



Examination of the Brain Stem Death Approach to Defining Death in an Organ Transplant Context and its Credibility with 'Nigerian' Values and Beliefs

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Abstract

Organ donation generally consists of two modes - living (largely less-problematic), and cadaveric (largely problematic). Cadaveric donation of solid organs is simply the process of solid organ transplant after the demise of its owner (deceased). Consequently, many approaches to death have evolved in order to procure more solid organs in the medical sphere today as a result of science and technology. However, these approaches to death are not without controversies such as the credibility of the approach with the Nigerian values and beliefs. To this end, this paper, examines the some key controversies surrounding the adoption of the brain stem death approach to defining death and its credibility with the Nigerian values and beliefs with a bid to chart a way-forward for the country. In gathering and analysing data, the writer used doctrinal method of data collection relying on local statutes, cases laws, textbooks, journal articles, international treaties, conventions and covenants. The writer found that although it may appear unrealistic to have an approach to organ donation that will be devoid of criticisms, a holistic adherence to the recommendations herein may significantly address fears of critics and possibly reduce controversies and tensions surrounding the approaches to death. More so, robust sensitization of the citizenry should be done to turn the rather, organ transplantation apathy to an enviable one.

Keywords: Brain Stem; Solid; Organs; Transplantation; Death; Donation; Cadaveric; Values; Beliefs; Credibility

Abbreviations

UDDA: Uniform Determination of Death Act; DDR: Dead Donor Rule.

Introduction

The human body is made up of several organs [1], each performing different functions in the body, making

one function optimally. These organs are, in turn, made up of tissues, and tissues further made up of cells. Human organs are grouped into solid and hollow organs; solid organs include the liver, pancreas, spleen, and kidney [2]; while hollow organs are the stomach, trachea, oesophagus, intestines, bladder, and urethra [3]. These organs and tissues that make up the human body are vital such that an illness affecting any of them may become life-threatening [4]. Such life-threatening disease affecting any of the vital organs may

become fatal but can be forestalled through a successful organ transplantation process. Thus, organ transplantation (including the transplantation of tissues) [5] may be the last hope of saving the life of a person suffering from a chronic organ-damaging disease albeit with its criticisms.

The first successful human to human organ (kidney) transplant was performed by Dr. Joseph Murray and Dr. David Hume at Brigham Hospital, Boston, United States of America on 23rd December, 1954 [6]. Following this breakthrough, further advancements have been made in the transplantation of other solid organs from human to human. More recently, attempts have been made, through biomedical technology (3D bioprinting), for the creation of synthetic lab-developed organs [7], to make vital organs available to more persons who are in need of them and save their lives. In Nigeria, the first successful organ (kidney) transplant was performed in 2001 at the St. Nicholas Hospital in Lagos [8]. Presently, organ donation appears to have gained popularity stance in Nigeria and among Nigerians as more and more Nigerians continue to resort to organ transplantation in order to battle some life-threatening ailments.

The popularity of organ transplantation in Nigeria in recent times has led the Nigerian National Assembly to pass a law regulating organ donation and transplantation in Nigeria - the National Health Act 2014 [9]. This Act is the major legislation regulating every activity relating to organ donation and transplantation in Nigeria, including the approval of organ and tissue transplantation facilities [9], licensing of persons who can perform organ transplantation (registered medical practitioners) [9], prohibition of donating organs for reward [9], prohibition of trading in organs and tissues [9], procedure for donation of organs and tissues of a deceased person and the purposes of such donation [9], among other provisions. The Act recognizes the two forms of organ and tissue donation viz: living person donation [9], and deceased person or cadaveric donation [9].

It is clear that the organs of a person deteriorate quickly upon the person's actual death [10], hence, there is a need for a definition of 'deceased' and 'death' in order to give room for organs to be salvaged from the body before it is finally without life. In the case of the first successful dead donor transplant, for instance, three (3) minutes wait after the heart of the donor had stopped beating before its retrieval led to the heart becoming severely infected such that the recipient died eighteen (18) days after the successful heart transplant [10]. Strict adherence to the word 'deceased' as used in the National Health Act 2014, which could be ordinarily understood to mean 'without life', would defeat the purpose of the Act, as organs in persons who are without life are not viable and of no benefit to a patient in need of organ transplantation.

Defining Death in an Organ Transplant Context

As pointed out above, organs and tissues from a person having no life in them are, in short, dead organs, and are not viable to be transplanted into a living person [11]. In order to retrieve viable organs from dead persons, there is need to define death in such a way that the person is dead but, the organs are undead. In defining death in this context, there remains the need to strike a balance between the organ retrieval process to ensure its viability and to ensure that this process does not in itself, being about the death of the donor [12]. Ordinarily, it should be in the domain of the law to define death so as to preserve the sanctity of life by preventing organ harvesting from a dying person (who is still a living person). Unfortunately, the law in Nigeria has failed to define what death is or when a person can be said to have died or become deceased. Both the National Health Act, 2014 which provides for cadaveric organ donation, and the Births, Deaths, etc. (Compulsory Registration) Act, No. of 69 of 1992 which provides for the compulsory registration of deaths in Nigeria, failed to define what 'death' or 'deceased' mean. This is in contrast with the law in some other jurisdictions which has defined what death is. In the United States of America, for instance, a deceased person has been defined by the Uniform Determination of Death Act (UDDA), a law which has been domesticated by every state in the US either through legislation or common law [13], to mean:

- An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards [14].

The impact of this loophole in Nigeria law is that the determination or pronouncement of 'death' and 'deceased' is left in the hands of registered medical practitioners such that a person is said to be dead when a certified medical practitioner pronounces such a person dead, after which the person's organ may, with appropriate consent, be donated for transplantation.

However, to understand what death means, reference may be had to the Black's Law Dictionary where death is defined as 'the ending of life; the cessation of all vital functions and signs [,] also cease; demise' [15]. From this definition, death can only be said to have occurred when all the vital organs of a person had ceased to function. If this definition is strictly applied, organs from deceased persons would be greatly unviable due to their quick deterioration after they cease to function [11]. In fact, organs in a person who has experienced this condition are dead organs. In order to enable medical practitioners, retrieve viable organs from a deceased donor without the organs being dead, and without

the removal of the organs becoming the actual cause of death of that donor; the neurological standard of determining death was formulated [11].

The Dead Donor Rule (DDR)

More often than not, more regard is paid to the patient who is in need of an organ donation to survive, than regard is given to the life of the donor. The reason for this anomaly is not far-fetched: most persons who can afford organ transplantation are rich and powerful individuals who would do anything to get the organ they need to stay alive, including employing shady practices by 'harvesting' human organs from persons who are only but dying and not dead yet. To combat this anomaly, the DDR was introduced. The Dead Donor Rule (DDR) is an ethical rule (neither law nor regulation) that was established among medical practitioners in order to strike a balance between high demands for organs on the one hand and the sanctity of human life on the other hand. It is 'the formalization of the widely held belief that it is wrong to kill one person to save the life of another...one should already be dead before vital organs are removed' [12]. Under this rule, before a medical practitioner can retrieve organs from a person who had consented to become a donor at death, or whose family has consented to same, the person must in fact be dead. The death contemplated by the dead donor rule is not the total and complete loss of life which death ordinarily connotes, as this would defeat the entire purpose of the transplant due to the unviability of organs retrieved from such bodies, but majorly brain death or brainstem death [12].

In the discourse by Garwood-Gowers A [16] on death and the procurement of body materials for transplantation, he posits that:

- As death ends interests related to body functioning, it opens up the range of forms of intrusion on the body that are capable of being justified even within the confines of a respect for worth based framework of ethics. For example, burying, burning or extracting essential to life organs are inconsistent with human worth when done to the living but not always so when done to the dead. This is one of the more obvious reasons why it is important to arrive at an accurate or otherwise precautionary assessment of what death is and also to ensure that we use an accurate or otherwise precautionary approach to determining when it has occurred. In other words, we need to be conservative in our approach to definition, criteria and tests [16].

Brain death, in medical parlance, means an irreversible loss of consciousness. The UDDA refers to brain death as the 'irreversible cessation of all functions of the entire brain, including the brain stem' [13]. This is a situation where the

brain has suffered a severe damage or injury from which no recovery is possible [17]. According to the Black's Law Dictionary, brain death means 'the bodily condition of showing no response to external stimuli, no spontaneous movements, no breathing, no reflexes, and a flat reading (usually for a full day) on a machine that measures the brain's electrical activity [15]. Brain death can also be referred to as clinical death [8]. Brain death or clinical death, after which organ transplantation is permitted under the DDR, can be caused by any of the following: cardiac arrest; a heart attack; a stroke; a blood clot, a brain tumour, or a brain haemorrhage [18].

The definition of death in a clinical sense in the various forms described above is necessary in order to allow for the retrieval of viable organs in cadaveric organ donation. Fixation on the traditional cardiopulmonary definition of 'death' does not support the progressive advancement in organ transplant technology [11]. Hence, the shift to the rather utilitarian neurological standard of determining death [11].

Cadaveric Organ Donation: Nigerian Values and Beliefs

Organ transplantation is indeed, a remarkable advancement in the field of medicine. However, it is inextricably connected with having in place, viable organs which the process of organ donation avails. Organ transplant is, however, not possible without organ donation, granted that recent advancements in developing 3D printed organs has the potential of greatly reducing reliance on organ donation in the nearest future. In Nigeria, the reception of organ donation and transplantation, appear not to have been without reservations, owing to the fact that it is a multi-cultural and multi-faith country [19], with each culture having a common denominator - native African culture, and just about each major faith (Christianity and Islam, excluding the traditional religion) equally having a common denominator - the Abrahamic faith. What this shows is that while there may be differences in the beliefs and doctrines of each of the diverse Nigerian culture and faith respectively, some values cut across, and is held within each of the different cultures and religions. The perception of, attitude towards, or values with respect to organ donation generally, and cadaveric organ donation particularly, are among these common beliefs and doctrines.

While some doctrines regarding organ donation in Nigeria are considered extreme (e.g. total rejection of organ transplantation by the Jehovah's Witnesses congregation), some others are more relaxed. In cadaveric organ donation, however, all Nigerian belief and value systems appear to

totally reject it [20]. Both cultural-based value systems and faith-based value systems in Nigeria do not create room for cadaveric organ donation. This all-round rejection of cadaveric organ donation in Nigeria is inspired by cultural superstitious beliefs, as it relates to the sacredness of corpses and the bad omen for both the community and the spirit of the deceased associated with tampering with corpses [20], and the various religious teachings that promote utmost respect for life (a person whose heart beats has life in him/her and shall neither have vital organs removed from them nor be treated as a cadaver until they no longer breathe [11] and respect for the remains of a person. With regards to cadaveric organ donation in the context of neurological standard of determining death, all religious groups in Nigeria outrightly reject the definition of death in terms of brain death. According to these religions, death is the departure of the soul from the body marked by lack of heartbeat and breathes [11]. They therefore reject the assertion that a brain dead person is a dead person [11]. In many instances where a person had fallen into an irreversible coma (brain dead) in Nigeria, such person's families, loved ones, and religious congregation continue to pray fervently that the person regains consciousness and refuse to be told that the person is already dead. Thus, the cutting up of a person who is brain dead for the purpose of removing vital organs therefrom is considered to be murder by these religious groups.

Religious practices also influence the understanding and reception of consent information and may be used by patients to mask the reality of some information they would rather not know - for example, it is usual during the disclosure of negative news or risks of a procedure to hear patients exclaim: 'I reject it', 'it is not my portion in Jesus's name', 'I banish it in Jesus's name' [21]. Even, religious beliefs also affect reception of information about death, dying and how the dead are treated. Some people do not tolerate dismemberment of relatives after death, while those of Muslim faith need to bury their loved ones within twenty four (24) hours of death [21].

The sacredness of corpses in Nigeria indeed cut across all culture and faith. This is confirmed by the criminalization of improper or indecent interference with, or causing indignity, to corpse in Southern Nigeria [22], and the general prohibition of organ donation under sharia law in Northern Nigeria [20]. With the legalization of cadaveric organ donation in Nigeria by the National Health Act, the law has allowed that which is averse to the Nigerian value, albeit for good reason - saving of lives. The objective of the law as a result of this fails to be achieved as the Nigerian values on cadaveric organ donation do not allow for this objective to be actualized.

Rethinking Nigerians' Values and Beliefs Towards an Efficient Organ Transplantation Regime

Organ donation and transplant is a commendable medical advancement which has provided opportunity for lives to be saved. Persons, who are generous enough to donate their organs, whether inter vivos or upon death, make it possible for more lives to be saved through organ transplantation. However, for organ transplantation to be successful and indeed save life, the organs to be transplanted must be viable. Viability as used here entails, among other things, living and healthy organs. Viability of organs from living donors is hardly in want. In the case of deceased donors, however, the viability of their organs depends on the definition of death adopted by the law and/or by ethical committees within the medical society. Where death is defined traditionally in terms of cardiopulmonary death, organs retrieved from deceased donors have less to zero viability. Neurological definition of death presents an opportunity for the retrieval of viable organs from a deceased (brain dead) person.

Despite the lifesaving importance of cadaveric organ donation, it has been met with huge opposition in Nigeria due to various values held by several cultural and religious groups in Nigeria. Some of these oppositions are rooted in the 'ungodliness' of the utilitarian neurological definition of death which, according to the critics in this group, classifies living people who have life in them as dead. Other oppositions come from the cultural and religious reverence of corpses in the Nigerian society where tampering with corpses in any way, including the removal of vital organs therefrom, is frowned at. These values and beliefs pose as a hindrance to viable cadaveric organ donation in Nigeria as relatives seem to be unwilling in allowing the removal of vital organs from the body of their loved ones who are yet to 'give up the ghost.' This offers explanation to the constant resort to living organ donation and serves as a logical explanation for the seeming scarcity of organs for transplantation due to the indifference on the part of the Nigerian populace. It will not be out of place here to draw a direct line from the opposition of cadaveric organ donation in Nigeria, to the high rate of organ harvesting in the country. Due to the scarcity of organs, which would have been greatly remedied by acceptance of neurological death donation, powerful individuals who are willing to go to any length to stay alive resort to kidnapping people or applying deceit to lure vulnerable people for the purpose of harvesting vital organs from them? Quite recently, a senior Nigerian senator, his wife, and a doctor, have been imprisoned for nine years and eight months, four years and six months, and 10 years respectively at the Old Bailey for conspiring to arrange the travel of a man for the purpose of harvesting his organs [23]. There is, therefore, urgent need

to sensitize Nigerians on the concept of brain death - that no one comes back to life after having fallen into an irreversible coma [17], and to dispel some superstitious beliefs on the bad omen cadaveric organ donations portend for the deceased's soul and the community.

Conclusion

In this article, the move from the traditional definition of death to the neurological definition which allows for the retrieval of viable organs from the body of a deceased person was examined. The lack of acceptance of same by faith congregations and religious groups in Nigeria were further analysed. The reasons for the rejection of cadaveric organ donation within the Nigerian society were analysed, and the impacts of such rejection also examined. It is submitted here that the utilitarian neurological definition of death is progressive and should be accepted by Nigerians in order to save more lives of persons in need of organ donation, and further to curtail the prevailing societal vice of organ harvesting in Nigeria. While due respect is given to the cultural values and religious beliefs of the various cultural and religious groups respectively in Nigeria, it is argued here that the respect for the sanctity of human life held dear by these groups be extended to the lives of patients in organ waiting list whose lives could be saved by the acceptance of cadaveric organ donation.

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