

Genetic Operation issues in human simulation

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Abstract

Genetics is a fundamental science that discusses the transmission of hereditary information from parents to children and from generation to the next generation. Genetic science is one of the branches of biology. By way of existing contacts and discussion in this field, we may discover similarity and dissimilarity of two living beings. In many parts of the world, the level of life expectancy has increased, while mortality rate has declined, which is mostly resulted from increased scientific knowledge and advanced equipment in human life that is in turn owed greatly to science of genetic engineering. With the advancement of science in bio-technology field, the ground for cure of many diseases such as polio, tuberculosis. Human genetic tests and information present a significant regulatory challenge for governments, genetic science has many positive effectives but it has some undesirable outcomes which are stated in this article.

Keywords: Gen, Genetics, genetic testing, Simulation.

Introduction

DNA testing is a molecular testing methodology to establish the presence or absence of a particular sequence of deoxyribonucleic acid (DNA), which is the hereditary or genetic material present in nearly every cell in the human body. All cells in a person's body have the same DNA. DNA testing could thus be applied as a scientific method to establish the identity of a person by comparing samples from the same person. It could also be applied to establish relationships among individuals through a comparison of their respective DNA material since all persons with blood relations share a similar sequence of DNA. Cell samples can be drawn from an individual's blood, saliva or, less intrusively, hair samples.

The use of DNA to establish family relationships has been available for the past fifteen years. As DNA testing is limited to establishing genetic links, it is performed primarily to confirm parent-child relations, as well as sibling, grandparent-grandchild and uncle and aunt relationships. Given its scientific nature, the results of such tests are usually taken as conclusive over documentary and other forms of proof of the claimed family relationship. (UNHCR Note on DNA Testing to Establish Family Relationships in the Refugee Context).

What genes are

The inheritance of all our characteristics, including susceptibility to genetic diseases, is dependent on genes and chromosomes.

Genes are large molecules made up of a substance, DNA, whose double helical structure allows both copying and division. The particular sequence of individual chemical sub-units in a gene serves as a molecular code to specify the manufacture of a particular protein; an alteration (mutation) at even a single position of the DNA sequence may cause serious malfunction of the resulting protein. Modern advances in genetics are due to the ability to study DNA directly. It is estimated that about 75,000 different human genes exist. At present we have information on only one third of them at most. (Nairne, 1993:7)

Genetic testing is now such a widespread and important part of medicine that it is hard to realize that it has almost all emerged during the past 30 years, with most of the key workers responsible for the discoveries and development of the field still living and active. This alone makes it a suitable subject for a Witness Seminar but there are others that increase its value, notably the fact that a high proportion of the

critical advances took place in the UK; not just the basic scientific research, but also the initial applications in clinical practice, particularly those involving inherited disorders. (Christie and Tansey, 2001)

Genetic testing is the analysis of human DNA, RNA, genes and/or chromosomes, or the analysis of human proteins or certain metabolites, with the primary purpose of detecting a heritable genotype, mutation, phenotype or cerotype.

Genetic testing can be for research or for clinical purposes. Research genetic testing is done when the primary aim is to generate new information or test a research hypothesis. There are over 800 laboratorybased genetic tests already available for clinical use.

Clinical genetic testing subsumes the following:

- (a) Confirmatory diagnosis for specific genetic disorders;
- (b) Carrier testing for recessive disorders;
- (c) Preimplantation genetic testing on embryos created by *in vitro* fertilization (IVF), for the purpose of selecting or excluding embryos for implantation into the uterus;
- (d) Prenatal genetic diagnosis (PNGD) to identify a specific genetic disorder in a foetus;
- (e) Predictive testing of asymptomatic individuals; and
- (f) Genetic screening of healthy individuals. (Pin, 2005)

3-Some positive functions of the human cloning in reproductively curing human disease

- 1- Humans are routinely carrying eight defective genes. But in their absence, people would not be infected with the disease;
- 2- The human embryo cloning may assist clinicians in better understanding the causes of miscarriage;
- 3- The use of cloning enables infertile couples to have healthy children who are biologically related for learning and nurturing;
- 4- The cloning enables parents to find a source of tissue for transplantation that enables existing children to live.
- 5-

4-Some undesirable cases of human cloning:

4-1-Violation of human equality unlike bellow articles

Article I

"All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood. (Universal Declaration of Human Rights)"

Article 7

All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination. (Universal Declaration of Human Rights)"

Article 1

"1. All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.

2. All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.

3. The States Parties to the present Covenant, including those having responsibility for the administration of Non-Self-Governing and Trust Territories, shall promote the realization of the right of self-determination, and shall respect that right, in conformity with the provisions of the Charter of the United Nations." (International Covenant on Economic, Social and Cultural Rights)

Article 4

The States Parties to the present Covenant recognize that, in the enjoyment of those rights provided by the State in conformity with the present Covenant, the State may subject such rights only to such limitations as are determined by law only in so far as this may be compatible with the nature of these rights and solely for the purpose of promoting the general welfare in a democratic society. (International Covenant on Economic, Social and Cultural Rights)

Article 5

1. Nothing in the present Covenant may be interpreted as implying for any State, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights or freedoms recognized herein, or at their limitation to a greater extent than is provided for in the present Covenant.

2. No restriction upon or derogation from any of the fundamental human rights recognized or existing in any country in virtue of law, conventions, regulations or custom shall be admitted on the pretext that the present Covenant does not recognize such rights or that it recognizes them to a lesser extent. (International Covenant on Economic, Social and Cultural Rights)

4-2-Violations of the independence and freedom of individuals

Human beings are born free, and - according to the rules of their community - should live freely. But from viewpoint of human rights advocates, human reproductive cloning may lead to loss and damage to his independence and freedom; and is in contrary with some articles who advocate the human freedom. Some of those articles are mentioned in the following:

Article 4

"No one shall be held in slavery or servitude; slavery and then slave trade shall be prohibited in all their forms". (Universal Declaration of Human Rights)

4-3- Murder, rape, exploitation of cloned human that is contrary to the preamble of Universal Declaration of Human Rights , and degradation of sublime human dignity:

Whereas recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world, Whereas disregard and contempt for human rights have resulted in barbarous acts which have outraged the conscience of mankind, and the advent of a world in which human beings shall enjoy freedom of speech and belief and freedom from fear and want has been proclaimed as the highest aspiration of the common people, Whereas it is essential, if man is not to be compelled to have recourse, as a last resort, to rebellion against tyranny and oppression, that human rights should be protected by the rule of law, Whereas it is essential to promote the development of friendly relations between nations, Whereas the peoples of the United Nations have in the Charter reaffirmed their faith in fundamental human rights, in the dignity and worth of the human person and in the equal rights of men and women and have determined to promote social progress and better standards of life in larger freedom, Whereas Member States have pledged themselves to achieve, in co-operation with the United Nations, the promotion of universal respect for and observance of human rights and fundamental freedoms, Whereas a common understanding of these rights and freedoms is of the greatest importance for the full realization of this pledge, Now, Therefore the genetic assembly proclaims this universal declaration of human rights as a common standard of achievement for all peoples and all nations, to the end that every individual and every organ of society, keeping this Declaration constantly in mind, shall strive by teaching and education to promote respect for these rights and freedoms and by progressive measures, national and international, to secure their universal and effective recognition and observance, both among the peoples of Member States themselves and among the peoples of territories under their jurisdiction.

Conclusion

Genetic science is one of the branches of biology. The inheritance of all our characteristics, including susceptibility to genetic diseases, is dependent on genes and chromosomes. Genetic science has many positive effectives but it has some undesirable outcomes which have stated.

Some positive functions of the human cloning in reproductively curing human disease such as: Humans are routinely carrying eight defective genes. But in their absence, people would not be infected with the disease; the human embryo cloning may assist clinicians in better understanding the causes of miscarriage and ...

Some undesirable cases of human cloning:

Violation of human equality, Violations of the independence and freedom of individuals, Murder, rape, exploitation of cloned human that is contrary to the following article, and degradation of sublime human dignity.

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