The Tuskegee Syphilis Study: Some Ethical Reflections

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Abstract

There are established ethical principles to protect human participants in biomedical research from undue exploitation by researchers. However, in the "Tuskegee Study" in the US, these principles were grossly violated. The task of this paper is to critically examine the ethical implications of that study on future practices in biomedical research, and to suggest ways of ensuring that such practices comply with appropriate ethical values.

Key Words

Bioethics, Biomedical research, clinical research, Tuskegee Study, paternalism, morality

Introduction

From time to time human beings experience health challenges, whether physical or mental. On its part, medical practice has made considerable progress towards combating or controlling many of these challenges. It is through research that the nature, symptoms and effects of ailments can be ascertained and remedies discovered. Medical researchers engage in both therapeutic and non-therapeutic research. Therapeutic research is that carried out with the purpose of treating disease. On the other hand, non-therapeutic research is aimed at

furthering the frontiers of knowledge about human health. Furthermore, researchers and physicians often use human beings as objects of scientific investigation, raising certain ethical concerns, including the issue of informed consent and how consent is obtained, selection of participants in research, the welfare of human subjects involved in a research project, what the goals of research ought to be, and what ought to constitute proper procedure for an ethical research. These issues are central to an aspect of applied ethics which is now commonly referred to as research ethics.

The aim of research ethics is to ensure that research projects involving human subjects are carried out without causing harm to the subjects involved. In addition, it provides a sort of regulatory framework which ensures that human participants in research are not exploited either physically or psychologically. The need for ethical guidelines for biomedical research is expressed in some of the questions research ethicists are concerned about, including the following:

- What are appropriate clinical endpoints that should trigger the termination of a trial?
- Are placebo controls defensible in trials with terminally ill patients?
- Can there be such a thing as true clinical equipoise?
- Is it acceptable to enrol women of childbearing age in clinical trials?
- Ought we to permit prisoners or people confined to refugee camps to enrol in non-therapeutic clinical research?
- What is the ethically appropriate answer to the issue of the participation of incompetent mentally ill patients in research clinical trials? (Schüklenk 2005, 3).

Although research ethics is a relatively new aspect of applied ethical thinking, the need to conduct research in an ethical manner is not a novel one. In fact, it is the tendency by researchers to violate ethical guidelines that led to the development of research ethics.

One of the major goals of biomedical research is to carry out methodical investigation into the aetiology of diseases in order to discover or develop curative or preventive therapy, thereby making the world a safer place to live in. As a matter of fact, the need for medical practitioners to carry out their duties in an ethical manner has been stressed from ancient

times. As early as the 4th or 5th century B.C., the Hippocratic Oath[1] had been formulated. Although Classical scholar Ludwig Edelstein (1943) claims that the oath was written by the Pythagoreans, this theory has been questioned due to the lack of evidence for a school of Pythagorean medicine. Although scholars differ on the exact period when this oath was written, it is considered to be a rite of passage for practitioners of medicine in many countries, although the modernized version of the text varies among them (Temkin 2001). Even though several parts of the oath have been removed or reformulated over the years in various parts of the world to suit the changing needs of medicine, the ethical purpose for which it was originally formulated has been retained.

Yet we must ask ourselves: has the ethical sense of the Hippocratic oath been infused into the fundamental principles guiding the practice of medicine? Have medical researchers and physicians been able to maintain these ethical precepts in their dealings with human beings whose well being they are supposed to promote? To answer these questions in the affirmative would be to try to refute the hard historic facts of research projects, clearly documented in research ethics literature, that have been conducted unethically. The Tuskegee syphilis study of 1932 in the US, the Guatemala experiments on prisoners, prostitutes and infidels of 1946 in the US, and the Nazi scientific experiments on Prisoners of War (POWs) during the Second World War, are all cases in point.

This paper undertakes a critical examination of the Tuskegee syphilis study of 1932 in the US, highlighting the unethical procedures employed by the medical experts involved in it, with a view to forestalling such practices in contemporary biomedical research. The paper employs the analytic method of investigation to examine the objectives, procedures and precepts of that study. It is divided into three main sections. The first section is a synopsis of the Tuskegee syphilis study. The second examines the ethical principles that were violated in the study. The third highlights the grim consequences of the violation of the said ethical principles on future biomedical research.

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[1] In line with modern trends and challenges, the Hippocratic Oath has been updated by the Declaration of Geneva. For another instance, in the United Kingdom, the General Medical Council provides clear modern guidelines in the form of its "Duties of a Doctor"
See: http://www.gmc-uk.org/giuidinace/good_medical_Practice/index.asp

The Tuskegee Syphilis Study: A Synopsis

The Tuskegee Syphilis Study is an infamous clinical research carried out in Macon county, Alabama, USA between 1932 and 1972 on a large group of black men, about six hundred,[2] of whom four hundred were infected with syphilis, while the other two hundred uninfected served as the control group. The study was aimed at discovering whether blacks react to syphilis in the same way as whites, and to determine how long a human being can live with untreated syphilis. The men that were used in the research, most of them uneducated sharecroppers were left untreated with syphilis, and suffered tremendously in the hands of doctors from the US Public Health Service. As Vonderlehr *et.al*. (1936) observe, "such individuals seemed to offer an unusual opportunity to study the untreated syphilitic patients from the beginning of the disease to the death of the infected person". The researchers also sought to compare the syphilitic process uninfluenced by modern treatment with the results obtained when treatment had been given.

Some of the participants in the study suffered adverse effects, ranging from paralysis of limbs due to an extremely dangerous spinal tap procedure used by the researchers to get fluids from the spinal cords of the patients, to extreme neuronal damages, some died from advance syphilitic lesions, wives were infected, and many of the offspring of the participants were born with congenital syphilis. Meanwhile, the United States government went to great lengths to ensure that the men in the "Tuskegee Study" were denied treatment, even after penicillin had become the standard cure for syphilis in the mid-1940s. Even as some men went blind and insane from advanced syphilis, the doctors withheld treatment, remaining committed to observing their subjects through to the predetermined "end point" – autopsy. To ensure that their families would agree to this final procedure, the government offered burial insurance, at most fifty dollars, to cover the cost of a casket and grave (Agulanna 2010).

The Tuskegee Study of Untreated Syphilis in the African American Male was the longest experiment on human beings in the history of medicine and public health. Conducted under the auspices of the US Public Health Service (USPHS), the study was originally projected to last six months but ended up spanning forty years, from 1932 to 1972. The men used as

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[2] The Number of the actual persons enrolled in the research varies in available literature about the research. It ranges from between 599-613. However, the predominant number is 600, which has been adopted in this essay.

subjects in the study were never told that they had the sexually transmitted disease. The term "bad blood" was coined to falsely depict their medical condition. The men were told that they were ill and promised free care. Offered therapy "on a golden platter", they became willing subjects. The USPHS[3] did not tell the men that they were participants in an experiment; on the contrary, the subjects believed that they were being treated for "bad blood" (Brandt 1978, 7).

Though the study was organized and managed from Washington, the participants dealt with a black nurse named Eunice Rivers, who helped with transportation to the clinic, free meals, even burials. The project did not stop until Peter Buxtun, a former PHS venereal disease investigator, shared the truth about the study's unethical methods with an Associated Press reporter. Congressional hearings into the conduct of the study led to legislation strengthening guidelines to protect human subjects in research. Fred Gray, a civil rights attorney, filed a $1.8 billion class action lawsuit that resulted in a $10 million out-of-court settlement for the victims, their families and their heirs (Thomas 2000). The research was generally adjudged to be so unethical that when in 1997 President Clinton was apologizing for it, he described it as "deeply, profoundly, and morally wrong" (Clinton 1997).

From the foregoing observations, it is apparent that standards for ethical research were not upheld by the medical experts involved in the Tuskegee syphilis study. Evidently, the rights of the research subjects were violated. The Tuskegee Study raised a host of ethical issues such as informed consent, racism, paternalism, unfair subject selection in research, maleficence, truth-telling and justice, among others. In what follows, we consider the moral principles that were violated in the Tuskegee Syphilis Study from the perspective of established codes of ethics intended to guide the conduct of research involving human participants.

The Ethical Principles Violated in the Tuskegee Study

The Tuskegee Syphilis Study is now a historical fact. Although we cannot do anything about the fact that it happened, we can still reflect on why and how it happened in order to highlight

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[3] **USPHS:** Acronym for *United States Public Health Service* under whose auspices the infamous research was conducted.

its ethical implications with a view to preventing a possible recurrence. Medical researchers could be tempted, in their overzealous quest to come up with original scientific findings, to employ similar research methods. It is in a bid to discourage this type of "sharp" practice in medical research that we make a case for the strict observance of ethical principles in biomedical research. Herein lies the importance of this paper: it is not interested in merely rehashing the past, but in critically examining some of the ethical principles that were violated in the Tuskegee Study, with a view to contributing to a more secure future.

There are various ethical principles that serve as a guide to research involving human subjects. What is more, health associations have come to the realization that there is need to formulate ethical codes of conduct by which to evaluate research projects involving human participants. In order to identify the ethical principles that were violated in the Tuskegee Study, there is need to give an account of the ethical requirements for clinical or biomedical research.

It is a widely held notion among ethicists, medical practitioners and researchers that informed consent is one crucial factor that makes any research involving human subjects ethical. However, Ezekiel *et. al*. (2000, 2701) claim that informed consent is not sufficient for ethical clinical research. In order to cater for the insufficiency of informed consent, they propose seven important requirements as a basis for a coherent framework for evaluating the ethics of clinical research studies. Their position draws inspiration from the rationales of major codes, declarations, and other documents relevant to research with human subjects. The seven principles are:

(1) Value–aimed at the enhancement of health knowledge - the research should provide information on how to tackle the ailment under study.
(2) Scientific validity - the research must be scientifically rigorous.
(3) Fair Subject Selection - scientific objectives rather than vulnerability ought to be considered.
(4) Favourable risk-benefit ratio - risk in research must be minimized and benefit enhanced.
(5) Independent Review - unaffiliated individuals must review the research periodically.
(6) Informed consent - potential participants ought to be made aware of the research, and their consent sought.
(7) Respect for enrolled Subjects - subjects rights as autonomous beings ought to be respected and protected.

The codes from which these seven ethical principles were derived are also crucial in evaluating the ethical grounds for conducting clinical or biomedical research with human

participants. They include the Nuremberg Code of 1949, The Helsinki Declaration of 1964, and the Belmont Report of 1979.

The atrocities committed by Nazi doctors in the name of medical experimentation, as revealed during the Nuremberg war crimes trials, raised international consciousness about the need for an acceptable code for medical research. The result was the promulgation in 1947 of the Nuremberg Code. This document was drafted by an international panel of experts on medical research, human rights and ethics. It focused on the requirement for voluntary consent of the human subject, and the weighing of the anticipated potential humanitarian benefits of a proposed experiment against the risks to the participants. The Code served as the initial model for those few public and private research and professional organizations that voluntarily chose to adopt guidelines or rules for research involving human subjects. The Nuremberg code contains ten basic principles describing ethically sound medical research (see U.S. Government Printing Office 1949).

In 1953 in response to the Nuremberg trials and the Nuremberg Code, the World Medical Association (WMA) began to draft the Declaration of Helsinki, another document designed to give guidance for conducting ethically sound medical research. The declaration was adopted in 1964, and remains the international standard for medical research (Blakmer and Haddad 2005). The Helsinki Declaration lucidly stated the purpose of biomedical research involving human subjects as that which must be to improve diagnostic, therapeutic and prophylactic procedures and the understanding of the aetiology and pathogenesis of disease (WMA 1996). It also emphasized other basic requirements such as informed consent, qualified medical personnel, minimizing of risks to the subjects, maximizing of benefits, and conformity of biomedical research to acceptable scientific principles and standards.

Despite the formulation of these codes, physicians and researchers continued to use human beings as laboratory animals. The Tuskegee study was an example of a research project conducted without regard for any of the principles and ideals enshrined in both the Nuremberg Code and the Helsinki declaration.

In 1972, the Tuskegee Syphilis Study described above became a *cause celebre* due to the thorough and dramatic Associated Press story by reporter Jean Heller. Congressional hearings took place in 1973, and the following year the United States Congress passed legislation

creating the National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research. The Commissioners included prominent experts and scholars in the fields of medicine, psychology, civil rights, law, ethics and religion. In 1979, they published *Ethical Principles and Guidelines for the Protection of Human Subjects of Research*, commonly referred to as "The Belmont Report" (see NCPHSBBR 1979). This document presents a well developed ethical framework for the exploration of the issues associated with the use of human beings as subjects of research. More comprehensive than the Nuremberg Code, it defined the boundary between accepted therapeutic practice and experimental research, and proposed the following three basic principles as guidelines for the evaluation of the ethics of research involving human subjects:

(1) Respect for Persons: This incorporates the convictions that individual research subjects ought to be treated as autonomous agents, and that persons with diminished autonomy (such as prisoners or inmates of mental institutions) are entitled to protection.
(2) Beneficence: Research involving human subjects ought not to cause intentional harm, and ought to maximise possible benefit and minimise possible harm, both to the individuals involved and to society at large.
(3) Justice: Attention ought to be paid to the equitable distribution within human society of the benefits and burdens of research involving human subjects. In particular, those participants chosen for such research ought not to be inequitably selected from groups unlikely to benefit from the work.

The Belmont Report has greatly influenced the regulations regarding human subjects research that have since been established in the United States by federal and many state governments.

From all our reflections on the requirements for ethical research involving human subjects, it is evident that the Tuskegee Study did not take any of these criteria into consideration: human beings (uneducated blacks) were used as guinea pigs in a dangerous and scientifically invalid research. The intention of the researchers was not to serve any therapeutic ends such as providing for the cure or control of syphilis. Instead, the study was purely racist and unethical in all respects. Although there were no guidelines in 1930 to influence the formulation of a prospective study of patients with an untreated chronic disease, when the Judiciary Council of the American Medical Association issued a report on December 10th, 1946 on the ethics of experiments involving human subjects, the researchers in the Tuskegee Study took no steps to revise or terminate their investigation (Ramesra 2012; American Medical Association 2012). The Tuskegee Syphilis Study was in violation of all three requirements proposed by the Council:

(1) The voluntary consent of the person on whom the experiment is to be performed must be obtained.

(2) The danger of each experiment must be previously investigated by animal experimentation.
(3) The experiment must be performed under proper medical protection, expertise and management.

The Tuskegee Syphilis Study: Ethical Implications for Future Biomedical Research

The Tuskegee syphilis study raises a host of moral issues emanating from its violation of the ethical principles guiding research involving human subjects. The issues include racism, informed consent, truth-telling, paternalism, whistle blowing, scientism, double standards, maleficence, and the use of deception in research, among others. Below we discuss some of these issues and their implications for biomedical research.

Voluntary Informed Consent

The principle of voluntary informed consent is a key ethical requirement in biomedical research involving human beings. It obligates the medical expert to ensure that selected research subjects are provided with comprehensive information about the medical procedures involved. In this case, the implications of an individual's participation in such medical procedures must be explained to them in non-technical terms to enable them grant either their informed consent or informed refusal. This principle is predicated on the idea that human beings are autonomous moral agents capable of self determination, and as such no medical intervention, whether as a form of treatment or as a research process, must be carried out on their bodies without their approval. To obtain persons informed consent in research is to acknowledge that such persons possess human self-worth: it is to take cognisance of the fact that people have fundamental rights- entitlements that cannot be annulled, invalidated or otherwise forfeited. In literature on the social sciences, for example, it is usually argued that to deny people their rights is akin to depriving them of their very lives (Agulanna 2010, 204).

The point being made here is that in a research involving human persons, it is immoral to seek their consent through deception. Besides, when consent is achieved by manipulation as evident in the Tuskegee study, it could portray research as a kind of human experimentation engaged in by scientists to satisfy selfish ends, and this may discourage people from participating in it. Deception could also lead to litigation: the physicians or medical

researchers may be sued for unlawfully using their patients as objects of research instead of acting in accordance with the noble oath of saving lives which they swore to uphold. Consequently, although the black participants in the Tuskegee Study had no formal school education, the medical experts were not morally justified to deprive them of their right to know about the dangerous procedures they would be subjected to, including the painful spinal tap, unimaginable psychological stress, and constant body piercing. Thus of all the ethical principles violated in the Tuskegee study, the fact that human participants were used in such a highly hazardous research without their voluntary informed consent is most disturbing.

Truth-Telling

In clinical practice, truth-telling implies communication between the physician and the patient, whereby the physician takes it upon himself or herself to honestly disclose information about a patient's health conditions to the patient before medical intervention is carried out. In research ethics, truth-telling refers to the act of providing accurate information to human subjects who are going to participate in any form of research, whether therapeutic or non-therapeutic, so that they can give their informed consent or informed refusal. Truth-telling is very important in medical practice because it builds a kind of affective relationship between the physician and the patient, which sometimes enhances the effect of therapeutic procedures. As C.H. Braddock (1998) observes, when physicians communicate with patients, being honest is an important way to foster trust and show respect for them. Patients place a great deal of trust in their physicians, and may feel that trust is misplaced if they discover or perceive lack of honesty in them. The "trust" emphasized by Braddock is really the fulcrum of medical practice, so that when it is lost, the relevance of medical practice itself may be questioned.

From the very beginning of the selection process, the Tuskegee study participants were not told the truth: they were lied to, and lured with cheap incentives such as free hot meals, free bus rides to and from the clinic, and placebos as free treatment, all with a view to securing their consent to participate in the research project. The true nature of the experiment was kept from them to ensure their cooperation. Yet "deceiving people in medical ethics usually means failing to respect their autonomy" (Gillon 1985a). Furthermore, lack of truth-telling simply leads to lack of informed consent, because the idea of informed consent requires that the subject be adequately furnished with facts about all relevant aspects of the research. As

earlier pointed out, once the need for informed consent is disregarded, research involving human subjects becomes unethical.

Paternalism

One of the impediments to truth-telling is paternalism. Beauchamp and Childress (2001, 178) define paternalism as "the intentional overriding of one person's known preferences or actions by another person, where the person who overrides justifies the action by the goal of benefiting or avoiding harm to the person whose preferences and actions are overridden". A possible justification of truth-withholding behaviour is that patients are not capable of making decisions about medical problems: they are too ignorant medically speaking, and such knowledge as they have is too partial in both senses of the word. Thus they are unlikely to understand the situation even if it is explained to them, and so are likely to make worse decisions than the doctor would (Gillon 1985b). This argument by Gillon presents us with a picture of what inspires paternalism in medical research.

In recent years, medical paternalism has come under fire through the concept of patient autonomy, but this paper focuses particularly on research subjects' autonomy, that is, the research participant's right to accept or reject his/her involvement in medical research procedures. Some paternalists have based their actions on the principle of "maximum research subject's benefit" which can only be achieved when the medical expert makes the final decisions as regards what to do with the body of the research participants. But should such decisions be at the detriment of the research subject's autonomy and free will? This question must be answered in the negative because:

> To enrol individuals in clinical research without their authorization is to treat them merely as a means to purposes and ends they may not endorse and deny them the opportunity to choose what projects they will pursue (Emmanuel *et.al*. 2000, 2706).

Current debate has focused on the issues of paternalism and autonomy, and reduced further into a power struggle between the doctor and patient (Tan 2002, 148). Paternalists claim that physicians have a medical tradition to serve the patient's well-being, with the prerogative to preserve life, and thus have the patient's best interests at heart (Mappes and DeGrazia 1996, 52). It is from this assumption that the researchers involved in the Tuskegee study ignored the rights of the participants to be informed about the dangerous medical procedures to which

they were subjected. The researchers did not recognize the participants as autonomous moral agents capable of determining what should be done with their bodies, and even their lives. The doctors ought to have informed the participants that they (the participants) had syphilis, and made them aware of the therapeutic procedures involved, including their consequences. The study of syphilis was supposed to help in discovering a cure for the deadly disease in order to save many lives. Nevertheless, this prerogative to preserve life cannot override the patient's autonomy. Paternalism turns clinical research into an imposition rather than an experiment by voluntary participation. There is therefore need for physicians and researchers alike to break down the barriers of paternalism, so that the principle of informed consent can be upheld.

Racism

In the case of the Tuskegee Study, the issue of racism arises from the violation of the principle of fair subject selection. The total number of persons (600, 400 were infected and 200 served as control group) that were enrolled in the research were blacks, which reflected the racist intentions of the researchers. Why were Caucasians not enrolled? Was it because syphilis was peculiar to the black people? Far from it: a similar research project on syphilis had been conducted in Oslo, Norway prior to the Tuskegee study. In fact, there were myths making the rounds at that time in the US that syphilis was prevalent among the "Negros" because of their promiscuous and irresponsible nature. In this regard Allan Brandt observes:

> The Negro, doctors explained, possessed an excessive sexual desire which threatened the very foundations of white society. As one physician noted in the *Journal of the American Medical Association*, The Negro springs from a southern race, and as such his sexual appetite is strong; all of his environments stimulate this appetite, and as a general rule his emotional type of religion certainly does not decrease it. Doctors reported a complete lack of morality on the part of the blacks (Brandt 1978, 2).

The comment above aptly captures the climate of racism which existed in the 1930s in the US and other parts of the world. Susan Riverby (2000) notes that racism featured prominently in research in America during this period, as is evident in the long-standing history of the use of African Americans as research "bodies" or cadavers. Once it was understood that blacks were the ones involved in the study, the study was seen as less "bad" science than what became "normative" for research in America. Thus the racial posture of the Tuskegee Study was not an accident; instead, it was a premeditated decision consistent with the perception of blacks

as racially inferior to whites. In other words, the Tuskegee Study must be seen as a project that moved from a normal mode of doing research to pure racist human experimentation.

Racism has the potential to actually nullify the very essence of biomedical research. When subjects are unfairly recruited, it can never build trust between researchers and their subjects, or even with the community in which a biomedical research is carried out. Where people lose faith in the curative capacity of their society's health system, the result could be devastating. This is evident in the reluctance of black Americans to trust the USPHS programme on controlling the spread of HIV/AIDS in the US (Thomas 2000).

Scientism

Scientism refers to the use of scientific methods to acquire knowledge without regard for the ethical implications of such methods. This is what Josephson and Rubik (1992) referred to as an arrogance that predominates research. Human experimentation as performed in the Tuskegee study reflects this arrogance in the use of human subjects to satisfy the goal of sheer acquisition of scientific knowledge. For instance, the data for the experiment were to be collected from autopsies of the men, and they were thus deliberately left to degenerate under the ravages of tertiary syphilis—which can include tumours, heart disease, paralysis, blindness, insanity and death. J.H. Jones (1993) quoted one of the doctors involved in the study as saying: "as I see it, we have no further interest in these patients until they die." What right does science have to use autonomous human beings as guinea pigs? How had these men been lured to endure a fatal clinical procedure of this nature in the name of science? Lies and manipulation are the answers to this question.

As the truth emerged about what happened in Tuskegee during those four decades (1932-1972), it became obvious what can happen when scientific ends take precedence over basic human rights. The men of Tuskegee were treated, not as autonomous human beings with inherent dignity, but as a mere means to an end. The charge of scientism is made more pronounced by the fact that even when effective treatment of syphilis with penicillin rendered the study only marginally relevant, the men's plight as human guinea pigs continued: they were denied this simple, affordable treatment. In effect, the health and lives of these black men and their sexual partners were deemed to be expendable. This act of using human beings

for research without regard for their rights is antithetical to the goal of medical research, namely, the promotion of human well-being.

Whistle-Blowing

Whistle-blowing refers to the act of exposing wrong doing, especially within an organization. It becomes an ethical issue when one exposes the wrong doing of an organization for which one works. It is important to bear in mind that the nature of the Tuskegee Study was not kept secret from the medical community, especially the doctors working with the USPHS. Many venereal disease experts were specifically contacted for advice. Regretably, most of them expressed support for the project.

In 1965, thirty-three years after the Tuskegee Study was launched, Dr. Irwin Schatz became the first medical professional to formally object to it on moral grounds. However, the USPHS simply ignored his complaint (Fournter 2011). The following year, Peter Buxtin, a venereal disease investigator for the USPHS, began a prolonged questioning of the morality of the Study. A panel of prominent physicians was convened by the USPHS in 1969 to review the study. However, it included neither African-Americans nor medical ethicists. Despite ignoring the fact that the study clearly violated the human experimentation guidelines adopted by the USPHS in 1966, the panel's recommendation that the study continue without significant modification was accepted. By 1972, Buxtin had resigned from the USPHS and entered law school. Still bothered by the failure of the agency to take his objections seriously, he contacted the Associated Press, which assigned reporter Jean Heller to the story. On July 25, 1972, the results of her investigation of the Tuskegee Study of Untreated Syphilis in the Negro Male were published. The response to Heller's revelations was public outrage, which finally brought the Study to an immediate end (Prichard 2006).

Was the action by Buxtin of exposing the malpractices in the Tuskegee Study morally right or wrong? On what grounds do we judge this act of whistle blowing as morally right or wrong? For a Kantian who believes that moral agents have a duty to be morally upright based on the notion of goodwill, such an action could be judged to be morally good. But this doctor who has been inducted into the medical profession has an obligation to the said profession as well. Nevertheless, by blowing the whistle, this doctor acted in line with the categorical

imperative, in that such acts of human experimentation in biomedical research cannot be universalized.

Conclusion

The Tuskegee Syphilis study has left us with unpleasant memories of how doctors neglected the oath they took to save lives, and went on to experiment with human lives as a mere means to an end. One of the reverberating consequences of this study is the legacy of distrust which it has elicited: it is still having negative consequences on medical practice in America and around the world. For instance, in 1990, a survey found that 10 percent of African-Americans believed that the US government created AIDS as a plot to exterminate blacks, and another 20 percent could not rule out the possibility that this might be true (Rivers *et.al*., 2005). As preposterous and paranoid as this may sound, at one time the Tuskegee experiment must have seemed equally far fetched. Although President Clinton apologized in 1997 for the atrocities committed against blacks by white American doctors in Tuskegee for forty years, it remains doubtful whether it has helped to douse the feelings of mistreatment and distrust that many blacks have towards whites around the world today.

The consequence of this type of apprehension towards medical practice could be colossal, as it could serve as an impediment to new research projects that could help address the outbreak of diseases. There is need to prevent the launch of another study similar to the Tuskegee project. With the developing of regional and international guidelines for ethical biomedical research, there is need to emphasize the fact that medical practitioners ought to act in line with these principles as categorical imperatives in a way that they can will that their research actions and intentions be universalized. Besides, at present the challenge for ethical medical research and practice is not the absence of guidelines; rather, it is the lack of strict adherence to the available guidelines. Consequently, penalties for violating the guidelines should be incorporated into the guidelines themselves, so that any medical practitioner who flouts them faces disciplinary action.

Thus there is need to employ a more responsible approach to biomedical research free from human exploitation. To achieve this, medical doctors and biomedical researchers need to conduct their investigations in line with ethical codes of conduct guiding research, and to

rethink and redefine practices involving human experimentation, especially those involving minority populations, while grappling with the medical challenges of the 21st century.

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