

DNA technology application procedures in forensic practice: social and ethical conditioning II

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Abstract. In the study carried out it is intended, in accordance with the preliminary draft of the International Declaration on Human Genetic Data, that information be gathered concerning the diverse questions regarding DNA analysis and its application in the identification of individuals (sample extraction, laboratory treatment, sample analysis and storage, information from the obtained results, etc.) that different social groups in our country may have. This would enable the establishment of a starting point for public debate and the development of public awareness proposals that may serve as an aid, not in the elaboration of a draft law for DNA database regulation in Spain which we consider to be outside our responsibility, but in the elaboration of later regulations which take into account all the details related with the process previously described. © 2003 Elsevier B.V. All rights reserved.

Keywords: Public opinion; Forensic genetics; Ethics; Database

1. Introduction

There exists a general agreement concerning the fact that human genetics research may affect the community in general [1]. It is therefore necessary that society as a whole and not only its scientists should debate and decide what is to be accepted or rejected [2,3].

Finally, in the study carried out it is intended, in accordance with the preliminary draft of the International Declaration on Human Genetic Data [4], that information be gathered concerning the diverse questions regarding DNA analysis and its application in the identification of individuals (sample extraction, laboratory treatment, sample analysis and storage, information from the obtained results, etc.) that different social groups in our country may have [3].

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2. Materials and methods

Once the general aims of the work had been specified and the tasks to be performed had been planned, the development of the task was begun in the following order: production of an opinion questionnaire and the selection of a homogenous group of interviewers; the selection of the sample in accordance with a criteria of randomness and representativity; the purging of non-random errors that do not concern the survey; the analysis of the data obtained, using statistical methods for their summarized description. As a means of collecting the data, the questionnaire form was chosen, since, as well as being convenient for the interviewees, it is an efficient means of coding, purging and an easy way to obtain a large amount of data. Ten questions were analyzed in this study. These questions were of standard comprehension and interviewers were chosen if they had a suitable standard of education in order to form a homogenous group. The sample choice was performed by using random criteria and by trying to find a cross-section nature in the different sexes and age groups. A stratified survey of the Spanish population was carried out and 1656 questionnaires were completed. Among those interviewed (809 women and 845 men), different age groups were represented (from 18 years of age upwards).

The data collected was stored on a computer and statistically analysed with the help of the Statgraphics plus 5.0 (Statistical Graphics November, 2000) programme. The statistical methods that were used were basically of a descriptive kind, firstly endeavouring to classify and tabulate the data obtained in absolute and relative frequency tables, with both simple and double input. The statistical analysis of the data was completed with the calculation of the parameters of centralization, location, dispersion and asymmetry which allowed us to summarize the information contained in the surveys. The chi-square test was done to analyze the responses by sex and age.

3. Results and discussion

When the interviewees were asked about what institution or institutions should protect and maintain confidentiality of the data stored in a data base 60.15% considered that custody should remain in the hands of a Ministry of Justice Institution; 57.28% answered that the Institute of Legal Medicine should be responsible for this; 50.00%, a Ministry of Health Institution and 46.18%, the National Institute of Toxicology. On the other hand, homogeneity was observed for the different educational levels with regard to who should be the custodian of such data bases, except for the discrepancies found when the interviewees expressed their opinion about the capacity different institutions (involved in security) have for data base custody and confidentiality (Local Police, $P=0.0103$; National Police, $P=0.0067$; Police Forces of Autonomous Regions, $P=0.0345$; Civil Guard, $P=0.0001$).

When the interviewees were asked who or which institutions may have access to the forensic DNA data of an individual, 74.07% considered that the data may be handed over to judges and law courts, 54.40% to examining magistrates or those authorized by the latter and 53.66% to a public prosecutor. Again, the homogeneity observed between educational levels when the latter levels were related to the persons or institutions who may have access to data of individuals that is stored in a data base is noteworthy, with the exception of the discrepancies that emerged when the interviewees assessed the possibility

of handing over said data to members of those professions involved in local and state security (Local Police, $P=0.0008$; National Police, $P=0.0244$; Police forces of Autonomous Regions, $P=0.0018$; Civil Guard, $P=0.0011$). When this question was related to the groups of analyzed professions the discrepancies shown by these different groups with regard to the different hypothesis included in the survey were noteworthy, with the exception of the circumstances in which Judges and Law Courts ($P=0.3814$) or Prosecuting Lawyers ($P=0.0557$) are permitted access to personal forensic data.

Another question put to the surveyed population referred to the type of research in which the personal data contained in these data bases may be used. Eighty-eight percent of the surveyed population considered that such data may be used in penal research.

Finally, the lack of attention that is generally paid in scientific forums to society's perception about the different biotechnology's applications should be pointed out. Sometimes, it seems that scientists do not know the influence that social perception, particularly in Europe, could have on technology and investigation policies that the government could develop and consequently, the support, or by contrary, the lack of it, given to the public investigation. According to what has been mentioned above, it is necessary, among other questions, the design of some mechanisms that obtain opinions of different social groups, before adopting legal decisions in relation to biotechnology, as to have a consensus, it is essential that the information become widely spread.

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