

## Karma, reincarnation, and medicine: Hindu perspectives on biomedical research

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**Abstract** Prior to the completion of the Human Genome Project, bioethicists and other academics debated the impact of this new genetic information on medicine, health care, group identification, and peoples' lives. A major issue is the potential for unintended and intended adverse consequences to groups and individuals. When conducting research in, for instance, American Indian and Alaskan native (AI/AN) populations, political, cultural, religious and historical issues must be considered. Among African Americans, the Tuskegee Syphilis Experiment is a reminder of racism and discrimination in this country. The goal of the current study is to understand reasons for participating, or not, in genetic research such as the HapMap project and other genetic/medical research from the perspective of the Indian American community in Houston, Texas. In this article, we report on a topic central to this discussion among Indian Americans: karma and reincarnation. Both concepts are important beliefs when considering the body and what should happen to it. Karma and reincarnation are also important considerations in participation in medical and genetic research because, according to karma, what is done to the body can affect future existences and the health of future descendants. Such views of genetic and medical research are culturally mediated. Spiritual beliefs about the body, tissue, and fluids and what happens to them when separated from the body can influence ideas about the utility

and acceptability of genetic research and thereby affect the recruitment process. Within this community it is understood that genetic and environmental factors contribute to complex diseases such as diabetes, hypertension, and cancer; and acknowledgment of the significance of environmental stressors in the production of disease. A commitment to service, i.e. "betterment of humanity," karmic beliefs, and targeting environmental stressors could be prominent avenues for public health campaigns in this population. This study suggests that minority status does not automatically indicate unwillingness to participate in genetic or medical research. Indian Americans were not skeptical about the potential benefits of biomedical research in comparison to other ethnic minority communities in the United States.

**Keywords** Karma · Reincarnation · Genetic research · Medical research

### Introduction

Prior to the completion of the Human Genome Project (HGP), bioethicists and other academics debated the impact of this new genetic information on medicine, health care, group identification, and peoples' lives. Issues of confidentiality and discrimination were among the major concerns. Privacy of genetic information is an issue for a number of reasons. For instance, family members and courts may want access to genetic information. Genetic data may be used to predict future health-care costs or it may be used by employers to predict job performance (Fuller et al. 1999, p. 1359).

A major issue is the potential for unintended and intended adverse consequences to groups and individuals. People in all communities are concerned about the conduct and benefits of genetic research in their communities.

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However, when conducting research in, for instance, American Indian and Alaskan native (AI/AN) populations, political, cultural, religious and historical issues must be considered. The collection of genetic information in defined gene pools such as tribal groups can be stigmatizing. While AI/AN acknowledge the benefits of medical research, the conduct of past research impacts current involvement because of two issues, theft and respect. Theft has been a significant experience in the history of American Indians. Consequently, tribes are concerned about ... “ultimate control over stored biological samples and how the tribe will be identified and portrayed in subsequent publications” (Bowekey and Davis 2003, p. 12).

Among African Americans, the Tuskegee Syphilis Experiment is a reminder of racism and discrimination in this country. This is shown by the fact that the study was widely reported for almost 40 years without evoking widespread protest within the medical community and at the United States Public Health Service (Brandt 1978). African Americans are not only aware of this study but experience “everyday” racism within the health care system. For example, studies have shown that blacks and women are less likely than whites and males to be referred for cardiovascular procedures (Wenneker and Epstein 1989; Ayanian and Epstein 1991) and are less likely to be on the waiting list for an organ transplant. Louis W. Sullivan, Secretary of Health and Human Services stated that ... “there is clear, demonstrable, undeniable evidence of discrimination and racism in our health care system” (Sullivan 1991, p. 2674). This is, of course, an enormous problem in the recruitment of disenfranchised people for medical and genetic research.

Social issues associated with the HGP lead congress in 1990 to set aside 5% of the HGP budget to fund the Ethical, Legal, and Social Implications of Human Genetics Research (ELSI) program. This was an attempt to achieve a balance between privacy concerns and “fair use” of genetic data (Jeffords and Daschle 2001, p. 1249). The current study was funded by ELSI and is part of a larger project, the Human Haplotype Map Project (HapMap) which is a study to investigate genetic differences related to disease. The goal of the current study is to understand reasons for participating, or not, in genetic research such as the HapMap project and other genetic/medical research from the perspective of the Indian American community in Houston, Texas. In this article, we report on a topic central to this discussion among Indian Americans: karma and reincarnation.

## Methods

An exploratory and qualitative approach was used to examine Indian American perspectives of genetic research.

Two qualitative techniques, in-depth interviews and focus groups, were employed in data collection. Use of both methods increases reliability while validity is assessed through “authenticity” of participant voices (Neuman 2007).

## Study sample

From 2004 to 2007, Indian Americans over the age of 18 years were recruited for this study in Houston, Texas. The sample consisted of 62 males and 43 females who took part in 22 focus groups and 5 interviews, both lasting 1–2 h. All participants are of Indian ancestry and most were recruited at festivals such as the Navaratri festival, cultural centers such as the Gujarati Samaj of Houston, religious facilities such as the Sri Meenakshi Temple and cultural leaders identified through the ethnographic component of the study. While most focus groups targeted the general population, one was specific to medical students at Baylor College of Medicine and four were conducted among undergraduates at the University of Houston. Age ranged from 19 to 70 years with a median of 29 years (mean = 33 years). Participants presented a wide range of ethnic and caste backgrounds; and all were college-educated, except one high-school graduate.

## Measures

Themes and concepts discussed in the focus groups dealt with (1) personal health beliefs, (2) views of genetic and medical research, and (3) authority and leadership in the Indian community. Discussions revolved around: (1) understanding of illness, (2) individual response to illness/disease, (3) institutional medicine and society, (4) medical information, (5) medical (non-genetic) research, (6) genetics and society, (7) blood/tissue/organ donation, (8) ethnicity and genetics, (9) intergenerational differences, and (10) collective authority. The focus group guide was pretested at a focus group session conducted for that purpose and modified based upon the recommendations of those in attendance.

## Data analysis

After transcription, themes were identified across focus groups and interviews. Transcripts were read by multiple members of the research team and through discussion and analyses of the transcripts, a final set of themes were identified. The team of researchers was involved in identifying themes, developing codes for themes, and connecting codes with theme segments (sections of the transcript that correspond to a theme). After the initial coding, the documents were reread to modify the coding in

response to emerging codes. In the final version, the 10 major categories above with subcategories were identified. This data was analyzed using the QSR NVivo program which stores and references qualitative data in multiple ways. Using this program, codes and sub-codes were identified for major themes to create a tree of codes for themes.

## Research findings

### Karma/service

In order to understand views on genetic/medical research among Indian Americans, it is necessary to examine their perspectives concerning the body and what happens to it during life and after death. Central to these views is the concept of karma. The majority of participants in this research are Hindu (80%) and Karma is central to Hindu religious consciousness. In Hindu, Jain, Sikh and Buddhist philosophies, karma denotes the cycle of cause and effect. Like causes produce similar effects. For instance, right actions produce good results while wrong actions produce bad ones. Consequently, living things are responsible for their action and the impact it has on their lives (Reichenbach 1988).

According to one participant:

Our basic philosophy is trinity. Trinity means we believe there are three basic things: matter, soul and God. God to us is all pervading. It is not something that is static and sitting on one place. It is matter through which this world came out of. And the third thing is soul. Regarding soul we believe in transmigration: the circle of life and death. And that circle is according to our Karma. Our deeds become our destiny.

According to karma, “as a man sows, so must he reap” (Wadia 1965).

Actions and consequences are not the major concern though. It is the moral reason for the action. The law of karma is about moral intentions. Participants often stated that they would participate in medical research if it “benefits humanity.” This is consistent with the moral aspect of karmic causation. In other words, “acts performed with right intentions lead to dispositions to perform like acts; acts performed with the wrong intent produce corresponding dispositions.” If a person does a good act for the wrong reasons it is still an immoral act (Reichenbach 1988). As such, participation in research to help humanity is a morally good action that can lead to good fortune now and in future lives.

Individuals were willing to donate blood samples for genetic research if it could lead to the “betterment of

humanity”, “benefit the human race”, “increase the life-span of the human race”, or “increase the quality of the offspring.” When discussing stem cell research, participants often stated “I think you can use it because if you are using it to benefit human society, then that’s okay.” Another respondent said

It’s like donating your organ after death. Why you donate your organs? Some people donate their eyes, their heart for the medical research. Why, because after you are dead, you want to benefit your society in some way.

Participants noted that “any research can be used in God’s service” and thereby “benefit humanity.”

I mean like we have an idea that anything could potentially be used in God’s service or in a proper way.

Since donating blood samples and participating in research is done for “the betterment of humanity” and a “service to God”, it should be carried out to improve the quality of life and extend life. By giving to others one secures wealth and health. Karma affects length of life, illness, health, physical appearance, social status, wealth, poverty, and misfortune (Reichenbach 1988).

Some participants were concerned about giving and receiving body parts because, according to karma, personal qualities are also transferred.

So you know if we give blood or not it is karma, you are giving, passing on your karma, somebody is taking from you. They are accepting some of your karma.

Well generally in our scriptures, someone who is practicing the philosophy very strictly and so on they have a higher consciousness. Therefore they have the ability to take karma and purify the other persons.

Blood is donated as part of *seva* (service) but it is also a way to transfer qualities other than blood to the recipient. Blood donation is not only a way to purify oneself but it is an opportunity to affect others in a way that transcends the purpose of the original donation (karma). By donating blood you get rid of “senile blood” so that new blood can be generated. The problem, of course is that the receiver is the recipient of polluted or senile blood. Individual acceptance of the donation (*daan*) including the donor’s sin or impurities is a prominent theme in South Asia (Copeman 2004).

### Reincarnation

Karma is attached to the idea of reincarnation. There is an ongoing cycle of birth and death, conditioned by karma,

linking an individual to past and future existences (Kolenda 1964; Wadia 1965). In reincarnation, the spirit or soul survives death and is reborn into a new body, human or nonhuman. Individuals can be reborn as animals, human beings or insects depending upon the depletion of evil karmas and maturing of good karmas. As stated by Buddha, bad conduct (*duccaritam*) leads to hell or rebirth as an animal or ghost while good conduct (*kalyanam*) leads to birth in heaven or as a human being (Krishan 1983). In the rebirth, a new personality develops but the essential parts are constant throughout these consecutive lives (Nikam 1951; Wadia 1965).

...reincarnation, it means that your soul takes on another body.

Participants discussed the relationship between reincarnation and involvement in medical research.

I asked my mother, I want to give my eyes to this. And my mother, but she said when you reincarnate after rebirth you will not have eyes if you donate eyesight.

And if it's a tissue which, while I'm living, if I end up donating a tissue that's fine. But I don't want to do anything after I am dead. So I'm possessive of my dead body in a way. I don't want it to be messed up.

The reincarnation of our sense, of our body parts, that really goes to blood, if you donate eyes, our eyes. That's a kind of reincarnation.

Related to reincarnation, some participants were concerned about their physical body after death and did not want body parts removed.

According to karma, individuals are responsible for their fate. Through knowledge and the removal of dispositions that shelter ignorance and desire, fate can be altered (Reichenbach 1988). It was repeatedly stated that "knowledge is power." "Because it may not give you the solution, but it gives you the knowledge as to what has occurred." Knowledge was discussed as prevention to disease.

I think it is important to know, like for example diabetes or high blood pressure. You need to know what can be done to prevent it or delay it and I think that's important. That's important that we learn what's involved with a disease.

It is important for individuals to be knowledgeable so they have the tools to prevent disease and research is needed to generate knowledge.

... use them [stem cells] to create different types of cells which may be used to create lung tissue, skin

tissue and all sorts of and so there is a lot of optimism among researchers about doing research of this type because they think this might allow us to cure certain types of diseases for which there is no cure today.

Through knowledge, one may be able to live a healthier life and change their karma. So karma is not simply fate, it can be altered by environmental factors.

#### Nature/nurture/fatalism

The relationship between karma and health is not fatalistic but complicated by environmental influences such as toxins, exercise, stress, and diet. The participants acknowledged the importance of both genes and environmental factors in the production of disease. Individuals often stated that "genes contribute to health." "Your parents might have a disease that's transferred to you. It's genetic." But it was also acknowledged that health is due to "a combination of genes and the environment" and that the relationship is complex.

I think it is a combination because there are certain genes that do not express themselves unless they have the appropriate environment for the expression of gene. So that's the example of diabetes, Type 2 diabetes which you get because you were transplanted here and live the lifestyle here.

Stress and diet were repeatedly noted as complicating the influence of genes on health. For example,

diet, pollution, comforts, stresses, everything is so much different from India. I still feel that is one of the major [reasons for disease among Indian Americans].

Many participants are vegetarian and considered it a health-promoting behavior.

I'm a vegetarian, strict vegetarian. My diet is such that, you know, I don't have any problems with weight or anything like that. I usually don't fall sick very often.

While risk for disease may be a consequence of karma, this relationship can be changed by manipulation of environmental factors such as diet and exercise. With knowledge, individuals can change their behavior (diet and exercise) to reduce the risk of disease and in so doing increase their good karma which will be transferred to future existences.

#### Conclusions

Karma and reincarnation are important beliefs when considering the body and what should happen to it. Both

concepts are also important considerations in participation in medical and genetic research because, according to karma, what is done to the body can affect future existences and the health of future descendants. Living a healthy lifestyle, i.e. vegetarianism and exercise, not only affects an individual today, but their existence in future lives as well as the lives of their children and their descendants. Such views of genetic and medical research are culturally mediated. Spiritual beliefs about the body, tissue, and fluids and what happens to them when separated from the body can influence ideas about the utility and acceptability of genetic research and thereby affect the recruitment process.

Within this community it is understood that genetic and environmental factors contribute to complex diseases such as diabetes, hypertension, and cancer; and acknowledgment of the significance of environmental stressors in the production of disease. As such, there was a commitment to being knowledgeable to prevent disease or reduce its consequences and to ensure that karma is impacted in a positive way. A commitment to service, i.e. “betterment of humanity,” karmic beliefs, and targeting environmental stressors could be prominent avenues for public health campaigns in this population.

Lastly, this study suggests that minority status does not automatically indicate unwillingness to participate in genetic or medical research. Similar to Mwaria’s (2006) study of cancer research among African Americans and Hispanic Americans in New York, Indian Americans in this sample were willing to participate in research. All minorities are not the same in terms of historical, socio-cultural, economic, and political circumstances and relation to the majority population. Ethnic minorities have different histories in the United States and are situated differently. Consequently, ethnic groups vary in terms of their perspectives on and interactions with the medical system. In this study, Indian Americans were not skeptical about the potential benefits of biomedical research in comparison to other ethnic minority communities in the United States. Socio-cultural frames through which individuals view the potential benefits and threats of biomedical research need to be subjected to careful analysis. Without this type of analysis, members of some communities may decide not to participate in research or choose not to avail themselves of the fruits of biomedical research, thereby exacerbating existing health disparities.

### Limitations

There are limitations to this study. For example, the participants were disproportionately young and educated.

Also, with qualitative methods such as focus groups, the prevalence of opinions is not known. Lastly, collection of blood samples for the HapMap Project took place during the recruitment for focus groups in the same population. However, blood collection was quickly completed (indicating willingness to take part in research) and probably did not hamper participation in the qualitative aspect of the study.

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