**How the world of medical research explain clinical death and near-death experiences**

          Although near-death experiences have been explained from the theological angles, there is a growing body of research presently emphasising the explanation of the near-death experiences.  Particularly, Beichler (2017) referred to a case study of a diabetes patient who had reported the experience with near-death, during hypoglycaemia period (having low blood sugar levels). The patient had been within the rapid eye-movement state of sleeping state or the common marker of dreaming, a state believed to be underling the consolidation of memories; hence, a process explaining the near life reviews during near-death experience. Despite not being in danger of death, after resuscitation, the client recollected classic features of the near-death experiences.

Near death experience from a scientific perspective has been studied on the basis of supporting the afterlife hypothesis (Goza et al., 2014). Studies from NDErs have specified that the individuals experience or observe events much far away, and third parties verified that indeed, they occurred.  The phenomenon is regarded as *veridical perception* but still there has not been any medical explanation of the theory. Accordingly, out-of-the body experiences are now providing the substantiation that there is the high likelihood of the consciousness surviving when detached from the physical body and as such, even survive after death (Beichler, 2017).

Consequently, many theories have been proposed to account or explain the near-death experiences.  For instance, some of the scientific studies believe or attribute the NDEs to the physiological changes occurring in the brain especially the death of the brain cells due to cerebral anoxia, much accredited to the release of endorphins or blockade of the NMDA receptor (Foster and Holden, 2014).  On the other hand, some theories explain the phenomenon by using psychology especially individuals react emotionally to the experiences or when approaching death (Goza et al., 2014).

From the scientific exploration of the near-death experiences, Khanna and Greyson (2014) focused their study on patients who had reported NDEs. However, several reasons were ruled out. For instance, there was no relation with the duration of unconsciousness, need for intubation in CPR, induced cardiac arrest during the electrophysiological stimulation had any influence or defined the frequency of NDE.  Moreover, the researchers found no relationship between the NDE frequency and drugs administered, the patient’s fear of death before experiencing arrest, their knowledge of NDE, education, religion, and gender.  The overall findings showed that NDE was more common in those within ages below 60 years as well as on the patients who had undergone more than one CPR in hospital stay along with patients who had previously experienced NDE.  Moreover, a major finding point out that with good short-term memory, one is more likely to remember a near-death experience (Khanna and Greyson, 2014).

Nonetheless, Tassell-Matamua and Lindsay (2016) based their study on the proposition that psychological, physiological and pharmacological factors are attributed to near death experiences, which was not confirmed in the study.  In essence, if pharmacological, psychological and physiological factors are responsible for NDEs, then all the participants, who had undergone cardiac arrest could have reported or indicated experiencing near death experiences, since they had suffered anoxia of the brain (Tassell-Matamua and Lindsay, 2016). Alternatively, the assertion seems consistent with the neurophysiologic explanation of NDEs since NDE are like experiences that are induced through electrical stimulation within some regions in the cortex for patients with epilepsy, higher carbon dioxide levels, having decreased cerebral perfusion leading to localized cerebral hypoxia, more so rapid acceleration when training fighter pilots, or even hyperventilation (Tassell-Matamua and Lindsay, 2016). Therefore, the induced experiences can lead to periods of feeling unconsciousness and in some cases make the individuals to have feelings or perceptions of sound, light or even flashes of memories of the recollection from the past.  The recollections, on the other hand, comprise random and fragmented memories as opposed to the panoramic life-review occurring in NDE (Foster and Holden, 2014). Besides, the exceptional out-of-body experiences occur with induced experiences but the transformational processes rarely happen after the induced experiences.  Hence, major conclusion is that the induced experiences should not be mistaken for NDE (they are not identical) (Goza et al., 2014).

Another scientific theory for explaining near-death experience is how the state of consciousness changes, through the theory of continuity or transcendence, whereby memories, cognition, and identity, as well as emotion are functioning independently from the unconscious body, which in this case, maintains the possibility of non-sensory perception (Foster and Holden, 2014).  However, during the NDE enhanced consciousness is always independently experienced from the normal body-associated waking consciousness.  On the other hand, clear sensorium and the complex perceptual processes during the periods of apparent clinical death challenges the notion that consciousness could be localized within the brain.  Data gathered from numerous NDE studies have indicated that the experiences arise during the unconsciousness state (Goza et al., 2014). Such is regarded as a surprising inference since when the brain of the patient becomes dysfunctional in that a state of deep comatose is achieved, there should be impairment on the cerebral structures, which to a greater extent underpins the subjective memory and experiences (Khanna and Greyson, 2014).  Therefore, the complex experiences as reported by NDErs, are not supposed to arise or retained within the memory region.  In this regard, the patients should not be having subjective experiences, also as reported from those who have survived cardiac arrest or confusion state when the brain function is still retained. Instead, the assertion or observation is further supported by the fact that during cardiac arrest, there is loss of the cortical function which follows the rapid deterioration of the brainstem activity (Tassell-Matamua and Lindsay, 2016).  Moreover, there is always a rapid transition from the consciousness to the unconsciousness state, and as such, appears immediately to the subject.  Conversely, experiences occurring after regaining consciousness are often confusing (Beichler, 2017). In addition, memory is the surest or sensitive indicator of any injury to the brain and that the length of amnesia before or after unconsciousness indicates the exact severity of the injury. In light of these considerations, therefore, it is vital note that there is no possibility of recalled events prior or just after one loses consciousness.

Owing to the lack of evidence to clearly explain NDE, the maintained concept, in most of the scientific studies, is that memories and consciousness are produced by groups of neurons and localised brain regions (Tassell-Matamua and Lindsay, 2016).  One of the major questions that remain intriguing is how clear consciousness is possible to maintain during out of the body experiences in situations when the brain is no longer functional during the clinical death periods (Beichler, 2017).  Moreover, even the blind people have reported to experiencing veridical perceptions when under out-of-body experiences when under NDE (Khanna and Greyson, 2014).  In this case, in understanding near-death experiences, the scientific study has been limited to the limits of neurophysiologic and medial ideas about the range of human consciousness as well as the mid-brain relations.

Many studies in animal and human models have shown how cerebral function becomes severely damaged or compromised in the cardiac arrest instances resulting to immediate loss of consciousness, body reflexes even extending to the brain-stem activity abolition as the gag reflex is lost, even the corneal reflex compromised (Johnson, 2015).  Furthermore, cardiac arrest leads to the loss of the respiratory centre function, near the brainstem and as such, apnoea occurs.  Also, an entire stoppage of the cerebral circulation occurs due to ventricular fibrillation (van Lommel et al., 2001). Hence, the complete cerebral ischemic model offers the chance of studying the result attributed to the brain anoxia.  For one, the blood flow within the middle cerebral artery decreases to zero. From this, after a short while, the electrical activity within the deeper brain structures and cerebral cortex ceases.  Moreover, the monitoring of the electrical activity of the cortex or the EEG reports that initial ischemic change in the EGG are always detected at around average 6.5 seconds from the circulatory arrest onset (van Lommel et al., 2001). However, after defibrillation, the normalcy returns rapidly, almost between 1 and 5 seconds when cardiac arrest happens within short duration (Gongping and Montell, 2017). On the other hand, when the cardiac arrest has been prolonged, especially for over 37 seconds, the EEG normal activity is impossible to return, even for many minutes or hours after restoring cardiac function (depending on the cardiac arrest duration), whether adequate blood pressure has been maintained in the recovery phase (van Lommel et al., 2001).

Accordingly, anoxia is responsible for the loss of the function of the cell systems; it implies the shutdown in the electrical activity of the synaptic transmission in the neurons which is due to the built-in protective or even energy-sparing response (Johnson, 2015).  Therefore, when the functions have been rendered as inactive, there are possibilities of using resources in sustaining the overall survival of the cells.  For instance, short duration anoxia leads to only transient functional loss of the cell system but prolonged anoxia leads to permanent loss to the cell functions (van Lommel et al., 2001).  Particularly, any embolic event leads to a small clot obstructing the blood flow thin small vessels of the cortex and the results are partial brain anoxia thereby functional loss is caused in cortex parts like aphasia, partial blindness and hemiplegia (Gongping and Montell, 2017).  However, if the clot has been dissolved and as such, broken down within minutes of the functional loss restoration, transient ischemic attack occurs.  On the other hand, if the clot has obstructed cerebral vessel for many minutes or hours, the result is the overall neural cell death, and as such, permanent functional loss (van Lommel et al., 2001). Therefore, the transient anoxia leads to the transient functional loss. In cardiac arrest, global anoxia within the brain happens in seconds but timely CPR can reverse the transient functional loss since definite damage has to the neurons is prevented (van Lommel et al., 2001).  Consequently, through adequate chest massage, the resultant effect is the minimum blood flowing to the brain and as such, there are higher chances of reversing the functions of the brain.  Conversely, with long-lasting anoxia, when the blood flow to the brain has been ceased for more than between 5 and 10 minutes, irreversible damage occurs of which extensive death to the brain cells is imminent (van Lommel et al., 2001).  Therefore, from this exploration it is quite or much evident that cortex along with the neurons within the hippocampus and thalamus are the most vulnerable during anoxia, which are connected to the brainstem and the cortex for supporting the consciousness experience.

From the studies confirming induced cardiac arrest, it has been espoused that one of the major possibilities is that lack of electrical activity within the cortex region of the brain is a possibility of NDE, which is also attributed to the brain-stem activity abolition (Gongping and Montell, 2017).  On the other hand, patients experiencing NDE can possibly report clear consciousness.  Furthermore, from the verified out-of-body experiences, NDE is known to happen during the unconsciousness period and as such, not during the first seconds or the last seconds during the cardiac arrest period (Gongping and Montell, 2017).  Therefore, from the scientific evidence, one of the major or surprising conclusions is that during cardiac arrest episodes, NDE is only experienced during the transient functional loss in all the cortex functions as well as the brainstem.  Another question to consider is how the clear consciousness happening outside the body experience at the moment when the brain is no longer functional during the clinical death period, of which an individual is under EEG (van Lommel et al., 2001). In such a scenario, the brain is simply regarded as the analogous computer whose power system has been unplugged as well as the circuit detached.  In this case, it would not be possible for the brain to experience instances or cases of hallucination and as such, not capable of doing anything completely (van Lommel et al., 2001). In this case, in trying to understand the near death experience and consciousness, this could be viewed from the paradoxical occurrences whereby lucid awareness as well as heightened and lucid thought processes when the brain is experiencing impaired cerebral perfusion in clinical death or cardiac arrest shows the direct link between consciousness and brain function.

**Clinical Death Concept**

Clinical death is both defined and explained from a simple concept and perspective to complex exploration of the field of study. For one, clinical death would mean the stoppage of heath beat, breathing or the pulse, which from the medical science, defines clinical death (Behringer et al., 2003).  On the other hand, during clinical death, most of the organs, especially kidney and the eye remain functional and permit the transplantation process.  Consequently, within the scientific field, death, to a greater extent, is defined from clinical perspective, which does not refer to cellular or biological death; it entails the moment when a victim collapses in cardiopulmonary arrest (Zielinski, 2011).  Therefore, when a victim appears dead, he or she has experience clinical death; being unconscious, not breathing and showing no signs of palpable pulse.  Consequently, for clinical death, there are chances of reversing the status but only when promptly recognised and effectively managed to prevent biological dead (usually irreversible death) (Behringer et al., 2003).

During clinical death state, one of the observations made is that there are limits within which the state of the body can be reversed to normal levels.  Inherently, major body organs or parts have the capacity of surviving the clinical death for a specific period of time.  For instance, it is possible for the blood circulation to be stopped within the body below the heart for around 30 minutes subject to the injury of the spinal code (Rossille et al., 2014).  For the detached limbs, there is the possibility of reattaching them within six hours under no blood circulation when maintained or done in warm temperatures.  Besides, organs like skin, bones and tendons have the ability of longer survival, between 8 and 12 hours (Zielinski, 2011).  However, the brain is the worst affected because it has a higher affinity of accumulating ischemic injury much faster in comparison to other organs.  Therefore, when there is no special treatment after restarting blood circulation, evidence has shown that brain recovery after over 3 minutes on the clinical death under normal body temperatures is fairly very rare (Paul II, 2005).  In most cases, the brain damage or even later deaths is subject to longer intervals of clinical death even when the heart has been restarted and there is successful restoration of blood circulation (Zielinski, 2011).  In this case, brain injury is the major limiting factor that hinders individuals from recovering from clinical death.

Despite the immediate loss of the brain functioning, no specific or particular duration of clinical death has been identified within which the non-functioning brain experiences clear of full death.  For instance, CA1 hippocampus neurons, as the most vulnerable brain cells, experience fatal injury when exposed to as little as ten minutes of oxygen deprivation (Paul II, 2005).  Conversely, the brain’s injured cells never die until longer period or hours after resuscitation.  Therefore, it is possible to prevent the delayed death by using in vitro method through the use of drug treatment especially 20 minutes of oxygen deprivation (Zielinski, 2011).  On the other hand, in specific regions of the brain, there are viable human neurons that are possible to recover and even grown in culture medium many hours after the clinical death stage.

Nonetheless, during the study of clinical death, one of the specific areas of profound consideration is hypothermia or the reduction in body temperature, used to determine the rate at which injury accumulates as well as extending the time period of surviving clinical death.  However, the Q10 rule has been used in decreasing injury rate, as it states that biochemical reaction rates decrease through a two factor model for each 10 degrees temperature reduction (Zielinski, 2011).  Therefore, in some cases, there are the higher possibilities of humans surviving clinical death for even periods above one hour at 20 degrees below temperatures (Paul II, 2005).

Clinical death is similarly studied from the viewpoint of the life support system, more so the cardiopulmonary resuscitation during instances of cardiac arrest majorly meant to reverse clinical death state (Paul II, 2005). The process restores the circulation of blood and breathing.  In contrast, there have been studies indicating the variation in the usefulness of CPR for restoring breathing and circulation of blood (Behringer et al., 2003). For instance, with low blood pressure, there is only a ten-minute extended chance of surviving, but some may regain CPR while still under full cardiac arrest.  Conversely, clinical death is subject to the neurological status of which the absence of the cerebral function for monitoring the status to revert back to normal, the chances of survival is sometimes not certain (Rossille et al. 2014). In this case, patients supported by methods that maintain proper blood circulation as well as oxygenation for maintaining life, especially cardiopulmonary bypass, are not by any means regarded as clinically dead because other body parts, except lungs and heart continue with normal functioning (Zielinski, 2011). However, clinical death occurs when machines responsible for the only circulation support are off and not function thereby leaving the patient in a specific state of a stopped circulation of blood.

Nevertheless, the study of clinical death has equally been assessed from the viewpoint of how it determines death.  Historically, death had been regarded as an event coinciding with clinical death (Behringer et al., 2003).  On the other hand, through series of explorations and understanding, death is currently believed or viewed as a product of various physical events and as such, not a single one. Hence, determining permanent death on subject to other factors above the stoppage of heartbeat and breathing (Paul II, 2005).  In this case, a clinical death that has occurred unexpectedly is regarded as medical emergency of which CPR is administered (Zielinski, 2011).  Therefore, procedures for restarting the normal heartbeat are administered, a continuous effort delivered until the heart gets restarted or a physician makes the announcement that the successive efforts are futile and there are no hopes of recovery.

1. **Near death experience**

Throughout time, scientific study is increasing focusing on attempting to explain the concept of near death experience, which to a greater extent, is attributed to the physical changes occurring in a dying or stressed brain (Beichler, 2017).  However, near-death experiences have been historically viewed or regarded as one of the mystical phenomena but with increased research emphasis on the area, there are scientific evident providing justified explanations on the near-death experience.  Near-death experience, by explanation, entails the sense of being dead, whereby one has the inherent feeling that the soul has left the body, travels towards a brighter light and as such, departs to another reality with all-encompassing bliss and love (Tassell-Matamua and Lindsay, 2016).  Conversely, science indicates that all the phenomena happening during near-death experiences have biological explanations.  An excellent example is the feelings of being dead, which to a greater extent is not limited to NDEs but cases of individuals having walking corpse syndrome are providing evidence denoting that these individuals have the embedded or delusional beliefs that they are dead or deceased (Bourdin et al., 2017).  The disorder major occur after trauma, for instance extensive typhoid stages, or even multiple sclerosis all linked to parietal cortex in the brain region and the prefrontal cortex.   Typically, parietal cortex is responsible for attentional processes while the prefrontal cortex plays the role of delusions, mostly observed with psychiatric conditions like schizophrenia (Goza et al., 2014). Hence, for the walking corpse syndrome, the possible explanation is that these individuals are trying best to make sense of the strange experiences.

Conversely, near-death experiences are part of the out of the body experiences which have been observed to be common during interrupted sleeping patterns immediately preceding waking or sleeping.  One of such explanations is sleep paralysis, which is scientifically attributed to vivid dreamlike hallucinations resulting in sensationa body floating (van Lommel et al., 2001).  Accordingly, scientific studies have confirmed that these out of the body experiences are artificially trigged through the stimulation of the right tempo-roparietal junction within the brain thereby indicating that confusion concerning sensory information radically alters the manner in which one experiences the body (Goza et al., 2014).

Numerous scientific explanations also account for the narrations of the near-death people meeting dead people. One of such explanations has been the Parkinson’s disease patients, who report ghost visions and even monsters.  The explanation for such experiences is that for Parkinston’s disease, it entails the abnormal dopamine functioning as the neurotransmitter responsible for evoking hallucinations (van Lommel et al., 2001).  Therefore, when it boils down to reliving life’s moments, locus coeruleus is responsible for such role as the midbrain region releasing noradrenaline or stress hormone released during trauma in high levels.  On the other hand, locus coeruleus majorly connects to the brain regions mediating memory and emotion, like hypothalamus and amygdala (Khanna and Greyson, 2014).

The near-death experiences, from a scientific standpoint, is derived from the research showing how a number of medicinal or recreational drugs mirror the euphoric effect during near-death, for example, anesthetic ketamine, responsible for hallucinations and out-of-body experiences (Khanna and Greyson, 2014).  Ketamine has an effect on the body by affecting the opioid system of the brain, hence, can naturally be activated even without drugs, as evident when animals are under attack, thereby indicating or confirming that trauma can have an effect in setting off near-death experiences (van Lommel et al., 2001). Therefore, from the current scientific evidence, all tends to point towards the justification or suggestion that the entire features experienced during near-death experiences attribute basis to the normal functioning of the brain gone wrong.  In addition, with the very knowledge that near-death experiences occur, it leads to the focus on fulfilling them or as such, self-fulfilling prophecy. The current evidence provides or presents scientific evidence for something which has been always regarded or discussed from the perspective of paranormality (van Lommel et al., 2001). In this case, a better understanding of the dying process, both clinical and biological, helps in understanding the problem or concept of near-death experience.

1. **What death is**

Scientific evidence and research have outlined some of the common or conventional explanations on the concept of death.  From science, death is regarded as the cellular compromise (Van Brussel and Carpentier, 2014); death is defined or regarded from the perspective of self-destruction. On other hand, the simple definition of death regards or defines the term as process through which the soul is separated from the body.  However, such a definition aligns with the religious explanation of death and shows the extent to which religion has been tied to people’s perspective or viewpoint on the concept of death.  Alternatively, the biological perspective does not provide easier and simple means of defining death (Van Brussel and Carpentier, 2014). Consequently, there are other medical as well as technological advances which have equally made the conceptualization of death as difficult task.  Biology currently has different views on death.  For instance, death is defined from the abolition of the cell functions of which the entire cell systems within the body experience permanent death, or are not functional (Bourdin et al., 2017).  Nonetheless, the brain has been the major element used in defining death. In essence, death occurs when there has been a compromise in the entire brain system or functioning brought about by the cessation in the blood circulation (Van Brussel and Carpentier, 2014).  Therefore, from biology, death happens or occurs when the entire body system does not have blood or experience blood circulation. In this case, death has been defined or studied from the functional elements of the brain which science believes is responsible for controlling and determining consciousness.

 All the same, with current technology, death has become very much complex and difficult to define. For instance, when a person stops breathing, there is the possibility of hooking them with a ventilator which the respiratory systems are kept or maintained at functional levels.  On the other hand, there are feeding tubes as well as CPR in addition to myriad of devices for keeping people alive, which in this case, entails measuring life by pulse (Goza et al., 2014).  Equally, family members and doctors have rethought the definition of life from the pulse perspective and argued that pulse alone does not qualify in identifying or determining someone as alive or dead (Khanna and Greyson, 2014).  The implication is that some patients have not or never recovered from being hooked to life support systems.  Retrospectively, it led doctors into using specific terms like irreversible coma or the persistent vegetative state in defining unconscious state of the body.  Thus, neurologists have a different definition of death of which they argued that death could be the state of coma depasse or hen the brain has been damaged (Khanna and Greyson, 2014). Therefore, from the scientific perspective, death means or implies the irreversible state of the brain when there is no possibility of reverting back to the normal functional state but the religious perspective or standpoint views death as the state where the soul leaves the body (Goza et al., 2014).

1. **What is out of body experience**

Out of body experience is attributed to the veridical perceptions that people have from the positions outside and above their lifeless bodies.  In this case, the individuals experience the feelings of being apparently leaving or taken off the body and appear to retain own identity with the possibilities of emotion, perception and even having clear consciousness (Bourdin et al., 2017). Even so, the concept is of great importance because as of currently, nurses, doctors and even relatives can use the same in verifying the reported perceptions, more so the NDE with OBE happening during the CPR period (Josephs, 1994).  Hence, the evidence indicates that OBE is never hallucination since it is the experience of perception with no basis in reality, cannot be delusional, but still inaccurate assessment of correct perception (Bourdin et al., 2017).  Out of the body experience has drawn the clinicians into assessing whether an OBE ought to be considered as a type of non-sensory perception.

In a bid to determine the accuracy of using OBE as part of the non-sensory experiences, Bourdin et al. (2017) referred to the case of a patient who had been brought to a hospital in a comatose state into the coronary care unit.  The patient had been found in a coma state approximately 30 minutes before and after intubation, dentures in his mouth were removed and placed in crash cart.  After about an hour, the patient regained sufficient heart rhythm and blood pressure although was still intubated and ventilated, still under comatose, after which the process involved transferring the patient to the intensive care unit for the continuance of artificial respiration.  However, after a week, the patient came back to the hospital, under the cardiac unit and could remember the nurse who had taken his dentures. To the surprise of the care team, the patient remember seeing them when being brought to the hospital, how his dentures were taken out of the mouth, put onto the cart, remembering every detail including the bottles beneath, sliding drawer  where the teeth were placed.  The medical team had been amazed considering that the man was in a comma and CPR was being performed.  In this example, the patient had seen himself on the bed, perceived from the above how the nurses and doctors were busy on the CPR (Bourdin et al., 2017).  In addition, the patient accurately described and gave the details of the small room where the resuscitation was taking place including the appearance of those who were around.

The other aspect or element of out of the body experience is the holographic life review.  In this case, in the state, the person always feels a renew experience and presence of not only acting but also all thoughts from the past life (Bourdin et al., 2017). Therefore, the person is of the realization that there is an energy field influence oneself along with others.  In this case, all which is done and thought is significant and becomes stored. In essence, since a person has connections with the emotions, memories, as well as the consciousness of another person, there is the experiencing of the consequences of ones’ own thoughts, actions and words to the other person at the very moment in the past that ever occurred (Bourdin et al., 2017).  Hence, the life review concerns the connection with the fields of the consciousness of other people as well as those of the patient’s field of consciousness of which the interconnectedness occurs or happens.  In this case, the individuals under out of the body experience have or experience a onetime review of their lives or having one glance. Therefore, space or time never exists when a person is undergoing such experiences (Josephs, 1994).  In this case, the person or individual is hooked to where he or she is instantaneously where they have concentrated or upon a specific non-locality and as such, can talk for many hours about of their content reviewed or seen in the life review although the resuscitation had only taken some few minutes.

Nonetheless, patients have narrated their experiences during the life review stages or out of the body experiences (Yong, 2011).  For instance, some have indicated that their lives are placed before them in a uniquely panoramic and dimensional view of which each event seemingly accompanied by consciousness of both good and evil and with the insights into the cause or the effect.  Furthermore, not only do the individuals have or see things from their point of view, there are only seeing and experiencing thoughts of everyone who has been involved within the specific event of which they behave as if they had the thoughts of others within them (Paul, 2000). During out of the body experience, the individuals perceive not only what they have done in life or even thought in the entire life, but also in the specific ways it influences other people and as such, experiencing a life event whereby things are viewed form the all-seeing eyes  (Bourdin et al., 2017).  Therefore, even the thoughts are not wiped out.  In addition, during the review phase or stage, the importance of love is highly emphasized.  The period or the duration of the life review cannot be told but for the individuals, every subject is coming up but surprisingly at the same time of which things are recalled or seen within a fraction of a second (Bourdin et al., 2017).  In addition, there is arguably no perception of time and distance as existing.  Therefore, the out of the body experience entails one being in all places instantaneously, when the attention is drawn towards something, the mind or the person becomes present in the place.

Conversely, out of the body experience also happens of which future images of one’s personal life or events along with the general images form the future occur. In the same manner, time and space are not considerate (Yong, 2011).  In this case, when the deceased relatives are seen during the out of the body dimension, they the person recognizes them through appearance, and that communication is possible through the transfer of thoughts.  In this case, the situation explains why it is always possible to encounter or get into contact with the fields of the consciousness of the deceased individuals or the concept of interconnectedness (Paul, 2000).  In some cases, it is possible to come into contact with the individuals whose deaths were impossible to know while in some instances, unknown persons appear or are encountered during the NDE.  Some patients have equally described how they experienced returning into their body, which in most cases, through the top of the head, after the realisation that it is not yet time and that they still have a task to fill (Yong, 2011).

However, the conscious returning back into the person’s person is always experienced as oppressive. The individuals regain consciousness into the body and come to the realisation of being locked up in the damaged body, or the restrictions and pain of the disease (Yong, 2011).  Moreover, all the individuals experiencing NDE always loss the fear of death, much attributed to the realization that there is actual continuation of their consciousness, the possibility of retaining past events and thoughts, even when one has been described or announced as dead by doctors or the bystanders (Bourdin et al., 2017).   In this case, one has been separated from the specific lifeless body, retains identity and having clear consciousness even with the ability of perceiving things.  Therefore, the scientific evidence suggests or indicates that man is not the mere body, humans are more than the physical body.

Accordingly, all the specific elements or experiences have been experienced in cardiac arrest periods, apparent unconsciousness state, and even clinical death situation.  However, one of the major challenges or complexities in addressing the topic is the possibility of explaining the explaining the experiences during temporal loss to the brain functions because of the pan-celebral ischemia (acute) (Bourdin et al., 2017).

1. **Examples of clinical death experiences**

One of the documented examples of clinical death and spiritual awaking was the patient from Cleveland Ohio, Brian Miller who had been identified as dead after a massive heart attack in the hospital. However, the interest bit with his experience was that the heart began beating after 45 minutes, which took doctors by a surprise.  However, during the “death”, Miller reported to have seen light and relatives who had long gone or died.  The client also reported to walking in heavenly path which was expressively lined with flowers.  Through the journey, he also remembers to have been stopped by a mother in law who passed away just recently.  In addition, the client remembers the mother-in-law grabbing his arm and telling that it was not his time and even reporting to meeting another relative before regaining consciousness. The challenging bit with the story is that despite the individual dying for 45 minutes, the brain had not received oxygen while on the other hand, the doctors also reported that Miller had not suffered any type or kind of brain damage. From his experience, Miller concluded the existence of afterlife as being real and as such, called for people to believe in its existence.

There is also the story of Nadine and Raymond from Belgium who had suffered heart attack. However, after the oxygen had been cut from the brain, they experienced spiritual awaking or out of the body experiences.  The clients reported feeling like being sucked away from the body, and as such, going through black tunnel, at a fast speed, a speed which one cannot express because it is not being experienced.  For instance, Nadine reported seeing herself from outside of the body, experiencing a feeling as if one is within a cloud, but again, like not really happening. Raymond also reported to have experienced a light appearing at the end of a tunnel and as such, there was a female voice or figure that communicated with him.

Jasmyne Cidavia of Hull Georgia is also a reported case of near death experience or spiritual awaking.  The patient had died when undergoing operation in 1979. She reported about the unsettling experiences, floating over her body, seeing and hearing everything being said and done. On the other hand, the client reported to leaving the body for some time, then returning where the body was. In addition, she reported to having feelings of death, since she was not breathing.   The other recent experiences with the client or patient was 1991 when Cidavia experienced death and even realized that the spiritual element or soul was residing out of her body.

Another reported case was that of Robin Michelle from Texas, of which her scenario exemplified the possibility of love experiences in light.  The case happened in the hospital. The patient reported looking forward and as such, seeing brilliant bright light which she likened to that of staring directly at the glaring sun. She also reported to experiencing  strange things, for instance, the feet in front of her, almost like she was floating in the upward direction from a vertical position. However, the client never remembered passing through a tunnel but just floating in a bright beautiful light. On the other hand, the awakening was defined by a tremendous warmth and love coming from the light.  In addition, the client reported seeing a standing figure within the light, in a normal human being shape, but there were no distinct or defined facial features.

Nonetheless, some of the spiritual awakening experiences are of those individuals being greeted by animals. One of such examples is Bryce Bond, from New York City. His case was a death experience after suffering violent allergic reaction and collapsing.  His case was that of a peson who went through a bright tunnel and could hear barking, and to his surprise, noticed it was once his dog, Pepe.  After seeing him, Bond reported to have felt emotional floodgate opening with tears filling his eyes.  The dog even jumped into Bond’s arms and began licking his face.

Conversely, some of the spiritual awakening experiences have been those of suicide-like and hell pictures of images appearing to people.    One of the documented cases are those of the a man, who claimed anonymity, narrated the experiences of suicidal thoughts from spiritual awakening, which in essence, stopped him from having thoughts of suicide or taking away his life.

Ernest Hemingway is one of the documented cases of spiritual awakening. He had an experience during World War I after being wounded in the war.  After convalescing in Milan, the individual reported or narrated that through his experience, death is a simple process.  He reported the experiences of a big Austrian mortar bomb exploding in darkness, and felt dead.  He also narrated the experience of his soul coming right out of the body and flying around and the coming back, going again and then he was not dead anymore.

Nonetheless, John R. Liona from New York is also a documented case of near death experience and spiritual awakening.  She remembers her experience during birth as the mother has narrated her case as that of a difficult birth experience, even not crying after being born, or simply put, a ‘blue baby’. However, even after forty years, Liona remembers everything and all her life going back to childhood and having the same dream recurring.  She always dream of kneeling down, bending and having some difficult untying some knots. she also reports of the struggle with people trying to pull the knot, getting upset, snapping and pulling, not able to define what they are made of and also having the fond memories of being hit in the face.  The same dream recurs one night or another and as such, takes her to the spiritual awakening point of birth.

Jeane L. Eppley from Columbus Ohio has also been a documented case about spiritual awakening from the near death experience.  The experience occurred during the child birth, of her first child.  She remembers seeing everything as bright yellow, ting black dot placed in the centre, and somehow, believing that the dot was her. However, the dot began dividing, from two, four and finally, eight.   After enough divisions had taken place, the dots then formed into pinwheel and began spinning.  Through the spinning of the pinwheel, the dots were rejoining from the same fashion that had been divided.  From this, she knew that when once gone, she would be dead and as such, began resisting through fighting.  She also remembers the doctor waking her up and keeping her in the delivery table since she was getting up.

() case has also been documented of near death experience and spiritual awakening, which happened in 1955.  She was taken to Middlese Hospital after suffering a miscarriage.  As the doctor had not arrived, and having been placed as a fort-five-degree angle because of the bleeding and placed in the same position for about eight days.  However, no one had hear her pleas. However, she recalls how she was being pulled down into a spinning vortex. After which, she recognized how her body was being pulled downwards, with the head first.  The patient had also panicked, fought and even grabbing the vortex.  In the same unconsciousness state, she thought of her two children, how no one was caring for them and even pleading.

1. **Near death experiences as evidence for intelligence/consciousness survival**

Near death experience is attributed to the changes in the electromagnetic field elements of the brain.  In this case, to explain the correlation, the stimulation as well as inhibition of the external magnetic as well as electrical fields on the continuously changing electromagnetic fields within the neuronal networks in the normal brain function status would explain the relationship between NDE and consciousness. As of currently, the close scientific evidence on this issue is the neuorphysilogical research which are implemented through transcanial magnetic stimulation or TMS when the localized magnetic fields have been produced.  In essence, TMS has the ability of exciting or inhibiting various parts of the brain subject to the amount of energy fed which leads to the functional mapping of the cortical regions in addition to creating transient functional lesions.  Moreover, the situation or conditions allows for the assessment of the functional brain regions on millisecond scale of which the results helps in studying the contribution of the cortical networks to the specific brain’s cognitive functions.  Accordingly, TMS has the ability of interfering with the motion and visual perception since it interrupts the cortical processing for between 80 and 100 milliseconds.  On the other hand, the intra-cortical inhibition as well as the facilitation gained during the paired pulse with TMS have reflected inter-neurons activity within the cortex.

Conversely, with the interruption of the electrical fields within the local neuronal networks in the cortex parts also leads to the disturbance of the normal brain functioning.  Close evidence has shown that localized stimulation of the electrons within parietal and the temporal lobe in epilepsy surgery, there are induced flashes in recollecting the past, although not complete life reviews, sound, light and music experiences and other individuals have attested to having undergone out of the body experience(OBE). Nonetheless, the external magnetic or the electrical stimulation have their effects subjected to the duration and intensity of the energy input.  In some instances, the stimulation may happen under small energy input although stimulation with higher energy leads to the local cortical functions inhibition whereby the electrical and the magnetic fields within the cortical neuronal networks become extinct.  Therefore, a major conclusion during this study is that localized artificial stimulation when the real photons inhibits and disturbs the changing electromagnetic fields of the neuronal networks can lead to an influence and inhibition of the normal brain functioning.

Conversely, one of the possibilities currently being considered is whether consciousness and memories are products or resulting from the constantly changing electromagnetic fields.  On the other hand, another consideration is whether the photons elementarily carry consciousness. The search for this knowledge is currently evident from the researchers creating artificial intelligence through computer technology with the hope of stimulating programs that can evoke consciousness.  However, from quantum physics, from the renowned names like Roger Penrose (), the inherent argument is that algorithmic computations is not possible to stimulate any mathematical reasoning.  The scientists offered quantum mechanical hypothesis in explaining the relationship between consciousness and the brain functioning.  On the other hand, others have provided the calculations that brain has inadequate capacity of producing and storing all the informational process of the memories with the associative thoughts from the entire life.  If this is the case, then humans will need around 1024 operations in every second but this is impossible for the neurons.  In this case, the major conclusion is that the brain does not have the enough capacity for storing all the memories containing the associative thoughts, there is no retrieval abilities and as such, there seems no capability or capacity of electing consciousness.

The near death experiences, inherently, are included as part of the scientific evidence trying to comprehend the possibility of interconnectedness with the consciousness of other individuals, the deceased relatives or even explaining the inherent possibility of experiencing simultaneously and instantaneously. So it is a scientific challenge to discuss preview and review of a person’s life in a specific dimension without the conventional body-like space and time concepts. The link between NDE and consciousness is because of the medical or clinical evidence that has shown the possibility of the consciousness getting back to a person’s body and as such, when someone is having or experiencing some bodily limitations.  Nonetheless, all the reported elements or aspects of consciousness experienced during cardiac arrest align with the quantum-like phenomena. From this, the overall conclusion is that quantum mechanical processes are critically associated or linked to how memories and consciousness have a relation with the brain as well as the body in the normal daily body activities as well as when the brain has experienced death or clinical death.

Accordingly, the relationship between near-death experience and consciousness is currently being assessed as to whether there is a similarity with quantum physics.  In essence, several elements shows the interlink with quantum mechanics, which challenges the current view of the materialistic world manifesting through real-space.   Quantum mechanics indicates that particles also propagate as witnessed with waves hence defined as the quantum mechanical wave functioning.   On the other hand, experiments have proven light to embody the behaviour of particles or photons, while others have associated light to the behaviour of waves. Conversely, particles and waves have been regarded as the complementary elements of light.  In addition, some experiments have equally found the link on the non-locality in quantum mechanics or the non-local interconnectedness. In this regard, non-locality occurs since events have interrelationships and as such, influencing each other suggesting that for events, there are no local causes. In this case, phase-space is non-local, invisible and as such, a higher-dimensional space comprising probability wave-fields, of which past and future events exist or available as mere probabilities.   Physicists have different terms for referring to the non-local dimension, some regard it as the implicate order of being, others zero-point-field and to some, these are quantum vacuum.  However, in the phase-space, there is no matter in existence, whereby everything is regarded as belonging to uncertainty, and measurements or observations are impossible by physicists.  Accordingly, the act of observation do change the probability into actuality through the collapse of the wave function, which his defined as multiple possibilities into objective reduction, or otherwise, one definite state.  Therefore, in this regard, there is the inherent possibility that without the fundamental changes in the observed subject, no observation can be made.

Although the connection between NDE and consciousness survival cannot be comprehensively explained through quantum physics, the concept offers first-hand information in understanding how there is the transition between consciousness and the phase-space (which are compared to the probability fields within quantum mechanics) and the body-associated waking in consciousness within the real-space; the two are complementary in understanding consciousness.  In essence, the human undivided consciousness with its declarative memories originate the phase-space, and for the brain, the functional role is serving as a relay station for the specific parts of consciousness as well as the parts of the memories which are received into the waking consciousness.  The phenomenon is also explained or regarded as the Internet because the signals do not originate from the computer, but the device only functions are a receiver.  In this case, consciousness does not consist within the measurable domain of the physics or the manifested world.  In essence, the eternal wave aspect of the indestructible consciousness within the phase-space, and with the non-local interconnectedness, is not even measurable through any physical means.  In essence, a comparison is the gravitational forces of which the physical effects are measured by the forces cannot be measured directly.

In the same fashion, life creates transition from the phase-space into the manifestation of the real-space. In this case, from the hypothetical view of life, under the normal conditions when awake, the possibility of receiving only some of the parts of consciousness fields(waves in quantum physics) into the waking consciousness, belonging to the physical body (which are particles in quantum physics). Therefore, in life, the consciousness are the waves and particles and scientific evidence identifies the permanent interaction between the two as aspects of consciousness.  Therefore, when one dies, the consciousness will no longer have the particle aspects but change into the eternal aspect or waves.  Hence, when such occurs, the inherent interface between consciousness and body becomes eliminated.

Accordingly, in understanding this aspect or element of NDE and intelligence or consciousness, the neuronal networks are merely functioning as interface for the various aspects of the consciousness, always demonstrated during PET or MRI scans. Therefore, for the neuronal networks, they are merely functioning as conveyors and receivers, and as such, not retainers of memories and consciousness.  Therefore, the relationship between NDE and consciousness could be explained from the evidence of the mid-brain and consciousness relations.  In addition, the concept aligns with the non-local interconnectedness experienced in the fields of consciousness of other individuals within the phase-space.

Conversely, the study on the relationship NDE and consciousness, including quantum physics, some scientists have approached the topic from the perspective of the worldwide communication.  In the communication web, a continuous exchange in the objective information occurs through electromagnetic fields for TV, mobile phone devices, and computers.  However, there is no much awareness of the electromagnetic fields or magnitude existing around. In essence, the awareness of the presence of the electromagnetic field only exist when the radio or the TV is switched on. In this case, what is being received is not within the instrument or in the components but because of the receivers, the information from the electromagnetic fields are observable to senses of which the perception is occurring in consciousness. However, when the TV or gadget has been switched off, the reception is interrupted and disappears, although the transmission continues. On the other hand, the information being transmitted still remains present in within electromagnetic fields.  In this case, there has been an interruption in the connection but not vanished, and as such, there is the possibility of receiving the same elsewhere when using another TV set, from the concept of non-locality.

Therefore, there is a universally reported aspects of consciousness which are being experienced during cardiac arrest. In this case, consciousness can be explained from the perspective of the informational fields of consciousness, which comprise waves, are placed in the phase-space, invisible dimension where no time or space exists but are present around or through people permeating the body.  In this case, consciousness elements become available in the waking consciousness state but through the functioning brain through changing and measurable electromagnetic fields. Therefore, when the brain function is lost, more so clinical death like the instances of cardiac arrest or even brain death, the consciousness and memories still exist but the ability to receive them has been lost, the connection or the bodily interface has been compromised or interrupted.  In this case, the evidence shows that there is the possibility of experiencing consciousness under non-functioning brain, which is what has been referred to as the NDE of which the consciousness aspect of human beings is not rooted in the physical body but on phase-space or the non-local dimension where there is no time and space.

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