity, as some say, but to strive for the improvement of wellness and quality of life by fighting diseases, thus contributing to attain higher levels of happiness.

We must also say that this way to understand ethics often conceals transcendentalist ideologies or beliefs according to which mankind would be in certain cases attempting to overcome God's role, and in the opinion of those who support such ideologies He would have already set the rules of the game and therefore set the pre-established limits of human action. According to this way of thinking, this *ethics* turns out to be the *secular* face of a religion that can no longer stand as the only possible value system in a non-denominational, pluralistic society.

Another point of view

However, this is not even remotely the only possible way to understand the subject of *ethics* and *ethical values*. There is obviously another approach – which is the one advocated by the research group at the Bioethics and Law Observatory ¹ of the University of Barcelona. In their proposals and arguments the group's viewpoints are not based on fear, but on freedom, thus establishing, if necessary, limits to this freedom, limits which, in any case should not be derived from assumptions about what is ethical or not, but rather, based on a society's set of values which cannot be infringed or broken

If we consider that we live in pluralistic societies that are governed by a democratic model of coexistence, we must admit that problems affecting the entire society should be solved by all citizens, after a sufficiently informed social debate, not just by minority sectors or not sufficiently representative sectors. An ethics, therefore, not based on any transcendentalism, but by what we have in common: respect for human rights and the various agreements consolidated internationally (UN, UNESCO, EU, etc.) that have been configuring and implementing them.

And among these rights, there is an emphasis on *respect for individual decision-making processes based on personal autonomy*, decisions so personal that they do not admit any interference. At any rate, the only limits to this personal autonomy should be that such personal decision should not limit others' autonomy or affect public health security or that which is generally termed as 'in the public interest'.

Here is an example of what has been stated. One of the limitations that must be set to the decisions people make when exercising their personal autonomy is based on public

health protection, including protection to individuals in cases where major damages might be inflicted as a result of personal decisions. This may be the case with people who do not want to know any relevant information obtained in the framework of a genetic analysis.

To begin with, the decision of not wanting to know any particular information should be respected, as in other areas of healthcare. But here we find that this information can be extremely important in order to avoid serious harm to the health of the individual's biological family, and this factor legitimates interests which are relevant and important to others. Does it make sense that the scrupulous respect for the confidentiality of the data obtained in genetic analysis of the example removes information that may be vital for people biologically related to the patient, for example on what decisions should be taken regarding their reproductive choices? Surely not, and therefore those who would be potentially affected by the results should be informed, even if the person subject of the analysis exercises his/her personal right not to know: This right should not be considered as absolute (in fact, no right must be considered absolute) and, therefore, may be limited if other rights outweigh it, as is the case.

Let's analyze other situations. Only a few years ago, Spanish society debated whether it should authorize research using stem cells or embryonic stem cells.

The aim was to advance a promising perspective regarding regenerative medicine to treat severe and important yet incurable diseases. The previously mentioned Research Center issued its opinion ² in 2001 in favor of the convenience and necessity for this research simultaneously with other equally possible research on fetal or adult stem cells.

As an example it was argued, in the quoted text, that the great therapeutic potential offered by stem cells is a sufficiently strong reason for authorization and that the condition for research would be the explicit consent of the donors of gametes or embryos from which the embryonic stem cells were obtained. It was also recommended that the entire investigation process should be authorized and supervised by a competent authority.

Regardless, at the time, and even now, there has been debate and controversy regarding this proposal. Opponents argued that a blastocyst stage embryo can be already considered a human being or a human person. Spanish society, like others in our cultural context, has not rejected this line of research and further, it has regulatory support and, what is essentially more decisive, has received public funding.

More examples: In an assisted reproduction procedure, any specialist in the technique can easily see, among other data: the sex of a pre-embryo *in vitro* before it is implanted in the woman's uterus. But today, this is information that cannot legally be used to select the sex of the embryo(s) to be transferred, except for cases where there are risks of inheriting a sex-linked disease, that is, exclusively for therapeutic or diagnostic reasons. But should the ban on choosing the gender of a future child be maintained at any cost? Even when it cannot properly be mentioned as a right to choose the gender of one's own children, would that authorization bear an excessive moral cost for our society?

The aforementioned Research Centre at the Observatory on Bioethics and Law has believed that the answer to the above question should be negative as long as gender selection is not used as a system of discrimination and that measures are put in place (sperm selection by flow cytometry, for example) are appropriate to the aim sought. Other conditions were also mentioned, especially in case of gender selection via embryo selection before the implantation of the embryo of the desired gender, according to which it would be essential to get an explicit parents' commitment to use embryos of the unwanted sex for their own reproductive project or that of others..

These conditions were considered relevant once that, to begin with, the possibility of choosing the sex of unborn children for many people is of special significance, related (or not) with family composition issues, which may condition their parenting project. Furthermore, the fact that it did not involve the destruction of the embryos of the unwanted gender was an argument of sufficient weight to lift the ban on this possibility.

Also, it cannot be understated that there is evidence, demonstrated empirically, that the possibility of gender selection for non-therapeutic reasons would lead – inevitably – to a strong demographic imbalance within that social environment. Surely people have more sense and are more reasonable than some would believe.

These examples may serve to better understand how, from a secular ethics that respects the rights of people, the best solution can be given to situations that are extremely difficult. This way to overcome obstacles is based on the consideration that the only way to resolve these conflicts is through dialogue: when it is possible to make a realistic weighting of the benefits and detriments at stake, under the mediation of what would be considered acceptable by citizens living in a democratic society.

There is no doubt that new technologies, in any area but perhaps much more so in biomedicine because, first of all, it has an impact on health and, secondly, because it mobilizes deep-seated fears, unveiling ethical issues. This will mean it has to do with *values*, with that to which a value is given within a society. Therefore, not only those considered experts in bioethics have to reflect, discuss and make decisions about their possible uses.

The essential question then is: what ethical framework is better to adopt in order to authorize or prohibit some practical applications of a given knowledge? It is probably useful to introduce here the idea of human dignity and see how this idea can now specify what is being said. The idea of dignity, or more precisely, the *value dignity*, is based on the consideration of humans as subjects of rights, which implies that no one is a mere object, that no one should be manipulated (considered as a means) to achieve some benefit for others or even for the advancement of science or technology.

Hence the emphasis from the ethical perspective on the requirement of consent, given after being adequately informed, by subjects participating as patients or healthy volunteers in an experimental protocol, and those who provide biological samples for specific research. The Biomedical Research Act, 2007³, almost exhaustively regulates the ethical requirements, among others.

In the same vein, respect for dignity value makes the so-called principle of prudence or caution is probably at the basis of the virtually unanimous ban, both among the scientific community and the regulatory framework, of what is known as reproductive cloning. The lack, at present, of sufficient knowledge about the possible application of this technique in humans and, above all, our ignorance of the negative consequences for people and for those engendered, makes it a non authorized technology in general, even at the experimental level. But that brings us to a disturbing question: If these limitations mentioned before were favorably resolved in a more or less distant future, would we find sufficiently weighted arguments to continue maintaining this ban?

The answer is not so obvious for several reasons: of course, the son or daughter generated in this way would have the same dignity value and, therefore, the same rights as any other. Moreover, the argument that this child would have been conceived as a tool or a means for the benefit of others (for example, attempting to replace a child who died prematurely) leads us to the delicate question of whether humans when reproducing do it always so selflessly as it has been taken for granted. It is reasonable to doubt if this is so. On the other hand, it seems clear by now that every person has a uniqueness which is the

result of interaction between genetic and environmental factors, and that what we mean by individuality or personality is much more complex than the mirror image we see every morning.

A final consideration: as mentioned earlier, when presenting the possibility to choose the sex of offspring for non-therapeutic reasons, biomedical technologies, new or not so new, should not become a new element of discrimination, a new source of injustice, at society's or global level. This means that applications must be in the service of those who need it (and not just available to whoever can pay by private means). Consequently, to incorporate and develop research and application of these new biomedical technologies within the public health system is not only a political decision, but an ethical requirement of first order, because it concerns the contribution to the improvement or maintenance of the quality of life of people, their welfare, and ultimately, their happiness.

UNESCO reminds us, in its *Universal Declaration on Bioethics and Human Rights* (October 2005) in Article 15, urges researchers and the State that: *the resulting benefits from any scientific research and its applications should be shared with society as a whole and the international community, and in particular, with the developing countries*⁴.

Final considerations

This paper began by asserting that there are two possible approaches to ethics in the application of new technologies: an approach that arises from fear, and because of this, very often leads to prohibitionist attitudes, and another approach based on freedom. With the brief examples above we have sought to show that even freedom may be limited as long as it is accepted by a society after an informed social debate. This second approach is not only more respectful of the individuals' rights, but it can best contribute to improve citizens' quality of life in its broader sense.

Resumo

Ética na aplicação de novas tecnologias

O artigo discute a aplicação de novas tecnologias reprodutivas apresentando a posição do grupo de trabalho do Observatório de Bioética e Direito da Universidade de Barcelona, que é Cátedra da Organização das Nações Unidas para Educação, Ciência e Cultura (Unesco). Buscando uma perspectiva laica e respeitadora dos direitos humanos, questiona a partir de exemplos pontuais da realidade espanhola pressupostos comumente aceitos a respeito das pesquisas com células tronco embrionárias. Conclui apontando a importância da informação qualificada para orientar a superação dos dilemas sociais, enfatizando o valor da liberdade de escolha.

Palavras-chave: Liberdade. Direitos Humanos. Ciência, tecnologia e sociedade. Técnicas reprodutivas. Células-tronco.

Resumen

Ética en la aplicación de nuevas tecnologías

El artículo discute la aplicación de nuevas tecnologías reproductivas presentando la posición del grupo de trabajo del Observatorio de Bioética y Derecho de la Universidad de Barcelona, que es Cátedra de la Organización de las Naciones Unidas para Educación, Ciencia y Cultura (UNESCO). Buscando una perspectiva laica y respetuosa de los derechos humanos, cuestiona a partir de ejemplos puntuales de la realidad española presupuestos comúnmente aceptados a respecto de las pesquisas con células tronco embrionarias. Concluye apuntando la importancia de la información cualificada para orientar la superación de los dilemas sociales, enfatizando el valor de la libertad de elección.

Palabras-clave: Libertad. Derechos Humanos. Ciencia, tecnología y sociedad. Técnicas reproductivas. Células tronco.

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