Deliberative Democracy and Nanotechnologies in Health

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ABSTRACT

The ethical, social and political dimensions of legislative regulations of issues concerning the citizens' health are generally recognized to be of increasing significance in modern deliberative democracies. However, nanotechnologies in health have raised extra difficulties in deliberative democracies' procedural justice arrangements. Could a deliberative model of democracy based on substantive commitments such as to equal moral and political value of collectively acting persons contribute to cope with difficult risk and uncertainty regulatory issues pertaining to the tremendous advanced applications of nanotechnologies in health? This is the main question for the bioethics oriented inquiry in this paper. Special emphasis has given on the field of the dental health.

Keywords: *Bioethics, Deliberative Democracy, Dental Health, Dentistry, Nanotechnologies, Regulation, Risk, Uncertainty*

The idea of a deliberative democracy has taken an increasing interest from philosophers and political and legal theorists over the last decade of the past 20th century. Deliberative theorists focused on notions such as the free political discussion, the open legislative deliberations, and the common good, from a "more expansive view of the political and social conditions of democracy" than other democracy conceptions had done (Freeman, 2000, p. 381).

It is also in the same period that an extensive literature on risk perception and on risk-based regulation and the politics of uncertainty has been well established. As many scholars have pointed out, 1990s has been the decade of unifying health and safety, two "traditionally" separated areas, in an emergence of a wide scope risk management resulting from a variety of scandals and crises (Power, 2004, p. 13). Furthermore, Power (2004) states that "historically, a public politics of risk management, particularly in the field of health, has been concerned with the transparency and accountability of scientific expertise in decisions about risk acceptance" (p. 11).

And it is also in the 1990s that the field of nanotechnologies has been into an enormous advance which has going on in unpredictable rates to our days. Specifically, according to Unesco, *The Ethics and Politics of Nanotechnology*, "it is only since about 1996 that the US government (and subsequently the Japanese and

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EU governments) began to seriously consider funding research under the label of nanotechnology" (2006, p. 10).

Scholars have emphasized on challenges and "functional difficulties" to traditional risk governance from both opportunities and threats raised by nanotechnologies. Power (2004) has explained these "functional difficulties" with reference to the current system of global interconnectedness within which individual states have been weaker "to control their destinies" and "financial markets have become more volatile, organizational activities have become more dangerous with ever greater externalities, new large –scale threats exist from epidemics, from terrorism, from climate change" (p. 38). In such a world, he states that in the view of a politics of uncertainty, where publics demand decisions and the right to hold decision- makers to account, "the problem is to render scientific and other experts accountable and their judgments publicly transparent" (2004, p. 14).

In the meantime, as the first decade of the present 21st century has already passed, the rapidly advancing nanotechnologies and their medical applications have been interrelated with strong ethical and political dimensions of legislative regulations of issues concerning the citizens' health in modern deliberative democracies.

For example, researchers in the field of governing nanomedicine emphasize on significant contemporary challenges to traditional regulatory governance. Especially, it has been underlined the fact that the traditional approach of evidence-based regulation has proved inadequate to cope with the "myriad" uncertainties emerging from the development and the commercialization of nanotechnologies (Dorbeck-Jung, Bowman & Van Calster, 2011, p. 215). Researchers have also emphasized on recently emerging "beneficial innovation governance" approaches, characterized by a shifting of the focus on risk regulation to a new focus on freedom, privacy, health, environmental sustainability and other "constitutionally recognized interests" (p. 216).

In parallel, under the current evolving of technological relationships of humans, scholars in the newly emerging field of technoethics point out the vital need of a dialogue with the aim to determining the ethical use of technologies and avoiding their misuse in a variety of contexts impacting society (Luppicini & Adell, 2008).

In such a climate, this paper seeks to investigate if a deliberative model of democracy based on substantive commitments such as to equal moral and political value of collectively acting persons could contribute to cope with the difficult risk and uncertainty regulatory issues pertaining to the applications of nanotechnologies in health. In that bioethics oriented inquiry, a special focus has given on dental health issues.

METHOD

My own interest in nanotechnologies in health investigation comes from both my academic studies in bioethics interdisciplinary field of the normative inquiry of moral challenges resulting from developments in the life sciences and biotechnology and my professional experience in dentistry as a general dental practitioner. From that standpoint of a critical understanding of the relation between the bio-medical sciences and ethics, the findings were selected and analyzed to lead to the results and to the discussion.

Materials and Procedure

The research included two parts. In the first part 3 online databases were researched. Especially, the ISI Web of Knowledge (Web of Science) online database, the PubMed Central (United States National Library of Medicine National Institutes of Health) and the Scopus online databases were comparatively researched by the use of the online databases included in the local collections of University of Crete Library. The 3 above online databases were listed by alphabetical order. Data were accessed on 2012, October 16th. The aim of the online databases inquiry was to explore nanotechnologies in health applications in their interrelation with