

Phenomenological and Clinical Insights into Near-Death Experiences: A Retrospective Analysis in Aseer Province Population, Saudi Arabia

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Abstract

Near death experience (NDE) reported as supernatural and emotional feelings with episodes involving a special state of consciousness, including several special elements and these experiences typically occur with often grouped contents commonly observed in life-threatening conditions. Participants were provided with an Arabic version of the Near-Death Experience (NDE) scale via mail and social media platforms, along with a contact number for inquiries. NDE scale scores, used to assess the depth of the near-death experience, were considered indicative of an NDE if they were 7 or greater. A total of 14 participants of both sex aged between 18 and 56 years, with a mean age of 37.1 years (SD = 12.4). with a gender dispersion of 57.1% (8 males) and 42.9% (6 females). The most commonly reported incidence of near-death experiences was “sudden understanding of everything” (93.0%), “time speeding up” (85.7%), and “feeling happy” (85.7%). Conversely, the incidence reported least frequently was “visions of the future” at 28.6% and “racing thoughts” at 21.4%. No statistically significant variation in the frequency of responses across the 12 of NDE elements. The elements most frequently reported exhibited narrow confidence intervals with elevated lower bounds: “sudden understanding of everything” (93.0%, 95% CI [77.9%, 100.0%]), “time speeding up” (85.7%, 95% CI [66.4%, 100.0%]), and “feeling happy” (85.7%, 95% CI [66.4%, 100.0]). This study shows that Near-Death Experiences (NDEs) involve sensory, emotional, cognitive, and spiritual elements, with altered consciousness and neural links, showing no gender differences.

Keywords: *Consciousness, End-of-life Experiences, Near-death Experience, Psychological Insights.*

Introduction

For living organisms, life and death are inseparable, representing two facets of existence in this world. In the transition between life and death, an unforeseen and profound subjective experience may occur. This vivid experience leads individuals to rely on personal, cultural, and religious perspectives to describe and understand these puzzling experiences, currently called near-death

experiences (NDE) [1]. Van Lommel et al. defined NDE as a reported memory of the deep illusions and hallucinations as well as robust supernatural and emotional feelings with episodes involving a special state of consciousness, including a number of special elements such as out-of-body experiences, pleasant feelings, seeing a tunnel, a light, deceased relatives, or a life review at the time they are approaching death or have temporarily begun the dying process, and these experiences

typically occur with often grouped contents. These group contents NDE are commonly observed in life-threatening conditions such as sudden cardiac arrest (SCA), perioperative or postpartum complications, septicemia or anaphylaxis, electrical injuries, coma secondary to traumatic brain injury (TBI), intracerebral haemorrhage, (ICH), ischemic stroke (cerebral infarction), hypoglycemic episodes, near drowning, hypoxia-induced asphyxia, and apnea. Further circumstances like mild or non-life-threatening conditions, psychological states such as depression, minor injuries, falls, and various other situations that may not pose a risk to life are also associated with near-death experiences (NDEs) [2-5]. Recent modern resuscitation techniques increase the survival rates, which resulted in increase NDE incidence [6]. However, the content of NDE and its influence on patients' experiences are similar all the time across the continent with different cultural environments. Earlier studies have had a hard time finding clear differences in age, mental state, or life situations that set apart people who report near-death experiences (NDEs) from those who don't, or explaining why these experiences can vary so much. This gap in understanding led to the development of the "unitary concept" of NDEs, a theory proposed by author Ring, known as the invariance hypothesis. This concept suggests that NDEs share a core, universal structure, regardless of individual differences or cultural contexts [7]. According to Ring, this hypothesis underscores the idea that NDEs are fundamentally similar across populations, reflecting a common human experience rather than being shaped by external variables.

The perspective of a unitary concept of near-death experiences (NDEs) has been acknowledged by psychologists Ring and Frank, who highlighted the unvarying nature of these profound experiences, emphasizing shared characteristics that define their occurrence. They recognized that NDEs have a

core structure, comprising similar universal content elements experienced by NDE survivors irrespective of cultural or personal differences [8, 9]. However, this perspective has not received universal acceptance. Researchers Bates and Stanley found that a single explanatory hypothesis cannot fully account for the heterogeneity observed in NDEs. Rather, they proposed that NDEs can be classified into defined categories, each characterized by unique sequences of experiences. For example, some individuals may report vivid out-of-body sensations, while others might primarily experience a sense of transcendence, encounters with deceased loved ones, or a journey through a tunnel toward a bright light. These observations propose that, while commonality exists across NDEs, the phenomenon is far more complex and multifaceted than initially assumed and recommend more profound investigation into its variables and mechanisms [10]. Multiple hypotheses have been proposed to explain the origins of NDEs. However, physiological theories conclude changes in the brain, such as cerebral hypoxia leading to the death of brain cells, may play a significant role. Additionally, psychological explanations suggest that NDEs could be a coping mechanism or response to the imminent threat of near death, potentially acting as a form of psychological protection. Some researchers advocate for a combined physiological and psychological theory, while others propose that NDEs involve a transcendent state of consciousness. In this state, individuals experience altered perception, emotional intensity, cognitive shifts, and a sense of identity that is detached from normal, body-linked waking consciousness. Despite the varying explanations, research consistently shows that individuals who have had NDEs are generally psychologically healthy. While some exhibit non-pathological dissociative traits, these individuals do not differ significantly from controls in terms of demographic factors

such as age, sex, ethnicity, or religious belief [11].

One notable study conducted in Germany involved a large-scale retrospective investigation of more than 2,000 participants. It found that 4.3% of respondents had experienced an NDE, with a mean age of 22 years at the time of the event [12]. This study underscored the prevalence of NDEs and the challenges inherent in estimating their frequency due to inconsistent definitions and research methods. Additionally, it noted the profound life changes often associated with NDEs, including heightened intuition, reduced fear of death, and trans-formative insights, though the assimilation and acceptance of these experiences often take several years. In the United States, it is estimated that nine million people have undergone NDEs, highlighting the prevalence of this phenomenon. However, these experiences remain underreported, partly because many physicians are unfamiliar with the phenomenon and patients are hesitant to discuss them due to fears of being dismissed or misunderstood. This reluctance underscores the need for greater awareness and sensitivity among healthcare providers regarding NDEs. Recent retrospective studies, which often examine NDEs years after their occurrence, have revealed intriguing findings. Between 43% and 48% of adults who have experienced life-threatening illnesses report having had an NDE, with this figure rising to as high as 85% among children [13]. NDEs raise deep, thoughtful questions about human consciousness, the relationship between brain function and perception, and the trans-formative outcomes of these experiences for individuals. Why do NDEs occur? What determines their content? Is there a biological basis for consciousness, and how do these experiences influence a person's life and worldview? The subjective vividness and transformative nature of NDEs continue to intrigue researchers, necessitating further exploration of their causes, content, and

implications. Hence, we conducted a random retrospective study in the Aseer region of Saudi Arabia. Our monocentric study is the first to investigate the incidence and characteristics of NDEs among individuals in the Aseer region of Saudi Arabia. This study aims to describe the vivid subjective experiences of individuals who have undergone an NDE, recognize common themes and patterns, and discover the effect of these experiences on beliefs about death, spirituality, and personal well-being. Additionally, it examines the psychological and emotional outcomes of NDEs, including their positive and negative effects on mental health. The study also seeks to identify effective strategies and interventions, such as counseling, support groups, and spiritual practices, that could aid individuals in integrating and coping with their experiences. By employing robust methodologies and addressing gaps in existing research, this study not only sheds light on the prevalence of NDEs in the Aseer region of Saudi Arabia but also offers more profound insights into their unique characteristics and transformative potential. These findings contribute to an extensive understanding of NDEs, concretizing the way for future research and refining support for individuals who experience these vivid, profound phenomena.

Methods

Study Design

This was a retrospective cross-sectional study conducted from March 2024 to April 2024. The study was approved by the local Ethics Committee, and informed consent was obtained from study participants. Data collection was intended to target individuals residing in the Aseer Province and potential participants were recruited through various channels, including email invitations, direct contact via phone numbers, and social media posts. Participants from both genders of the general population in the Aseer region who were older than 18 were eligible for the study.

Participants will be excluded from the study if they have a history of major psychiatric disorders, including schizophrenia, bipolar disorder, or psychotic depression, as these conditions may affect the perception or interpretation of the near-death experience. People who are currently using or have recently used drugs, including hallucinogenic or dissociative drugs like Lysergic Acid Diethylamide (LSD) or ketamine when the event happened, will be left out to avoid mixing up drug-related experiences with the near-death experience. Individuals with significant cognitive impairments, such as dementia, traumatic brain injury, or other neurological disorders affecting memory or comprehension, will be excluded. Experiences of near-death that lack association with medically confirmed life-threatening conditions, including cardiac arrest, respiratory failure, or coma, will be excluded to maintain the event's validity. Other reasons for exclusion include difficulties with communication due to language barriers or insufficient fluency in the study language, serious vision or hearing problems that prevent participation in assessments, and unwillingness or inability to provide informed consent. Furthermore, individuals whose near-death experiences happened only during a medically induced coma, and who did not show clear recovery of consciousness or memory, will also be excluded.

Data Collection

This study employs the Greyson Near-Death Experience Scale (GNDE Scale) as its primary data-collection tool, a standardised and validated questionnaire designed to quantify and characterise near-death experiences. The questionnaire comprises 16 structured items, each scored on a scale from 0 to 2, yielding a total score ranging from 0 to 32. A score of 7 or higher is regarded as indicative of a classical near-death experience. The questionnaire evaluates four fundamental dimensions: cognitive, affective, paranormal, and

transcendental experiences. This survey is structured and employs close-ended questions, distinguishing it from an open-ended interview format. Each question presents specified response options, facilitating quantifiable and objective scoring. Examples of phenomena include sensations of detachment from the body, feelings of tranquility, a perception of timelessness, and encounters with beings or bright lights. The original version of the questionnaire was created in English and subsequently translated into Arabic using the standard forward-backwards translation method to maintain cultural and linguistic equivalence. The translation was conducted by expert bilingual translators, and content validity was assessed by a panel of professionals in psychology and clinical research. A pilot test was conducted with 5 participants to assess the clarity, comprehension, and relevance of the translated items.

Participants were provided with an Arabic version of the Near-Death Experience (NDE) scale via mail and social media platforms along with a contact number for inquiries. Completed questionnaires were submitted anonymously and identified only by a numerical code. NDE scale scores, used to assess the depth of the near-death experience, were considered indicative of an NDE if they were 7 or greater. The Greyson NDE Scale is a validated tool that has undergone psychometric evaluation. The tool shows strong internal consistency (Cronbach's $\alpha = 0.88$) and reliability over time, and it has been widely used in both clinical and academic settings for NDE research [14].

Statistical Analysis

The collected data were tabulated and analyzed using both descriptive and inferential statistics. All the parameters were assessed using the Statistical Package for the Social Sciences (SPSS) version 23, with a significance level of p-value less than 0.05 and a 95% confidence interval set for all analyses. This

study utilized a non-parametric statistical method due to the categorical nature of the data, which does not fall on normality distribution. Descriptive statistics, such as frequency analysis and percentage distributions, were calculated to summarize the prevalence of each reported near-death experience (NDE) element. Central tendency measures, including mean and standard deviation, were applied to continuous demographic variables (e.g., age). Cross-tabulations were conducted to examine variations in response patterns according to demographic characteristics. A chi-square goodness-of-fit test was performed to evaluate if the distribution of NDE elements significantly deviated from a uniform distribution. Furthermore, 95% confidence intervals (CIs) were calculated for each proportion to assess the precision of the observed frequencies.

Results

Based on the population of the Aseer region, a target sample size of 840 individuals was estimated. Participant enrollment was terminated after 900 responses were received. Of these, 500 participants were excluded for failing to meet the inclusion criteria. The remaining 400 responses were evaluated, and 14 participants met the criteria for a near-death experience (NDE).

The exclusion of 500 participants was due to failure to meet the primary eligibility criteria, which included the absence of a documented near-death experience, lack of a medically verified life-threatening event, or incomplete demographic and clinical data. These individuals either self-reported experiences that did not align with the standardized definition of an NDE or lacked sufficient clinical documentation to support the reported event. An additional 386 participants were excluded during the screening phase based on specific criteria. These included: a history of significant psychiatric disorders such as schizophrenia or bipolar disorder; presence of substance or drug

intoxication at the time of the reported experience; cognitive impairment or neurological conditions affecting memory recall; and inability to provide informed consent or complete the questionnaire due to language barriers. These exclusion decisions were essential to maintain the internal validity of the study and minimize potential confounding psychological or neurological influences on NDE interpretation. The final sample included 14 participants, consisting of both sexes, aged between 18 and 56 years, with a mean age of 37.1 years (SD = 12.4). The gender distribution was 57.1% male (n = 8) and 42.9% female (n = 6). Several key features of near-death experiences (NDEs) were reported with varying occurrences. The most commonly reported incidence of near-death experiences were “sudden understanding of everything” (93.0%), “time speeding up” (85.7%), and “feeling happy” (85.7%). Conversely, the incidence reported with the least frequency were “visions of the future” at 28.6% and “racing thoughts” at 21.4%. A chi-square goodness-of-fit test was performed to assess if the observed frequency distribution of NDE elements significantly deviated from a uniform distribution. The result was non-significant ($p = .145$), indicating no statistically significant variation in response frequency across the 12 elements. To evaluate the reliability of these proportions, 95% confidence intervals were computed. The elements most frequently reported exhibited narrow confidence intervals with elevated lower bounds: “sudden understanding of everything” (93.0%, 95% CI [77.9%, 100.0%]), “time speeding up” (85.7%, 95% CI [66.4%, 100.0%]), and “feeling happy” (85.7%, 95% CI [66.4%, 100.0%]). Conversely, factors such as “racing thoughts” (21.4%, 95% CI [3.0%, 39.9%]) and “visions of the future” (28.6%, 95% CI [7.4%, 49.7%]), which possess broader confidence intervals, suggest greater variability and less uniformity in reporting. Using chi-square, this study examined gender-based differences in

participants who reported near-death experiences (NDEs). The results indicated variations in experiences between males and females (figure 1); however, none of these variations were statistically significant

($p > 0.05$). The results show that although precise NDE elements are more prevalent and consistent among participants, the overall frequency distribution remains largely uniform.

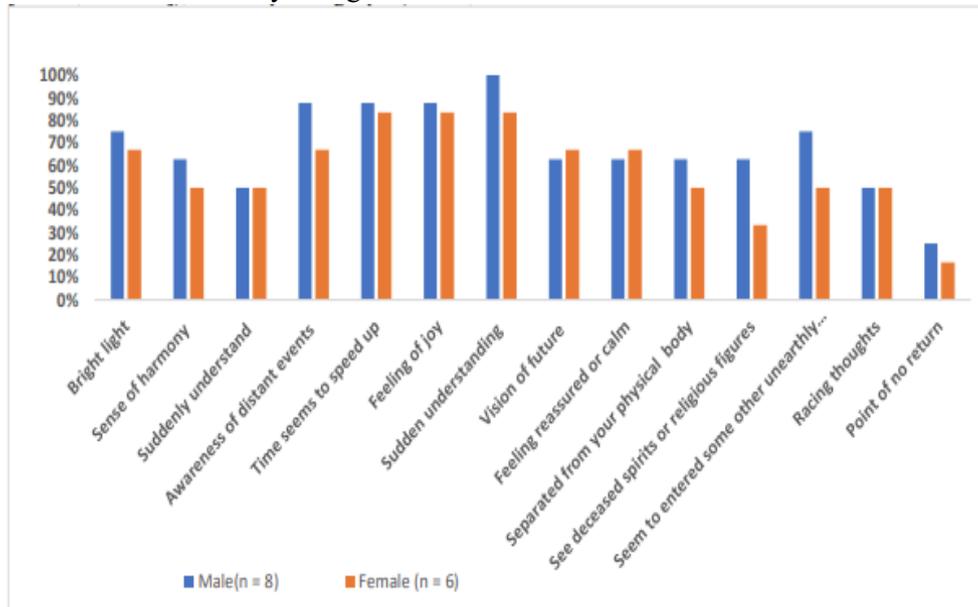


Figure 1. Gender-Based Distribution of Reported Near-Death Experiences (NDEs)

Discussion

The present study offers valuable insight into the multifaceted nature of Near-Death Experiences (NDEs), highlighting their sensory, emotional, cognitive, and spiritual dimensions. Among participants, the most frequently reported features included the sensation of time speeding up, a sudden and profound understanding of everything, and intense feelings of happiness experiences that align with commonly documented NDE characteristics in previous literature. These findings reinforce the notion that NDEs often involve altered states of consciousness characterized by vivid perceptions, emotional clarity, and a sense of transcendence.

A high proportion of participants also reported increased awareness of distant events (78.6%) and a perceived unity with the universe (57.1%). Such experiences suggest a temporary shift in sensory and existential boundaries, where individuals feel both connected to

something greater than themselves and detached from ordinary reality.

Reports of heightened sensory perception, feelings of calm or reassurance, visions of the future, and out-of-body experiences further underscore the rich and layered nature of NDEs. The incidence of NDEs observed in this study (3.5%) is consistent with prior findings among hospitalized patients, irrespective of illness severity. This aligns with reported incidences among cardiac arrest survivors (10–23%) but remains lower than the estimated prevalence in the general population (4–8%) [15]. This variation may be due to differences in study populations, cultural contexts, or the methods used to assess and classify NDEs. Importantly, this study identified several significant associations between specific NDE elements.

A statistically significant relationship between seeing a bright light and experiencing time acceleration ($p = 0.038$) reinforces the idea that visual and temporal distortions often co-occur during episodes of altered consciousness.

This is consistent with prior literature suggesting that neural activity during life-threatening events can impact both visual processing and temporal perception [16]. Similarly, a significant association between feelings of unity with the universe and experiencing happiness ($p = 0.049$) supports theories that NDEs evoke profound emotional states tied to transcendence and interconnectedness. This is in line with proposals that such experiences are mediated by brain structures like the limbic system, which are involved in emotional regulation and spiritual processing [17, 18]. Another key finding was the significant association between out-of-body experiences and the perception of spirits or religious figures ($p = 0.022$). This suggests that detachment from bodily awareness may facilitate or enhance the perception of supernatural or spiritual entities. Previous studies have implicated the temporoparietal junction in generating out-of-body experiences, possibly through disruptions in multisensory integration and self-processing [19]. Conversely, the lack of a significant association between visions of the future and racing thoughts ($p = 0.088$) suggests that prophetic or visionary elements of NDEs may occur independently of heightened cognitive activity. This supports the idea that not all NDE features are interrelated, and that some elements may arise from distinct neural or psychological mechanisms.

While the findings are informative, several limitations should be acknowledged. The small sample size ($n = 14$) restricts the generalizability of the results and limits the ability to detect more nuanced patterns. Additionally, factors such as age, cultural background, religious beliefs, and underlying medical conditions were not fully explored but may play a role in shaping the content and interpretation of NDEs. Further studies with larger and more diverse samples are needed to examine these variables in depth. Longitudinal research could also shed light on how

individuals integrate NDEs into their belief systems and life narratives over time.

This study contributes to the existing body of literature by emphasising that core elements of near-death experiences, such as temporal distortion, emotional elevation, cognitive insight, and spiritual perceptions, are commonly reported across individuals. While this study did not seek to draw conclusions about demographic variations, the consistency of reported experiences suggests that NDEs represent a universal human phenomenon. The significant associations between certain experiential elements further highlight the interconnections of perceptual, emotional, and cognitive alterations during NDEs. Overall, these findings support the theory that NDEs are deeply rooted in human consciousness rather than being solely shaped by cultural or demographic influences [20-23]. Future research incorporating larger, more diverse populations and neurophysiological approaches will be instrumental in advancing our understanding of the mechanisms underlying these profound experiences. Participants often recounted an awareness of distant events, sometimes referred to as a sixth sense. Additionally, the sensation of time distortion, particularly the feeling that time had sped up, was widely reported. Positive emotional states, such as intense happiness and feelings of calm or reassurance, were also prevalent.

In terms of cognitive experiences, many individuals described a sudden, profound understanding of everything, along with visions of the future. Some participants also reported out-of-body experiences in which they perceived themselves as separate from their physical bodies. Encounters with spiritual or religious figures and the perception of entering a strange or unfamiliar world were also noted. The gender-wise statistical analysis of near-death experience (NDE) phenomena revealed variations in reported experiences between males and females. However, none of these differences was statistically significant ($p >$

0.05), indicating that gender was not a strong determinant of experiencing specific NDE elements in this sample. Mental activity during the NDEs included racing thoughts, and some participants reported reaching a point of no return, a moment perceived as a decision point or boundary between life and death. While descriptive variations in experience were observed among participants, statistical analysis did not reveal any significant differences in the prevalence of these features by gender ($p > 0.05$). These findings suggest that, within this sample, the nature of near-death experiences was varied yet consistently reported across multiple domains: sensory, emotional, cognitive, and spiritual.

Overall, the results highlight a wide range of subjective experiences associated with NDEs, underscoring the complexity and richness of these phenomena. Although limited by a small sample size and a lack of demographic diversity, the findings contribute meaningful evidence to the growing body of NDE research and underscore the need for larger, more comprehensive studies to further explore the underlying mechanisms and long-term impact of these extraordinary events. These studies with larger and more diverse populations may offer deeper insights into the nuances and determinants of such experiences.

Conclusion

This study enhances our understanding of Near-Death Experiences (NDEs) by highlighting their complex, multidimensional nature, encompassing sensory, emotional, cognitive, and spiritual elements. The consistency of core features—such as time distortion, intense emotional states, out-of-body experiences, and feelings of unity—across participants supports the view that NDEs

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reflect profound alterations in consciousness rather than being solely shaped by cultural or personal factors.

Significant associations between certain experiential elements suggest interconnected neural and psychological mechanisms, while the lack of gender differences reinforces the universality of these experiences.

Author Contributions

All authors contributed to the study conception and design. A.B was responsible for material preparation, data collection, and analysis. O.P prepared the first draft of the manuscript, and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Ethical Approval

The study involving human participants was reviewed and approved by the regional ethics committee and review board. Written informed consent was obtained from all participants prior to their inclusion in the study.

Data Availability

The datasets supporting this study are not publicly available due to ethical restrictions but are available from the corresponding author on reasonable request and with permission from the Ministry of Health, Saudi Arabia.

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Conflict of Interest

The authors declare no conflict of interest.

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